STATE COMMISSION ASSESSMENT PANEL
A COMMITTEE OF THE STATE PLANNING COMMISSION

APPLICATION ON NOTIFICATION – Category 2

Applicant:	Michael Calabro Pty Ltd, C/- MasterPlan
Development Number:	050/M007/18
Nature of Development:	Construction of a 5 level residential apartment building and associated ground level car parking and landscaping
Subject Land:	253 Churchill Road, Prospect (corner of Redin Street)
Development Plan:	Prospect (City) Council Development Plan
Zone / Policy Area:	Urban Corridor Zone: Boulevard Policy Area
Contact Officer:	Gabrielle McMahon
Phone Number:	7109 7056
Consultation Start Date:	27 November 2018
Consultation Close Date:	10 December 2018
During the notification period, hard copies of the application documentation can be viewed at the Department of Planning, Transport and Infrastructure, Level 5, 50 Flinders St, Adelaide, during normal business hours. Application documentation may also be viewed during normal business hours at the local Council office (if identified on the public notice).	

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

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

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

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

Email Address: scapreps@sa.gov.au

DEVELOPMENT APPLICATION FORM

COUNCIL: CITY OF PROSPECT

APPLICANT: MICHAEL CALABRO PTY LTD

Postal Address: C/- MASTERPLAN SA PTY LTD

33 CARRINGTON STREET ADELAIDE SA 5000

OWNER: GAMMA ILLUMINATION PTY LTD

Postal Address: C/ 42-46 SCRIVENER STREET

WARWICK FARM NSW 2170

BUILDER: TO BE ADVISED

Postal Address:

Licence No:

CONTACT PERSON FOR FURTHER INFORMATION:

Name: GRAHAM BURNS - MASTERPLAN SA PTY LTD

Telephone: 8193 5600

Email: grahamb@masterplan.com.au

Mobile: 0413 832 602

EXISTING USE:

DETACHED DWELLING

FOR OFFICE USE

Development No:

Previous Development No:

Assessment No:

❑ **Complying**	**Application forwarded to DA**
❑ **Non-complying**	**Commission/Council on:**
❑ **Notification Cat 2**	/ /
❑ **Notification Cat 3**	**Decision:**
❑ **Referrals/Concurrence**	**Type:**
❑ **DA Commission**	**Date:** / /

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

DESCRIPTION OF PROPOSED DEVELOPMENT: FOUR-STOREY RESIDENTIAL FLAT BUILDING

LOCATION OF PROPOSED DEVELOPMENT:

House No: 253 Lot No: 59 Street: CHURCHILL ROAD Town/Suburb: PROSPECT

Section No (full/part): DP 991 Hundred: YATALA Volume: 5684 Folio: 552

Section No (full/part): Hundred: Volume: Folio:

LAND DIVISION:

Site Area (m²): Reserve Area (m²): No of Existing Allotments:

Number of Additional Allotments - (Excluding Road and Reserve): Lease: YES: ☐ NO: ☐

BUILDING RULES CLASSIFICATION SOUGHT:

If Class 5, 6, 7, 8 or 9 classification is sought, state the proposed number of employees: Female: Male:

If Class 9a classification is sought, state the number of persons for whom accommodation is required:

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

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

HAS THE CONSTRUCTION INDUSTRY TRAINING FUND ACT 1993 LEVY BEEN PAID? YES: ☐ NO: ✓

DEVELOPMENT COST (Do not include any fit-out costs): $2.2 MILLION

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

SIGNATURE:

Dated: 29 OCTOBER 2018

MASTERPLAN SA PTY LTD FOR GAMMA ILLUMINATION PTY LTD

PLANNING REPORT

PROPOSED MEDIUM RISE APARTMENTS

AT: 253 CHURCHILL ROAD PROSPECT (CORNER REDIN STREET)

FOR: MICHAEL CALABRO PTY LTD

1.0 INTRODUCTION

This Planning Report has been prepared in support of an application by Michael Calabro Pty Ltd to demolish existing buildings and infrastructure at 253 Churchill Road Prospect, and construct a five-level apartment building. The apartment building will contain 13 apartments, with off-street parking at ground level for 14 vehicles and associated landscaping.

The amended proposal is shown on the accompanying set of drawings prepared by Proske Architects.

Supporting documentation has been prepared by:

- Cirqa Pty Ltd (traffic, access and parking);
- TMK Consulting Engineers (civil and stormwater); and
- Outerspace (landscape, streetscape).

2.0 APPROVED DEVELOPMENT

On 8 February 2016, the City of Prospect granted Development Plan Consent to another firm of architects to construct a four-level residential flat building containing 16 apartments, a communal storage facility, ground level car parking and landscaping (DA 050/344/2015). The consent was granted subject to 20 conditions and two reserved matters (stormwater and landscaping). A copy of that consent is at **Attachment A**.

As the approved development did not proceed, the consent lapsed on 19 January 2018.

In 2017, before the consent lapsed, the site was acquired by Michael Calabro Pty Ltd with the intention of developing it in accordance with the 8 February 2016 approval. As part of the applicant's due diligence investigations, Proske Architects were instructed to review the approved set of drawings. The review identified numerous design deficiencies, including:

(i) the approved car park design did not comply with the Building Code of Australia (BCA);

(ii) the approved building did not meet SA Power Networks' powerline setback requirements from above ground powerlines along Churchill Road and Redin Street by a very substantial margin;

(iii) the waste bin collection arrangements from Churchill Road frontage were poor;

(iv) the building had a poor streetscape presentation to both street frontages;

(v) over-bonnet storage shown on the approved plans did not comply with the BCA;

(vi) a janitor's toilet was not shown on the approved plans but is a requirement of the BCA;

(vii) only one exit door from the ground level car park was shown, whereas two are required by the BCA;

(viii) the approved design had sliding doors to balconies within 3.0 metres of the boundary, contrary to BCA requirements;

(ix) the approved design offered a low standard of residential amenity for apartment occupants, including poor daylight and inadequate ventilation, storage lockers remotely located from associated apartments in a Common Area and in the car park, and an unworkable car park;

(x) a building encroachment over the Redin Street corner cut-off at Levels 1, 2 and 3;

(xi) poor to no views from apartments adjacent to Redin Street;

(xii) a floor to floor height of 2.9 metres and a floor to ceiling height of 2.4 metres, leaving insufficient room to accommodate services within the 500-millimetre space after allowing for the floor slab;

(xiii) direct overlooking into adjacent private open space of the residence to the east from Level 1 windows;

(xiv) the Common Area being poorly located in relation to each apartment and unlikely to be used;

(xv) the southern wall of the car park needing to be relocated 450 millimetres closer to the Redin Street boundary to achieve a minimum car park aisle width between the 90 degree and parallel parking spaces; and

(xvi) the inevitable loss of one street tree in Redin Street due to the location of the car park driveway entrance.

The most serious shortcoming was found to be the approved development's failure to comply with the powerline setbacks. A 'sag and swing' investigation by Lucid Engineers identified that the apartments on every level closest to the high voltage lines along Churchill Road did not meet SAPN's minimum safety clearance requirements by a considerable margin.

After careful consideration of the approved development's shortfalls, it was determined that a new proposal was the only feasible option.

3.0 DEVELOPMENT SITE AND LOCALITY

The development site is occupied by a single storey detached dwelling. The site is located on the northern side of the Churchill Road and Redin Street corner. But for the corner cut-off, the site is rectangular in shape with a depth of 43.586 metres and a width of 15.24 metres. The overall site area is 659.6 square metres. A copy of the relevant Certificate of Title (CT 5684/552) is at **Attachment B**.

The development site is in the Urban Corridor Zone as detailed on Zones Map Pr/3, and the Boulevard Policy Area of that Zone as shown on Policy Areas Map Pr/8 of the Development Plan. Properties immediately to the north, south and west of the site are also contained in the Urban Corridor Zone and Boulevard Policy Area. Properties immediately to the east of the site are in the Residential Zone (Policy Area RA450).

The Locality is dominated by Churchill Road, low to medium density residential development on both sides of this road and isolated examples of commercial development fronting Churchill Road. The opposite (south) corner of Churchill Road and Redin Street is taken up by one such commercial development, a showroom and homewares selection centre with associated off-street parking accessed from Redin Street (2nd Fix Doors and Hardware).

Directly opposite the site on the western side of Churchill Road is an integrated medium density residential redevelopment and new urban form project under construction and being marketed as "Prospect 1838".

Redin Street is a local road under the care and control of the City of Prospect. A 40 km/hour speed limit applies along Redin Street. The street is tree lined on both sides.

4.0 THE PROPOSED DEVELOPMENT

4.1 General Description

The proposal has been designed by Proske Architects, and is shown at **Attachment C**. It comprises:

- Site Demolition, Site and Ground and First Floor Plans (Drawing PL02.A);

- Second and Third Floor Plans (Drawing PL03.A);
- Fourth Floor Plan and Section B1 (Drawing PL04);
- Elevations (Drawing PL05.A);
- West and South Streetscapes (Drawing PL06.A); and
- Shadow Diagrams (Drawing PL08.A).

As noted there will be 13 apartments in four levels above a ground floor car park, which is three apartments less than the 16 apartments in the approved development.

Provision has also been made for a Roof Terrace at Level 4 which will be accessible to all apartment occupants.

Excluding the lift over-run, the building will have an overall height of 16.08 metres.

Provision has been made at ground floor level for the parking of fourteen (14) vehicles, with a relocated driveway entrance from Redin Street that has been repositioned to retain the street tree.

Cirqa has prepared a Traffic and Parking Report (**Attachment D**), and notes that the provision of fourteen parking spaces will satisfy the Development Plan's requirements for residential parking. Cirqa also notes that the proposal has a theoretical requirement for 3.25 spaces for visitor parking which can be readily accommodated on-street adjacent to the site in Redin Street.

Cirqa also notes that the approved development (16 apartments) had a 4.0 vehicle shortfall that was to be accommodated on Churchill Road and Redin Street.

Cirqa concludes that the proposal's "small shortfall is not considered to significantly impact upon on-street parking availability".

Stormwater from the proposed development will drain to the Redin Street water table in accordance with Council requirements and as detailed on the Civil Plan prepared by TMK Engineers (**Attachment E**).

Outerspace Landscape Architects have prepared a Landscape Concept Plan for the proposal (**Attachment F**). The Landscape Plan details landscaping treatments in the deep soil zones at the eastern and western end of the site, streetscape treatments to the Churchill Road and Redin Street frontages and verges, and landscaping, furniture and paving treatments on the Roof Terrace.

4.2 Office for Design + Architecture

The Office for Design + Architecture (ODASA) commented on an earlier proposal for the site[1] by letter dated 28 March 2018 – see **Attachment G**. That proposal was lodged with the City of Prospect but was subsequently withdrawn. The proposal which is the subject of this application incorporates ODASA's suggestions, as set out in its 28 March 2018 advice, namely:

- the northern and eastern setback encroachments – including the 45 degree building envelope at the Residential Zone interface – have been corrected;
- the car park's visibility at street level will be minimised by using perforated mesh for required cross-ventilation and also to screen the car park during the day. Landscaping adjacent to the Churchill Road and Redin Street frontages will ensure that the car park is effectively screened from public view;
- active use space cannot be provided at ground floor level because there is simply no free space at this level for such purposes without sacrificing parking spaces;
- the proposal incorporates a pedestrian access door from Churchill Road for resident access, but the primary entry will be from Redin Street where a cantilevered canopy over Redin Street will assist in wayfinding the main resident and visitor entrance from all directions;
- the north-west apartments at First and Second Floor level have an open-plan Dining/Living/ Kitchen, leading onto the western boundary via sliding glass doors that occupy almost the full width of these apartments – see West Elevation Drawing PL05.A. It is also preferable that the bedrooms in this building be located as far back as possible from Churchill Road for sound attenuation reasons. The positioning of the Dining/Living/Kitchen at the front of the apartments that are fitted with full width glass sliding doors is an appropriate design outcome;
- the proposal has been designed to prevent overlooking from the east facing apartments, featuring 1,500 millimetre high perforated steel screen balconies (1,800 millimetres high at Fourth Floor Level), and 1,500 millimetre high fixed etched glazing to other windows facing east. Fixed etched glazing is also proposed for the north facing windows;
- a 3.0 metre wide deep soil zone has added to the eastern boundary shared with the Residential Zone. The deep soil zone will be planted with Italian Cypress Pines to create reliable and effective screening for the owners and/or occupiers of houses in the adjacent Residential Zone. The plant species selected for the deep soil zone have been recommended by Outerspace, who confirm that the 3.0 metre wide zone will permit these plant species to flourish and attain their recommended height and width at maturity.

[1] This earlier proposal was lodged with the City of Prospect (DA 050/28/2018) and has been withdrawn.

4.3 The Commissioner of Highways (DPTI Transport)

The Commissioner of Highways (DPTI - Transport Assessment and Policy Reform) commented on the proposal which was lodged with Council but subsequently withdrawn. The agency's letter was dated 17 July 2018 - see **Attachment H**.

DPTI Transport did not object to the proposed development, and advised that the proposal if granted consent should be subject to 4 Conditions and one Note. As the proposal the subject of this application is the same as the proposal then assessed by DPTI Transport, and our client supported these conditions and note, it is appropriate and reasonable that they be attached to any consent granted for the current application.

5.0 PLANNING ASSESSMENT

The relevant Development Plan for assessment purposes is the City of Prospect Development Plan, consolidated version dated 13 February 2018. It is noted that this version incorporates the Urban Corridor Zone and Interface Areas Policy Review DPA which received Interim Authorisation on 30 May 2017 and was fully authorised on 13 February 2018.

The planning issues which are considered to be most relevant to an assessment of the proposal are:

(i) is the proposal sufficiently in accordance with the Urban Corridor Zone Objectives and Desired Character;

(ii) is the building height acceptable having regard to all relevant provisions of the Development Plan;

(iii) what impact will the Fourth Floor have on the amenity of surrounding residential development (overlooking, privacy, overshadowing);

(iv) has the proposal been appropriately designed to attenuate noise from Churchill Road;

(v) what impact will the proposed development have on the Churchill Road and Redin Street streetscapes; and

(vi) is the proposal provided with adequate off-street parking for occupants and visitors.

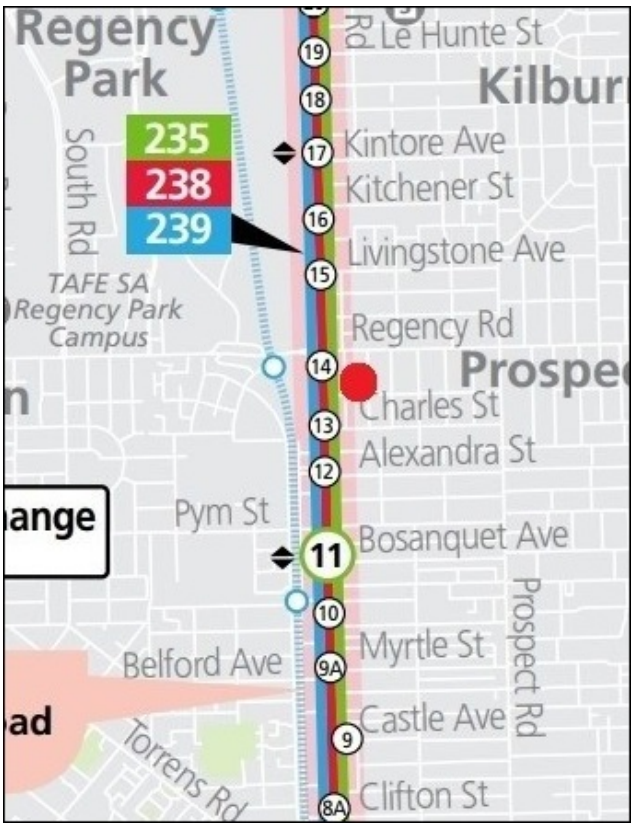
5.1 Urban Corridor Zone and Desired Character Consistency

The site of the proposed development is in the Urban Corridor Zone, and more particularly in the Boulevard Policy Area of that Zone (Zone Map Pr/3 and Policy Areas Map Pr/8).

Zone Objective 1 calls for "*a range of compatible non-residential and medium and high density residential land uses oriented towards a high frequency public transport corridor*", while Zone Objective 2 encourages "*integrated, mixed use, medium and high-rise buildings with ground floor uses that create active, vibrant, and visually appealing streetscapes incorporating high levels of amenity*".

Zone Objective 6 requires buildings to "*transition down in scale and intensity at the zone boundary to maintain the amenity of residential properties located within adjacent zones*".

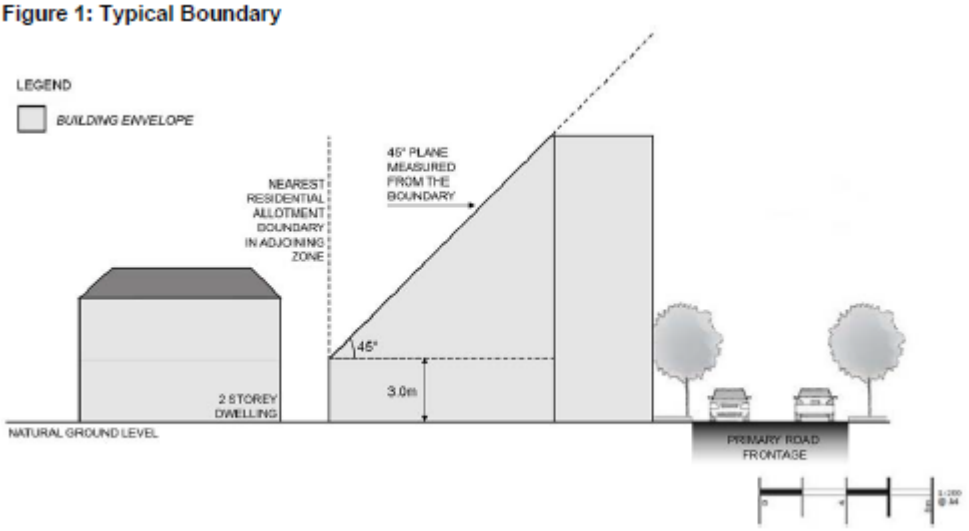
The proposal is a medium density residential land use (it is not high density) on a site with direct frontage to Churchill Road, which is identified as a strategic road on the Strategic Transport Routes Map Pr/1 Overlay 4 of the Development Plan. Churchill Road also carries numerous bus routes, as detailed in the Map extract below taken from the Adelaide Metro website. The development site is marked with a red circle on this Map.



The proposal has also been designed to be visually appealing when viewed from Churchill Road and Redin Street, unlike the previous proposal which presented poorly to both street frontages.

The development site adjoins the Residential Zone to the east. For this reason, the building has been carefully designed to transition down towards this boundary. The building transition at the adjacent Residential Zone interface has furthermore been designed to satisfy the 'Interface Height Provisions' of the Urban Corridor Zone which are graphically shown on **Figure 1: Typical Boundary** below:

Figure 1: Typical Boundary



Zone Principle 15 requires buildings adjacent to the nearest residential allotment boundary of an adjoining zone to be contained within a 45 degree plane measured from a height of 3.0 metres above natural ground level at the zone boundary in accordance with Figure 1 above. This 45 degree plane is shown as a broken red line on Drawing PL04, Section B1.

There is only a minor and non-consequential penetration of the 45 degree plane at Second Floor level.

Importantly, a 3.0-metre-wide, deep soil zone will be established along the eastern zone boundary and will be planted out with Italian Cypress Pines at close intervals. These trees are expected to grow to a height of 12 metres and a width of at least 1.0 metre to ensure that there is no overlooking from the habitable rooms and balconies of the Second and Third Floor apartments. [The tree indicatively shown on the South Elevation and Section B1 drawings is shown at an approximate height of 9.5 metres and, slightly lower than the expected 12 metre height of an Italian Cypress Pine at maturity.]

The Zone's Desired Character calls for "*an evolving transformation of land uses, built form and scale to accommodate urban growth along transit corridors*". The proposal satisfies this important requirement.

The Zone's Desired Character also calls for buildings to have the "*greatest height, mass and intensity at the main road frontages (behind setbacks, landscaping if envisaged in the Policy Area) and will reduce in scale to transition down where there is interface with low rise residential development in the adjacent zone*". The proposal maximises building height as close as possible to the Churchill Road frontage, taking into account the need for progressive building setbacks at the upper levels to comply with SAPN's powerline clearance requirements. There will also be a gradation in building height, mass and intensity towards the eastern boundary shared with the low rise residence in the adjacent Residential Zone.

The proposal is consistent in all relevant respects with the Desired Character sought for the Urban Corridor Zone.

The relevant Desired Character provisions for the Boulevard Policy Area state:

> **DESIRED CHARACTER**
>
> **The Policy Area will contain a variety of housing types at medium to high densities, as well as small-scale businesses, local shops and facilities while maintaining the important transport function of the road as a strategic transport route.**
>
> **Land parcels will be amalgamated where possible, resulting in the establishment of more diverse and comprehensive developments on larger sites. Within the Policy Area west of Churchill Road properties extend to more than one allotment deep allowing greater opportunity for land amalgamations.**
>
> **To reinforce the desired boulevard character of Churchill Road and maintain front setbacks in other streets, buildings will be set back from the front property boundary. Setbacks may be varied to accommodate desired areas for street activation and interest, such as outdoor seating and landscaping in deep root zones. Shelter will be provided over pedestrian areas at the front of buildings. If land is required for road widening, such shelter can be constructed in a manner that allows it to be demountable.**
>
> **Built form will display its greatest height, mass and intensity to address the primary street frontage and shall be situated within the front portion of the site and extend to side boundaries. Where walls are built on or in close proximity to boundaries, they should display attractive and interesting qualities that are neighbour friendly, such as recessed walls and wrapping around elements of façade detailing. Behind the front portion, built form will be of a lesser scale, with increasing building separations to habitable rooms and balconies and transitioning down to zone boundaries. These attributes are contextually derived from traditional double fronted cottages in North Ovingham with ground floors elevated and frontages addressing the street, front yards, built form to side boundaries (usually without a driveway) and large backyards.**
>
> **Building façades will be articulated with elements such as recessed and cantilevered balconies verandas, entrances, wall features and eaves. A contextual palette of materials and finishes (as described in the Zone) that are durable and fit-for-purpose will be carefully used to create an enduring building appearance.**
>
> **Street fencing will contribute to a pleasant pedestrian environment and will be articulated and display visual permeable qualities to provide visual interest and casual surveillance while maintaining privacy to ground floor dwellings.**
>
> **Landscaping areas will be extensively used to enhance the built form, contribute to a pleasant pedestrian environment and provide an attractive transition between the public and private realms, and will be exclusive of on-site services.**
>
> **Pedestrian and bicycle movement will be encouraged through an activated and appealing public realm that is supported by the Churchill Road Master Plan, including maximising use of the Greenway adjacent to the railway line.**

The amended proposal has been carefully designed having regard to the Desired Character sought for the Boulevard Policy Area, featuring:

- a variety of housing types at medium density, with twelve 2-bedroom designs and a 3-bedroom design to satisfy expected market demand;
- the maintenance of Churchill Road's function as a strategic transport route, by positioning all vehicle access and waste collection services from Redin Street, and an Entrance Lobby facing and directly accessible from Redin Street;

- a 3.10 metre building setback from Churchill Road to accommodate paving and effective landscaping in a deep root zone adjacent to this arterial road;
- a concentration of the building's greatest height, mass and intensity closest to the primary street frontage (Churchill Road);
- a northern side wall shared with residential development to the north which is neighbour friendly;
- a transition of building height down to the eastern (rear) boundary shared with the Residential Zone;
- articulated building facades to the Churchill Road and Redin Street frontages, with apartments facing Churchill Road incorporating balconies facing this corridor; and
- effective landscaping in deep soil zones at the front and rear of the site to enhance the built form, contribute to a pleasant built environment and provide an attractive transition between the public and private realms.

In all relevant respects, the proposal is consistent with the objectives and desired character sought for the Zone and Policy Area.

It is also relevant to note that – of all the Policy Areas in the Urban Corridor Zone – the Boulevard Policy Area encourages the highest residential site density, namely a *minimum* net residential site density[2] of 75 dwellings per hectare net (Zone Principle 5).

The development site has an area of 659.6 square metres, or 0.06596 hectares. With 13 proposed apartments, the proposal delivers a net residential site density of 197 dwellings per hectare.

5.2 Building Height

Urban Corridor Zone Principle 14 encourages building heights to be consistent with the parameters set out in the corresponding Table. For the Boulevard Policy Area, the relevant parameters are:

- a minimum building height of two storeys; and
- a maximum building height of four storeys and up to 15 metres.

The proposal complies with the minimum building height but with a building height of 16.08 metres, it exceeds the maximum building height of 15 metres by a margin of 1.08 metres. It is also one storey more than the maximum specified.

[2] Net residential site density' is defined in the 30-Year Plan for Greater Adelaide as: Density of a development site calculated by dividing the total number of dwellings by the area (in hectares) of residential land that they occupy (excludes land uses, including roads, open space, etc.) and expressed as dwelling units per hectare (du/ha).

Relevantly, the building's height exceedance does not occur across the entire development site. Rather, the Fourth Floor will be setback 7.786 metres from Churchill Road at the western end of the site, and 13.68 metres from the rear boundary at the eastern end of the site (measured from the Roof Terrace). A generous building setback at the Churchill Road end of the site is also required as a consequence of the sag and swing power line investigation, to ensure that all building levels are set back adequately from the high tension power lines along Churchill Road. For this reason, the building will be set back 3.1 metres from Churchill Road, progressively increasing as building height increases. At the rear, the building will be setback 3.0 metres from the eastern boundary, and progressively increasing as building height increases in accordance with the 45 degree plane.

These setback distances satisfy the distances specified by Zone Principles 17 and 19 (3.0 metres from the Primary Road frontage and 3.0 metres from the rear boundary).

The building does not satisfy the 2.0 metre secondary road setback requirement specified by Zone Principle 18. Along this frontage, the building (including the top floor level) will be setback 790mm from Redin Street. This has been necessary in order to achieve a workable car park design and provision of adequate off-street parking which satisfies AS/NZS 2890.1:2004.

It would simply not be possible to design off-street parking in accordance with the relevant standards, and at the same time achieve a 2.0 metre setback from Redin Street, without sacrificing at least four off-street parking spaces.

On balance, the proposal's height and siting relative to all site boundaries is considered acceptable, having regard to the minor building height exceedance (1.08 metres) and off-street car parking design constraints which limit opportunities to achieve a 2.0 metre secondary road setback.

Relevantly, the building height 'exceedance' is 1.6 metres at the upper level only where it cannot be readily seen from Churchill Road, Redin Street or adjacent houses to the east in Redin Street. To offset the small increase in building height, the building exhibits a high degree of articulation and a commendable presentation to both street frontages in accordance with the relevant provisions of the Development Plan. It will also be enhanced with effective landscaping to the Churchill Road and Redin Street frontages, and the rear boundary, in accordance with the details shown on Outerspace's Landscape Concept.

5.3 Residential Amenity

The proposed Fourth Floor Roof Terrace will be setback 13.68 metres from the eastern boundary, and also the Residential Zone boundary. At Ground Level, the building will be setback 3.0 metres from the eastern rear boundary. These setbacks comfortably exceed the 6.0 metre and 3.0 metre setback distances specified by Zone Principle 19.

On the northern side, the building will be built onto the northern boundary, stopping 2.995 metres from Churchill Road and 2.5 metres at the eastern end. At First Floor Level, the northern wall will be built on the boundary closest to Churchill Road for a length of 16.896 metres, with the remainder of the northern side of the building at this and all other levels being setback 2.0 metres from the northern boundary. These side setbacks satisfy the minimum side boundary setbacks specified in the Table to Zone PDC 19.

Overlooking into the private open space and habitable room windows of the residences to the east and north-east in the adjacent Residential Zone will be minimised, if not prevented, by the planting of Italian Cypress Pines at close intervals in the deep soil zone adjacent to the rear (eastern) boundary. At maturity, these trees will form an impenetrable vegetation screen to prevent overlooking.

Along the northern side of the building, the habitable room windows at all levels will be fixed, etched glazing to prevent overlooking into the rear yard and private open space of the detached dwelling directly to the north (see North Elevation Drawing PL05.A).

A set of overshadowing diagrams has been prepared (Drawing PL08.A) showing the extent of shadow from the proposal at hourly intervals from 9.00 am to 4.00 pm on 22 June (winter solstice). The Note at the bottom of Drawing PL08.A states: "All shadows are cast onto ground level only and not onto adjacent building structures". In other words, buildings projecting above ground level will not necessarily be in shadow. This is particularly so in relation to the adjacent dwelling t the east of the site in Redin Street, where the shadow at 4.00pm is shown as falling onto roof but in reality is not expected to shadow the roof, which is in any event a garage and not a habitable room. The remainder of the shadow at that time of the day and year falls onto the associated driveway.

The shadow diagrams indicate that during the winter solstice, most shadow falls onto Churchill Road and Redin Street and the adjacent commercial premises of 2nd Fix Doors and Hardware.

The adjacent residential property in Redin Street to the east of the site will receive at least 5 hours of sunlight at the winter solstice (ie from 10.00am until 3.00pm). This property will then only receive shadow for the next hour onto the garage and front driveway.

It can be concluded that the proposal will satisfy Design Technique 78.1 which encourages sunlight onto ground level private open space of adjacent dwellings for two consecutive hours between 9.00am and 3.00pm on 21 June, and that it will also satisfy Urban Corridor Zone Principle 13 which states:

PDC 13 To minimise overshadowing of sensitive uses outside of the zone, buildings should ensure that:

(a) north-facing windows to habitable rooms of existing dwellings in adjacent zones receive at least 3 hours of direct sunlight over a portion of their surface between 9.00am and 3.00pm on 21 June

(b) ground level open space of existing residential buildings in adjacent zones receive direct sunlight for a minimum of 2 hours between 9.00am and 3.00pm on 21 June to at least the smaller of the following:

(i) **half of the existing ground level open space; or**

(ii) **35 square metres of the existing ground level open space (with at least one of the area's dimensions measuring 2.5 metres).**

[our underlining]

The premises on the opposite side of Redin Street are a showroom and associated customer/employee car park. They are not used for residential purposes and are in the Urban Corridor Zone.

We are satisfied that residential amenity for adjacent owners and occupiers in both the Residential Zone and the Urban Corridor Zone will not be unreasonably impaired by the proposed development, and that those residential properties will not be unreasonably overshadowed or overlooked by the proposed development.

5.4 Noise Attenuation

Churchill Road is a "Type A" road in the City of Prospect Development Plan, and the site is furthermore a "designated area" through the Air and Noise Emissions Overlay of the Development Plan. As such, the acoustic measures contained in Minister's Specification SA 78B are mandatory for the proposed development.

The Minister's Specification furthermore requires that the acoustic measures must be confirmed by the Building Certifier at the Building Rules Consent stage of the project.

The proposal incorporates noise attenuation measures based on recommendations made by Sonus Pty Ltd in August 2018 for the nearby apartment development at 244 – 248 Churchill Road Prospect (DA 050/482/2017. A full copy of the Sonus report is at **Attachment I**. The Sonus report in that matter was prepared for the same applicant Michael Calabro Pty Ltd. For the 244 – 248 Churchill Road development, Sonus has recommended that the roof and upper ceilings, external walls, windows and sliding doors, particularly to those apartments facing Churchill Road, be acoustically treated in accordance with the recommendations set out in the Acoustic Report. Our client has agreed to those recommendations.

The acoustic environment at 244 – 248 Churchill Road is the same as the proposed development, namely a medium rise residential building with apartments facing Churchill Road.

If this application is approved, we respectfully suggest that a condition be imposed on the consent which specifies that the proposal must be designed to satisfy the mandatory requirements of Minister's Specification SA78B.

5.5 Churchill Road and Redin Street Streetscapes

Urban Corridor Zone Objective 2 encourages medium rise buildings to create "*visually appealing streetscapes incorporating high levels of amenity*", while Boulevard Policy Area Objective 2 encourages a

"*streetscape edge that is setback from the street boundary to allow for landscaping and framed by tall, articulated building facades*".

The amended proposal has been designed to a high architectural standard having particular regard to these provisions, with all apartments at every level incorporating living rooms and balconies facing Churchill Road, apartments adjacent Redin Street having windows and one balcony facing this street, and a cantilevered entrance canopy projecting over the street footpath to add further design interest and to emphasise the building entrance.

The Churchill Road and Redin Street frontages will furthermore be enhanced by effective landscaping to soften and screen the building's appearance, and to shade the western façade with new street trees (Golden Rain) and two trees in the front setback space (Tuckeroo).

Along Redin Street, all three existing street trees will be retained, with additional feature planting near the building entrance, low hedging adjacent to the building, and new feature paving to both footpaths to match the paving selected for the Churchill Road Master Plan.

The entire landscaping scheme proposed for the adjacent public realm has been designed by Outerspace to match the streetscape works being progressively implemented along Churchill Road.

The building moreover features a wide variety of building materials, colours and textures, such as perforated steel screens 'Recycled Red' brickwork to the south, north and west elevations, and *Cemintel* Bare-stone Cladding.

5.6 Off-Street Parking

The proposal provides off-street parking for 14 vehicles, which equates to one parking space per apartment. Cirqa in its Traffic and Parking Report advises that the provision of one parking space per apartment will satisfy the residential vehicle parking requirements of the Development Plan.

Off-street visitor parking will not be provided. Nevertheless, Cirqa has identified that the required 3.25 spaces (rounded up to 4.0 spaces) for visitor parking can be accommodated in Redin Street adjacent to the site. In this regard, we estimate that four vehicles could be safely parked on the northern side of Redin Street directly adjacent to the site, with 3.0 spaces west of the proposed driveway entrance and 1.0 space east of the entrance.

Cirqa makes the additional valid comment that the previously approved apartment development was 4.0 spaces short of Development Plan requirements, in circumstances where it was proposed to accommodate the parking shortfall in Redin Street and Churchill Road.

Based on Cirqa's assessment, we are satisfied that the proposal is provided with adequate off-street parking for residents in accordance with the Development Plan's requirements, and that visitor parking

can be safely and conveniently provided on Redin Street in close proximity to the building entrance and lobby.

6.0 CONCLUSIONS

We have concluded that the proposal by Michael Calabro Pty Ltd to develop a multi-level residential apartment building with associated off-street parking and landscaping at 253 Churchill Road Prospect is substantially in accordance with the relevant provisions of the Development Plan.

The proposal:

(i) is an envisaged and appropriate kind of development for the Urban Corridor Zone and Boulevard Policy Area;

(ii) only marginally exceeds the maximum height for buildings in the Boulevard Policy Area;

(iii) exceeds the Development Plan's target density of 75 dwellings per hectare for the Boulevard Policy Area;

(iv) has been designed and sited to a higher-than-expected standard for development in this zone;

(v) will not unreasonably or excessively overshadow or overlook adjacent residential properties;

(vi) will incorporate the full suite of acoustic treatments that have been recommended by Sonus Pty Ltd for a nearby development at 244 - 248 Churchill Road, also by the same applicant;

(vii) is provided with deep soil zones at the front and rear to allow for the planting of effective landscaping which will soften, screen and enhance the building;

(viii) is provided with adequate off-street parking for residents, and will be within safe and convenient walking distance of at least 4.0 visitor parking spaces in Redin Street directly adjacent to the building entrance and Lobby; and

(ix) will complement and enhance the Churchill Road and Redin Street frontages.

For all these reasons we are of the opinion that the proposal is deserving of Development Plan Consent.

Graham Burns FPIA
B/A in Planning

21 September 2018

ATTACHMENT A

Development Plan Consent (DA 050/344/2015)

15 February 2016

Mr D Zarkovic
253 Churchill Road
Prospect SA 5082

Dear Sir / Madam

RE: Four Storey Residential Flat Building comprising 16 dwellings, Communal Storage Facility, Car Parking and Landscaping at 253 Churchill Road PROSPECT (DA 050/344/2015)

Please find attached a copy of the decision notification in respect of the development application as described above. The original decision notification and authorised plan(s) have been forwarded to the applicant.

The decision notification includes any conditions that have been imposed on the relevant authorisation(s). Please also refer to the advisory notes contained therein, as these are likely to be relevant to your development.

Should you have any queries concerning the decision(s) detailed on the decision notification, please contact Council on 8269 5355 or via email admin@prospect.sa.gov.au.

Yours faithfully

Carly Bunce
Administration Officer, Development

Civic Centre
128 Prospect Road
PO Box 171
Prospect SA 5082

Telephone (08) 8269 5355
Facsimile (08) 8269 5834
Email admin@prospect.sa.gov.au
Web www.prospect.sa.gov.au

CITY OF PROSPECT
128 Prospect Road, Prospect SA 5082
Telephone (08) 8269 5355 Facsimile (08) 8269 5834

To: Loucas Zahos Architects
L1, 276 Flinders Street
ADELAIDE SA 2

DECISION NOTIFICATION

Development Application: **050/344/2015**	Dated: 20/07/2015 Registered: 14/08/2015
Location: 253 Churchill Road PROSPECT	
Description: Four Storey Residential Flat Building comprising 16 dwellings, Communal Storage Facility, Car Parking and Landscaping	

The following decisions have been made in respect of the development application:

NATURE OF DECISION	DETERMINATION	NO. OF CONDITIONS	DATE OF DECISION
Development Plan Consent	Granted	20	08/02/2016
Reserved Matters	Required	2	
Building Rules Consent	Required	-	-
Development Approval	Required	-	-

- Any conditions that have been imposed against the authorisation(s) granted herein and advisory notes that may be relevant to the development are detailed on the following page(s).
- The application was determined to be a **Category 2** application for the purpose of public notification. Three representations were received from third parties.
- The building classification assigned to the development under the Building Code is: TBD
- The development authorisation (consent or approval) granted herein remains operative for a period of 12 months from the date of the decision.

Signed: ..... ☐ Chief Executive Officer ☒ Delegate

Date: 15/2/16

Conditions and notes that apply to this authorisation

Where relevant to the ongoing maintenance or operation of the development to which this authorisation applies, the condition(s) identified herein will continue to apply unless or until varied or revoked by the relevant authority.

Any conditions detailed herein are binding on and enforceable against:

- the person by whom the development is undertaken;
- any person who acquires the benefit of the decision or the development; and
- the owners and occupiers of the land on which the development is undertaken.

Conditions of Development Plan Consent

The following conditions apply to the Development Plan Consent. These conditions have been imposed in accordance with the *Development Act 1993* to ensure the development complies with the provisions of Council's Development Plan and relevant legislation:

1. The development shall take place in accordance with plans and details stamped by Council relating to Development Application Number 050/344/2015, except as modified by any conditions detailed herein. All works detailed in the approved plans and required by conditions are to be completed prior to the occupation of the approved development.

2. All driveways, parking and manoeuvring areas must be formed, surfaced with concrete, bitumen or paving and maintained to the reasonable satisfaction of Council. Driveways, car parking spaces, manoeuvring areas and landscaping areas shall not be used for the storage or display of materials or goods including waste products and refuse. The obsolete crossover and/or any portion of crossover that is not required for the subject development shall be reinstated to Council standard kerb and gutter at the applicant's cost prior to occupation of the completed development.

3. Prior to the grant of development approval, detailed plans of the north and east facing balcony privacy screens shall be provided to the satisfaction of Council and that shall result in the copper/rust finished metal screens being 1.5m in height above the finished floor level of the related balconies.

4. Air-conditioning units and solar hot water heaters shall be provided with screening devices designed to complement the colours, materials and finishes of the building approved herein, and shall be sited to adequately screen the units from view from neighbouring properties and public land (roadways) to the reasonable satisfaction of Council.

5. The Community Corporation shall ensure that the waste storage area is cleaned and maintained to the satisfaction of Council. General, recyclable and green organic wastes shall be co-mingled, with the Community Corporation maintaining responsibility for ensuring that bins are transported between the collection point and the storage area in a timely fashion to the satisfaction of Council.

6. A minimum of 4 x 660 litre mobile garbage bins shall be provided for general and recyclable waste and collected at least once per week. A minimum of 3 x 240 litre mobile garbage bins shall be provided for the collection of green organic waste and collected at least once per week. Collection of the waste shall occur outside of peak traffic periods.

7. To maximise the efficiency of waste recycling:

   a) Provision shall be made for the separation of recyclable materials for collection and recycling, including paper, cardboard, glass and plastic containers, tins, and any other plastic that 'holds its shape';

   b) Separate provision shall be made for the collection of food waste (food organics) and food-contaminated cardboard, paper or paper products, which are to be collected for composting; and

   c) Paper attached to plastic, wax paper or chemically-treated/gloss cardboard will not be included with the materials collected for composting.

8. Any difference in finished ground levels between the subject site and adjoining sites at the boundary shall be retained by an appropriate wall or plinth of masonry, concrete or similar construction. Retaining walls must be designed to accepted engineering standards and will not be of timber construction if retaining a difference in ground levels exceeding 200 mm.

9. The landscaping shall be planted prior to occupancy of the development, and maintained at all times to the reasonable satisfaction of Council and to ensure appropriate lines of sight for vehicles and pedestrians. The Community Corporation shall cultivate, tend and nurture the landscaping, and shall replace any landscaping that becomes diseased or dies. An automated drip irrigation or similar watering system shall be established and maintained to ensure that sufficient water is available to satisfy the needs of the landscaping species selected.

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

    All works on Council land shall be conducted to Council's specification, with all works to be bunted off safely and pedestrian safety to be maintained throughout the construction period. Plantings will also need to be undertaken in line with council specifications in terms of sight distance interference and safety to the community (thorns/poisonous plantings). Plans displaying all relevant details of the Road/Kerbing/Footpath Works shall be submitted to the Assets and Infrastructure Officer for approval prior to the commencement of any such works.

11. All landscaping located within six metres of the intersection of the Churchill Road and Redin Street boundaries of the site shall be low growing to preserve sightlines across the corner.

12. An irrigated vertical garden shall be established prior to the occupation of the building and shall be nurtured and maintained to the Redin Street façade of the building within the area marked 'VS' (adjacent the lift/stair well core) on the south elevation of 'Drawing No A201' (Elevations) Revision 'P4'. A final detailed landscaping plan shall be provided to the satisfaction of Council detailing the species and irrigation of the vertical garden prior to the grant of full Development Approval.

Conditions of a Prescribed Body

The following conditions apply to the Development Plan Consent and have been imposed in accordance with the response from the Department of Planning, Transport and Infrastructure:

1. The access point to Redin Street shall be designed in accordance with Loucas Zahos Architects Ground, Site & Level 1 Plan, Drawing A104, Revision P4, dated 06/11/15.

2. The access shall be appropriately flared to the road to facilitate unimpeded ingress/egress.

3. Appropriate signage and line marking shall be installed to reinforce the desired traffic flow at the Redin Street access point.

4. The shared internal vehicle manoeuvring areas shall be clear of all obstructions including meters, letterboxes and bicycle/scooter parking.

5. Signage associated with the development that is visible from Churchill Road shall not contain any element of LED or LCD display that is viewable from the adjacent/nearby roads.

6. Signage upon the site that is visible from Churchill Road shall not contain any element that flashes, scrolls, moves or changes.

7. Signage associated with the development shall be finished in a material of low reflectivity to minimise the risk of sun/headlamp glare that may affect motorists' perception of the road.

8. All stormwater generated by the proposal shall be appropriately collected and disposed of without entering or jeopardising the safety of the adjacent arterial road network.

Reserved Matters Requiring Further Assessment

The following detailed information shall be submitted for further assessment and approval by Council as Reserved Matters pursuant to Section 33(3) of the *Development Act 1993*:

1. A detailed stormwater management plan shall be provided that, to the satisfaction of Council, provides evidence that all dwellings are suitably protected from 1 in 100 year ARI storm events and that post-development outflow rates from the site will match pre-development rates in 1 in 20 ARI storm events. The location and capacity of any on-site detention tanks shall be clearly described.

2. A detailed landscaping design including species selections and suitable management techniques.

Pursuant to Section 33(1) of the *Development Act 1993*, Council reserves its decision on the form and substance of any further conditions of development plan consent that it considers appropriate to impose in respect of the reserved matters set out above.

Advisory Notes

The following advisory notes are provided for your information:

(1) Pursuant to Section 86(1)(a) of the Development Act, 1993, you have the right of appeal to the Environment, Resources and Development Court against either 1) a refusal of consent or 2) any condition(s) which have been imposed on a consent. Any such appeal must be lodged with the Court within two (2) months from the day on which you receive this notification or such longer period as may be allowed by the Court.

The Environment, Resources and Development Court is located in the Sir Samuel Way Building, Victoria Square, Adelaide SA 5000 (Postal Address: GPO Box 2465, Adelaide SA 5001).

(2) The development plan consent granted herein is effective for a period of twelve (12) months from the date of the decision. Unless Council extends this period, building rules consent is required within this time or the consent will lapse.

Any request for an extension of the operative period of the consent must be submitted to Council in writing, accompanied by the applicable fee.

(3) Further application pursuant to the Local Government Act shall be made to the Infrastructure Assets and Environment Department for the proposed crossover prior to construction activities occurring.

Road/Kerbing/Footpath Works will need to be inspected by an Assets and Infrastructure Officer to determine they have met all relevant requirements. All work including line marking will be the responsibility of the applicant as will the reinstatement of any damaged Infrastructure / Services related to these works. All works will be carried out at the cost to the applicant.

(4) Prior to the commencement of construction of the development herein approved, it is strongly recommended that you employ the services of a licensed Land Surveyor to carry out an identification survey of the subject land and to peg the true boundaries, to ensure that building work will be either on the true boundaries or the specified distance from the true boundaries of the subject land, as the case may be.

Failure to correctly site the development on the land in accordance with the plans approved herein would constitute a breach of the *Development Act 1993*. Any amendments required to the approved plans as a result of the survey are to be submitted to Council for approval prior to works commencing.

(5) You are encouraged to consult with adjoining property owners before commencing any work, to assist in minimising nuisance or inconvenience caused during construction.

(6) You are required to give formal notification to, and consult with, the adjoining property owner if you are removing, replacing or altering an existing fence or building a freestanding wall along the common boundary that would, for all purposes, be a dividing fence (Section 5 of the *Fences Act 1975*).

(7) During construction of the development approved herein, measures will be implemented to ensure that the construction works do not result in an unreasonable impact on occupiers of adjacent properties or pollution of existing infrastructure through drag-out or stormwater runoff. Measures shall include as necessary:

- A hard surface and controlled washing zone at the entry/exit points to the site, designed to reduce the potential for mud and material dragged out by construction vehicles; and
- Containment of stormwater run-off within the site, which if being discharged into the stormwater system will be filtered to the satisfaction of Council; and
- Reduction of the potential for dust and other airborne particles by the use of water sprinklers and/or other means of containment; and
- The establishment of an appropriate storage compound for waste materials and litter. No building waste material shall be stored outside of the storage compound or similar industrial bin; and
- All mechanical equipment shall be used in a manner to minimise the potential for noise pollution and ensure compliance with the requirements of the Environment Protection (Noise) Policy.

(8) To ensure compliance with applicable standards as described in the Environment Protection (Noise) Policy established under the Environment Protection Act, construction activities should only take place between the hours of 7:00am and 7:00pm, Monday to Saturday inclusive, and not on Sundays or public holidays.

(9) The construction of the building shall be undertaken in accordance with the Ministers Specification SA78B – Construction requirements for the control of external sound. Compliance with the Minister's Specification would be required as part of the Building Code of Australia (BCA).

(10) All vehicles shall enter and exit the site in a forward direction.

(11) The Metropolitan Adelaide Road Widening Plan (MARWP) shows a possible requirement for a strip of land up to 4.5 metres in width from the Churchill Road frontage of this site and a 4.5 metres x 4.5 metres corner cut-off at the junction of Churchill Road with Redin Street. It is noted that CT 5684/552 shows that a 3.04 metre x 3.04 metre corner cut-off has already been provided. No further land is required at this time.

Notwithstanding this, the consent of the Commissioner of Highways under the MARWP Act is required to all building works on or within 6.0 metres of the corner cut-off requirement. Accordingly, the attached consent form and three copies of the approved site plans must be provided to DPTI for consent purposes.

(12) ***Notification to the Kaurna Nation Cultural Heritage Association Incorporated (Heritage Association) may be required.*** Please be advised that it is an offence under the Aboriginal Heritage Act to damage, disturb or interfere with any Aboriginal site, object or remains. In the event that the building works reveal a suspected Aboriginal site, object or remains, the Minister for Aboriginal Affairs and Reconciliation must be notified. The Minister can be contacted via the Department of the Premier and Cabinet – Aboriginal Affairs and Reconciliation Division, GPO Box 2343 Adelaide SA 5001, phone 8226 8900.

Please note that the Heritage Association is responsible for undertaking heritage surveys in the Indigenous Land Use Agreement (ILUA) area, which is defined as that geographical area of land and waters within the outer boundaries of the geographical area of land and waters comprised in, and the subject of, the native title application known as the Kaurna Peoples native title claim SC 00/1 recorded as native title determination application no. SAD 6001/00 in the Federal Court of Australia.

ATTACHMENT B

Certificate of Title

Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search (CT 5684/552)
Date/Time	13/02/2018 01:10PM
Customer Reference	50640
Order ID	20180213007111
Cost	$28.25

REAL PROPERTY ACT, 1886
South Australia

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

Certificate of Title - Volume 5684 Folio 552

Parent Title(s) CT 2232/73

Creating Dealing(s) CONVERTED TITLE

Title Issued 24/08/1999 **Edition** 7 **Edition Issued** 28/06/2017

Estate Type

FEE SIMPLE

Registered Proprietor

MICHAEL CALABRO PTY. LTD. (ACN: 105 309 957)
GAMMA ILLUMINATION PTY. LTD. (ACN: 003 081 534)
OF PO BOX 201 REVESBY NSW 2212
AS JOINT TENANTS

Description of Land

ALLOTMENT 59 DEPOSITED PLAN 991
IN THE AREA NAMED PROSPECT
HUNDRED OF YATALA

Easements

NIL

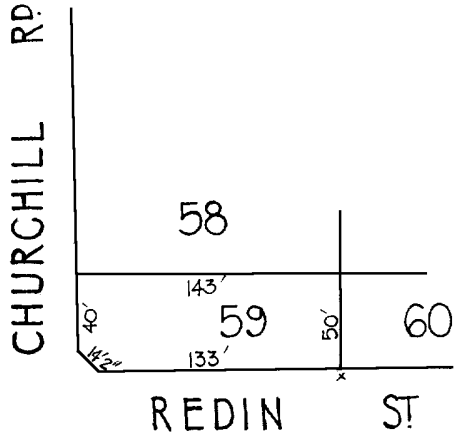
Schedule of Dealings

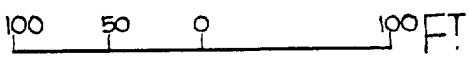
NIL

Notations

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

Product	Register Search (CT 5684/552)
Date/Time	13/02/2018 01:10PM
Customer Reference	50640
Order ID	20180213007111
Cost	$28.25

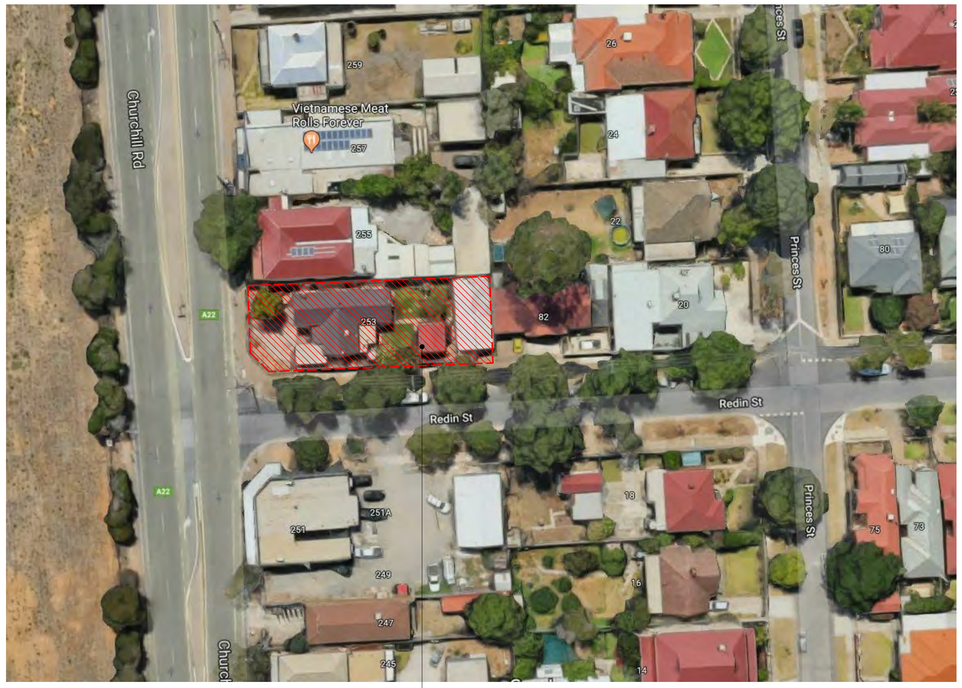




DISTANCES ARE IN FEET AND INCHES
FOR METRIC CONVERSION
1 FOOT = 0·3048 METRES
1 INCH = 0·0254 METRES

ATTACHMENT C

Drawings - Proske Architects



LOCATION PLAN

SUBJECT SITE
253 CHURCHILL ROAD, PROSPECT
EXISTING DWELLING TO BE DEMOLISHED

253 APARTMENTS

253 CHURCHILL ROAD, PROSPECT

Member
Australian Institute of Architects

proske. ARCHITECTS

26 Wakeham Street
Adelaide South Australia 5000
p (08) 8271 0100
f (08) 8312 3210

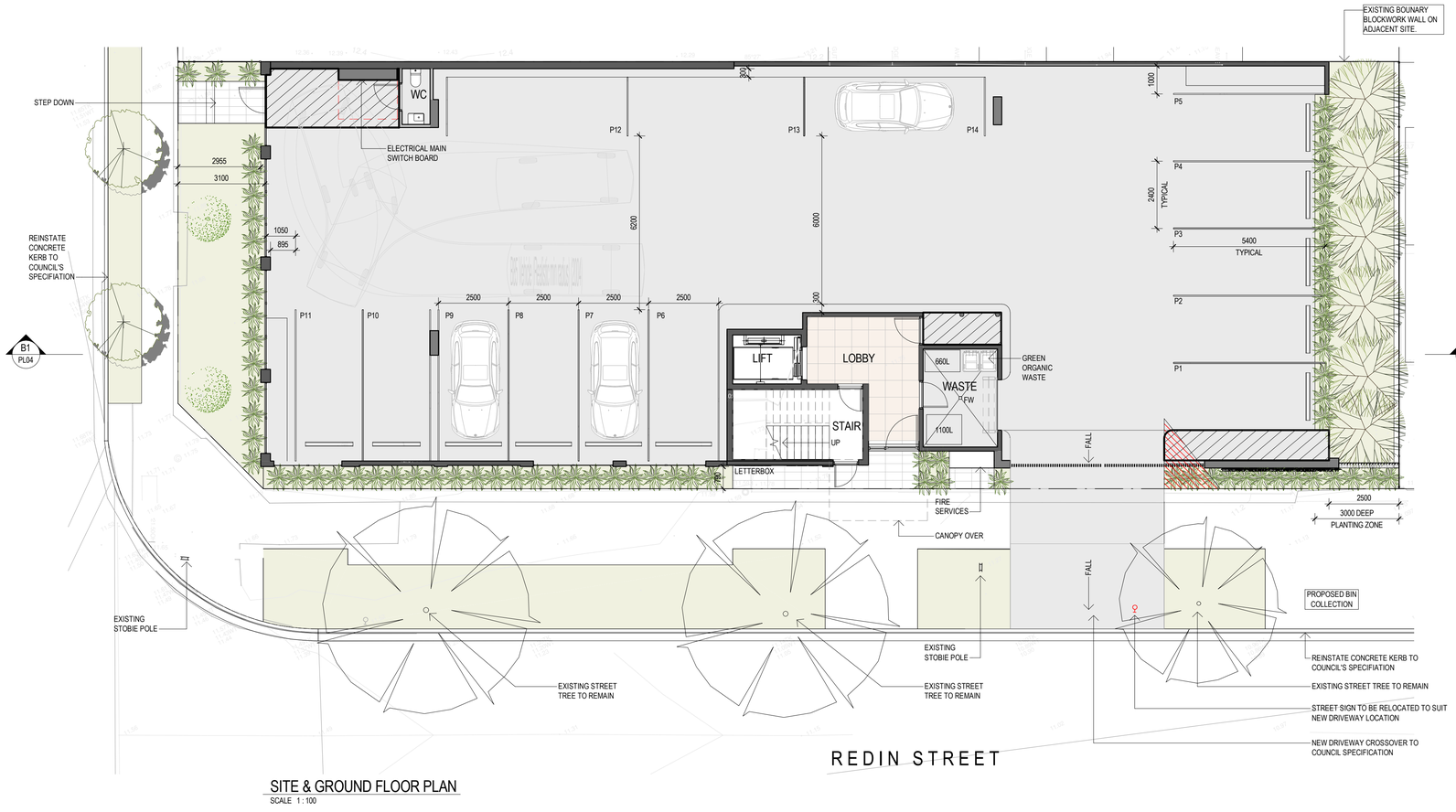
www.proske.com.au

PL01.A

253 CHURCHILL
253 CHURCHILL ROAD
PROSPECT, SA

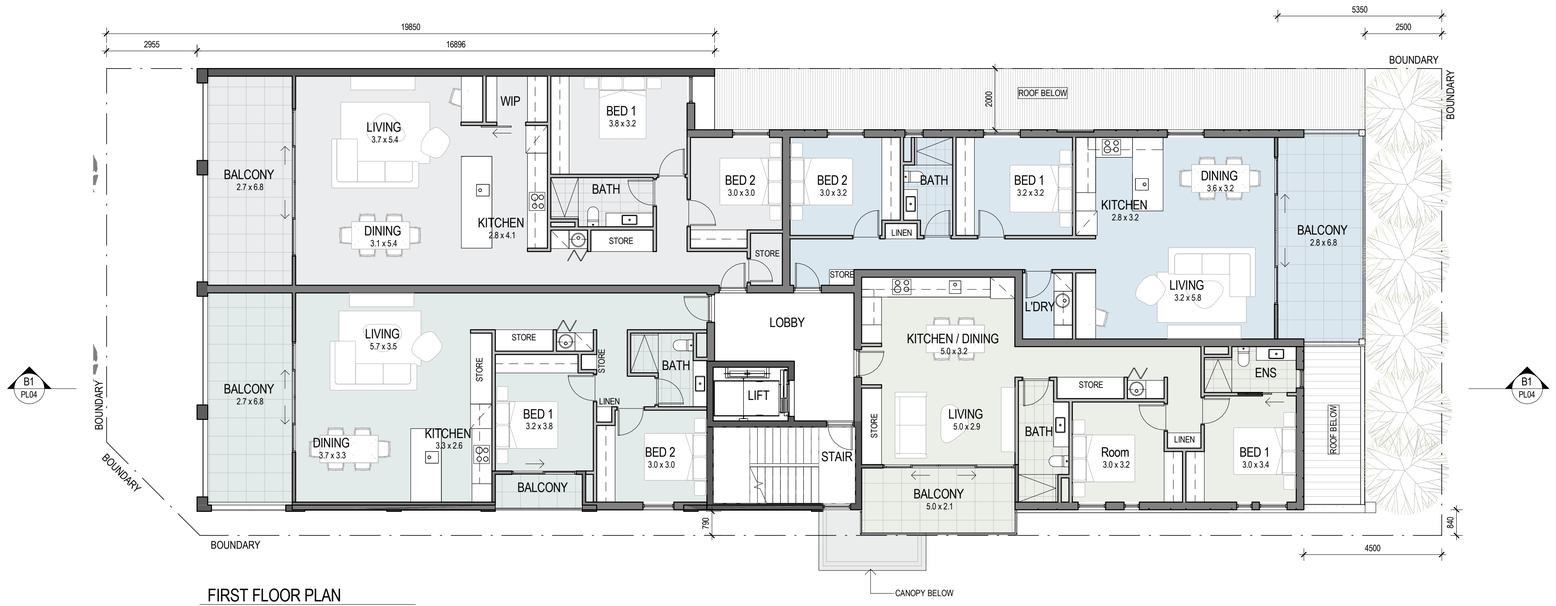
PROJECT NO: **17-051**
CLIENT: **M CALABRO**
DRAWN: **AMZ**
SCALE: **1 : 60 @ A1**
DATE: **20.09.2018**

CHURCHILL ROAD



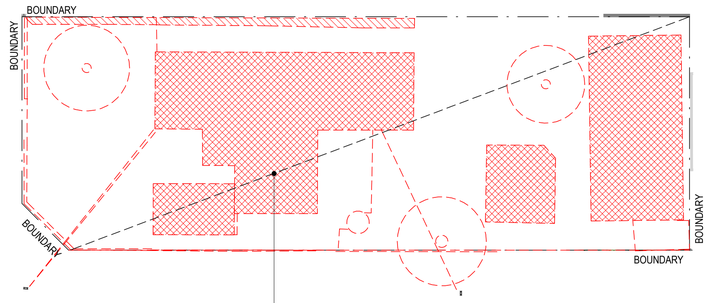
SITE & GROUND FLOOR PLAN

SCALE 1 : 100



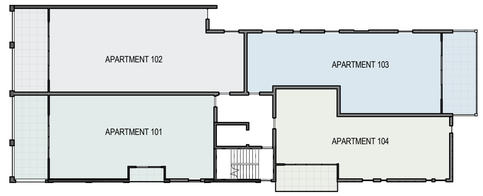
FIRST FLOOR PLAN

SCALE 1 : 100



SITE DEMOLITION PLAN

SCALE 1 : 200



APARTMENT LEGEND

AREA SCHEDULE FIRST FLOOR

AREAS ARE TAKEN FROM INTERNAL FACE OF EXTERNAL WALL LINE, UNLESS OTHERWISE SPECIFIED.

ALL BEDROOM DIMENSIONS ARE MEASURED TO THE FACE OF THE ROBE

APARTMENT 101	95 m²
POS	19 m²
101 TOTAL AREA	114 m²
APARTMENT 102	106 m²
POS	19 m²
102 TOTAL AREA	125 m²
APARTMENT 103	92 m²
POS	20 m²
103 TOTAL AREA	111 m²
APARTMENT 104	82 m²
POS	11 m²
104 TOTAL AREA	92 m²

0 1m 2m 5m 10m

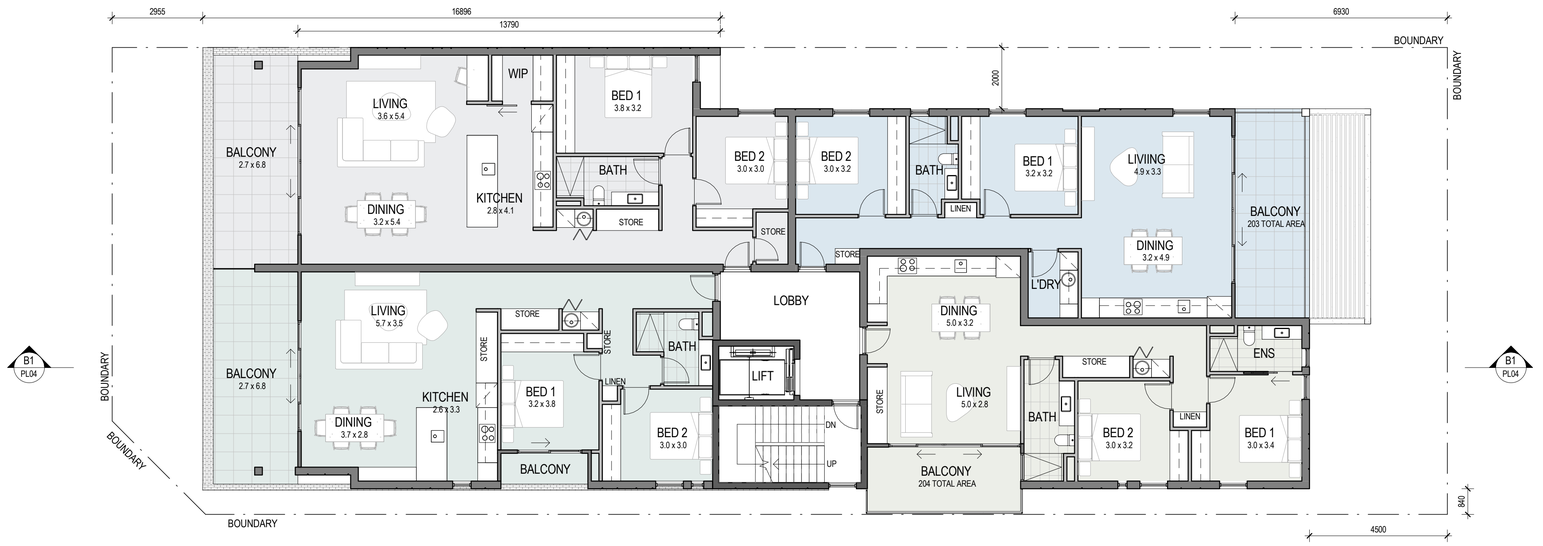
proske ARCHITECTS
26 Wakeham Street
Adelaide South Australia 5000
p (08) 8271 0100
f (08) 8312 3210
www.proske.com.au

FOR APPROVAL

A	FOR APPROVAL	20.09.2018

DRAWING DETAILS
DRAWN: AMZ
SCALE: As indicated @ A1

17-051. PL02.A
PROJECT
253 CHURCHILL
253 CHURCHILL ROAD
PROSPECT, SA
CLIENT
M CALABRO
DRAWING TITLE
SITE / GROUND & FIRST FLOOR PLAN
DATE: 20.09.2018



SECOND FLOOR PLAN

SCALE 1 : 100

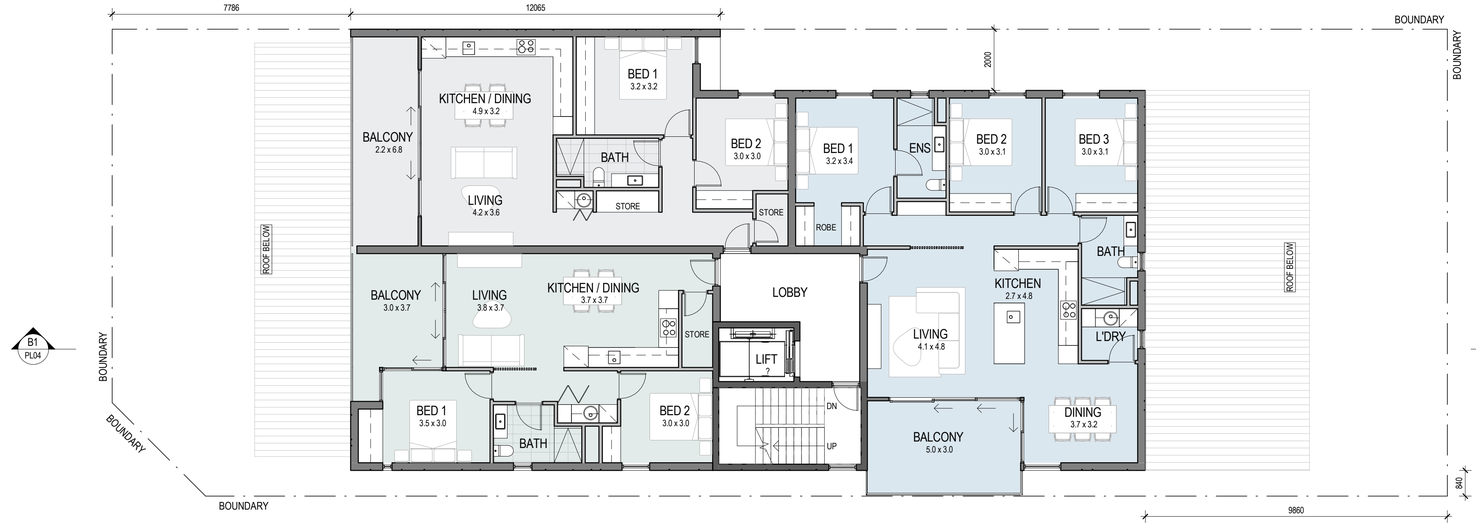
APARMENT LEGEND

AREA SCHEDULE SECOND FLOOR

AREAS ARE TAKEN FROM INTERNAL FACE OF EXTERNAL WALL LINE, UNLESS OTHERWISE SPECIFIED.

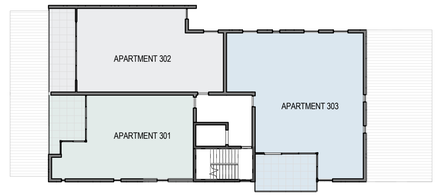
ALL BEDROOM DIMENSIONS ARE MEASURED TO THE FACE OF THE ROBE

APARTMENT 201	94 m²
POS	19 m²
201 TOTAL AREA	113 m²
APARTMENT 202	105 m²
POS	19 m²
202 TOTAL AREA	124 m²
APARTMENT 203	81 m²
POS	17 m²
203 TOTAL AREA	98 m²
APARTMENT 204	80 m²
POS	11 m²
204 TOTAL AREA	91 m²



THIRD FLOOR PLAN

SCALE 1 : 100



APARTMENT LEGEND

AREA SCHEDULE THIRD FLOOR

AREAS ARE TAKEN FROM INTERNAL FACE OF EXTERNAL WALL LINE, UNLESS OTHERWISE SPECIFIED.

ALL BEDROOM DIMENSIONS ARE MEASURED TO THE FACE OF THE ROBE

APARTMENT 301	68 m²
POS	13 m²
301 TOTAL AREA	81 m²
APARTMENT 302	78 m²
POS	15 m²
302 TOTAL AREA	94 m²
APARTMENT 303	107 m²
POS	16 m²
303 TOTAL AREA	123 m²

0 1m 2m 5m 10m

proske ARCHITECTS
26 Wakeham Street
Adelaide South Australia 5000
p (08) 8271 0100
f (08) 8312 3210
www.proske.com.au

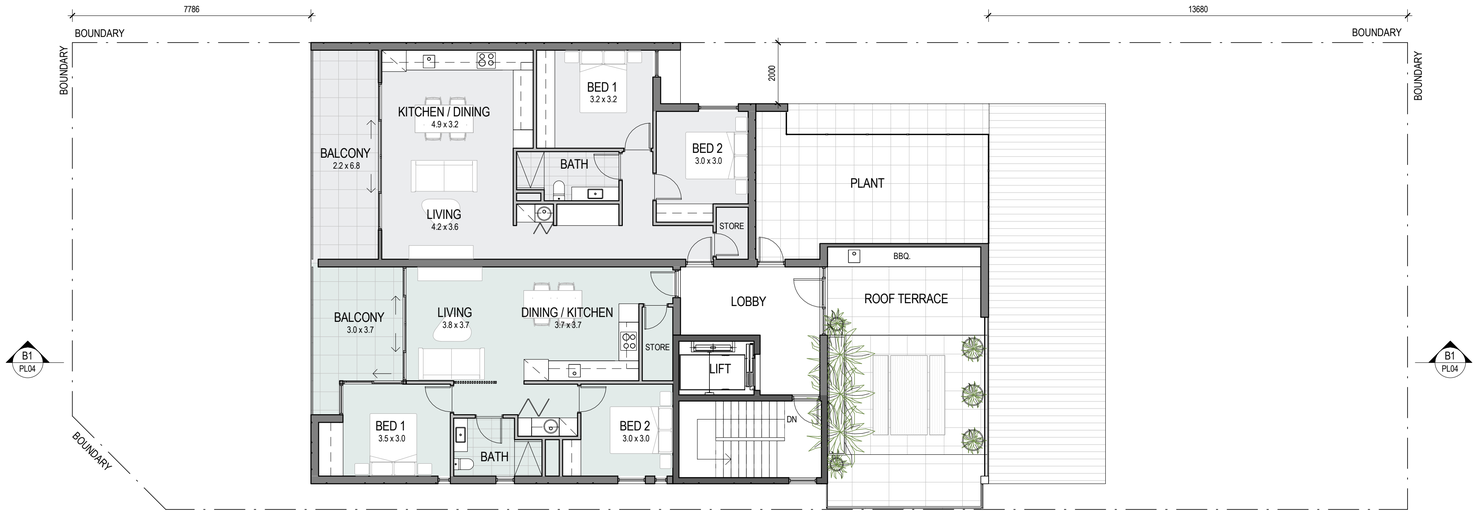
FOR APPROVAL

A	FOR APPROVAL	20.09.2018

DRAWING DETAILS
DRAWN: AMZ
SCALE: As indicated @ A1

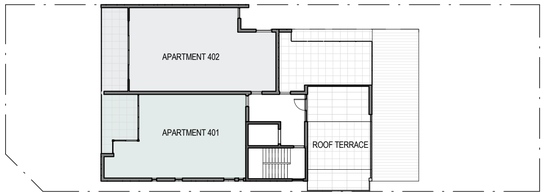
Member Australian Institute of Architects

17-051. PL03.A
PROJECT
253 CHURCHILL
253 CHURCHILL ROAD
PROSPECT, SA
CLIENT
M CALABRO
DRAWING TITLE
SECOND & THIRD FLOOR PLAN
DATE: 20.09.2018



FORTH FLOOR

SCALE 1 : 100



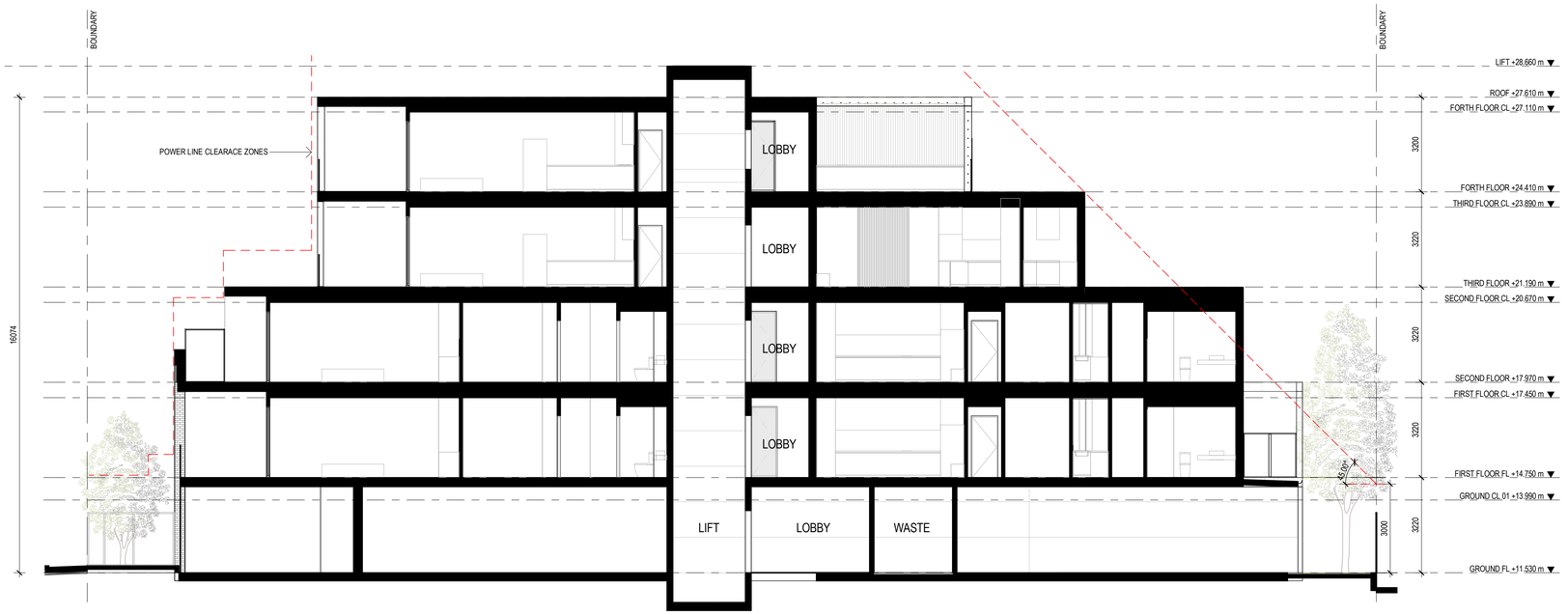
APARTMENT LEGEND

AREA SCHEDULE FORTH FLOOR

AREAS ARE TAKEN FROM INTERNAL FACE OF EXTERNAL WALL LINE, UNLESS OTHERWISE SPECIFIED.

ALL BEDROOM DIMENSIONS ARE MEASURED TO THE FACE OF THE ROBE

POS	13 m²
APARTMENT 401	68 m²
401 TOTAL AREA	81 m²
APARTMENT 402	77 m²
POS	15 m²
402 TOTAL AREA	93 m²
ROOF TERRACE	43 m²
TOTAL AREA	43 m²



B1 PL02 SECTION B1

SCALE 1 : 100

proske ARCHITECTS

26 Wakeham Street
Adelaide South Australia 5000
p (08) 8271 0100
f (08) 8312 3210
www.proske.com.au

FOR APPROVAL

DRAWING DETAILS
DRAWN: **AMZ**
SCALE: **As indicated @ A1**

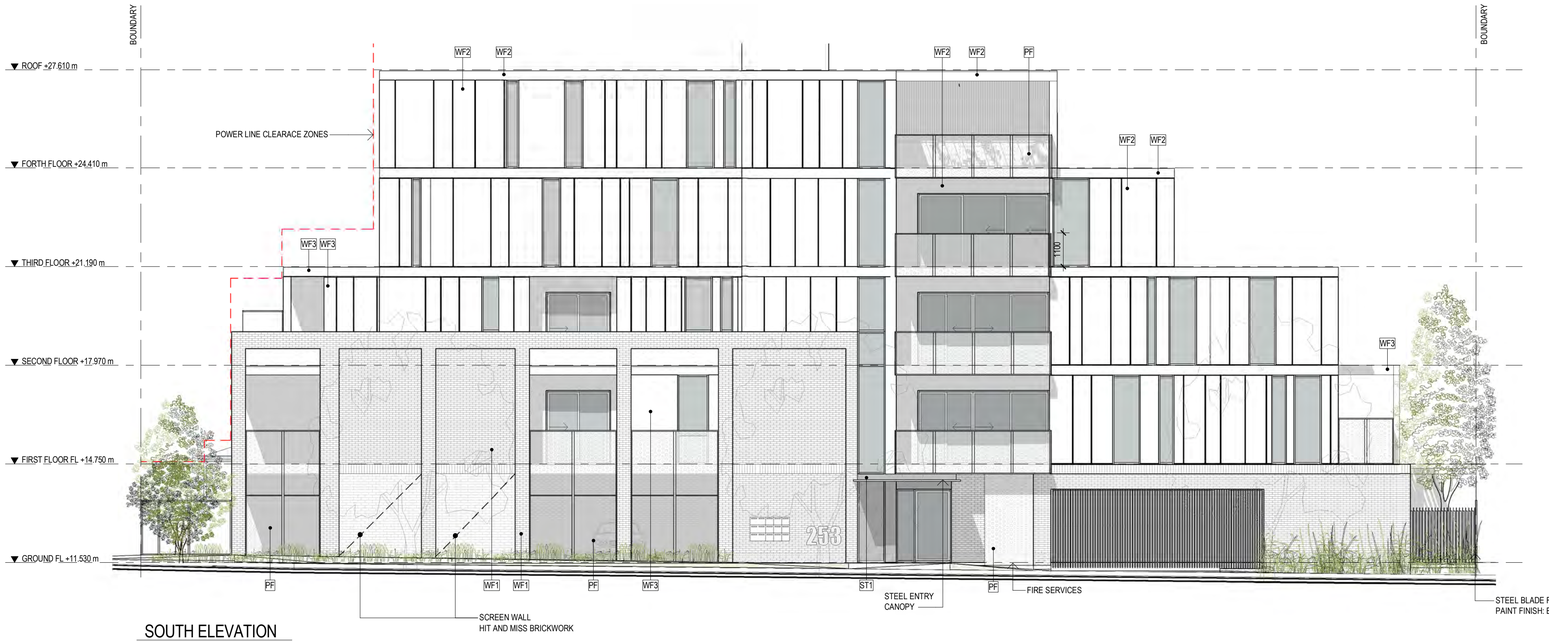
17-051.PL04

PROJECT
253 CHURCHILL
253 CHURCHILL ROAD
PROSPECT, SA

CLIENT
M CALABRO

DRAWING TITLE
FORTH FLOOR PLAN & SECTION

DATE:

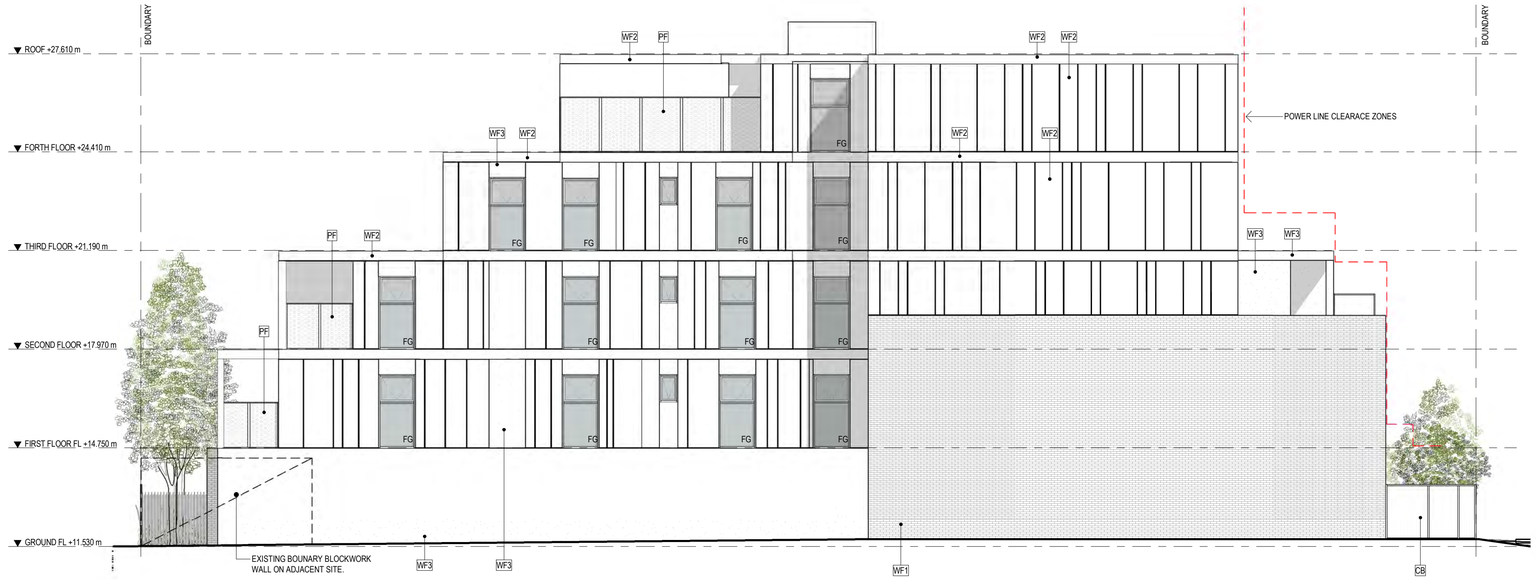


SOUTH ELEVATION
SCALE 1 : 100

EAST ELEVATION
SCALE 1 : 100

EXTERNAL FINISHES

CB	GOOD NEIGHBOUR COLORBOND FENCE COLOUR: COLORBOND 'MONUEMNT'
FG	FIXED GLAZING ETCHED GLASS (TO MITIGATE ANY OVERLOOKING CONCERNS) COLOUR: TRANSLUCENT VIEW OBSCURING FINISH
PF	PERFORATED STEEL SCREEN FINISH: BLACK POWDERCOAT
ST1	STEEL 01 PIANT FINISH COLOUR: SOLVER MIO CHARCOAL
WF1	WALL FINISH 1 BRICKWORK 'RECYCLED RED'
WF2	WALL FINISH 2 CEMINTEL BARESTONE CLADDING NATURAL FINISH
WF3	WALL FINISH 3 ACRYLIC RENDER COLOUR: CHARCOAL



NORTH ELEVATION
SCALE 1 : 100

WEST ELEVATION
SCALE 1 : 100

0 1m 2m 5m 10m

proske ARCHITECTS
26 Wakeham Street
Adelaide South Australia 5000
p (08) 8271 0100
f (08) 8312 3210
www.proske.com.au

FOR APPROVAL

A	FOR APPROVAL	20.09.2018

DRAWING DETAILS
DRAWN: **AMZ**
SCALE: **1 : 100 @ A1**

17-051.PL05.A
PROJECT
253 CHURCHILL
253 CHURCHILL ROAD
PROSPECT, SA
CLIENT
M CALABRO
DRAWING TITLE
ELEVATIONS
DATE: **20.09.2018**

WEST STREETSCAPE

SCALE 1 : 100

SOUTH STREETSCAPE

SCALE 1 : 100

proske ARCHITECTS

26 Wakeham Street
Adelaide South Australia 5000
p (08) 8271 0100
f (08) 8312 3210
www.proske.com.au

FOR APPROVAL

A	FOR APPROVAL	20.09.2018

DRAWING DETAILS
DRAWN: **AMZ**
SCALE: **1 : 100 @ A1**

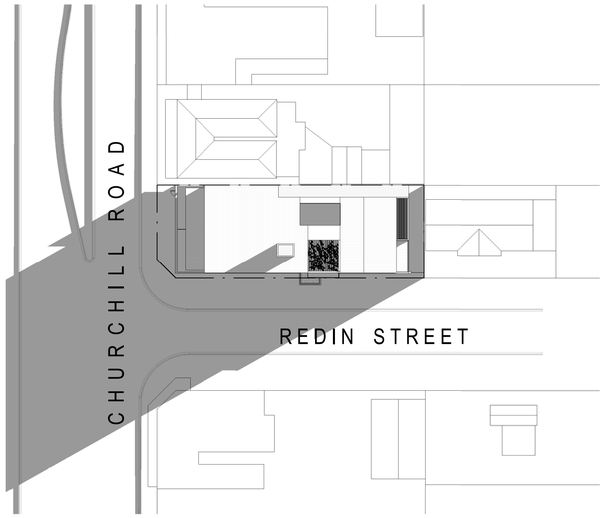
17-051. PL06.A

PROJECT
253 CHURCHILL
253 CHURCHILL ROAD
PROSPECT, SA

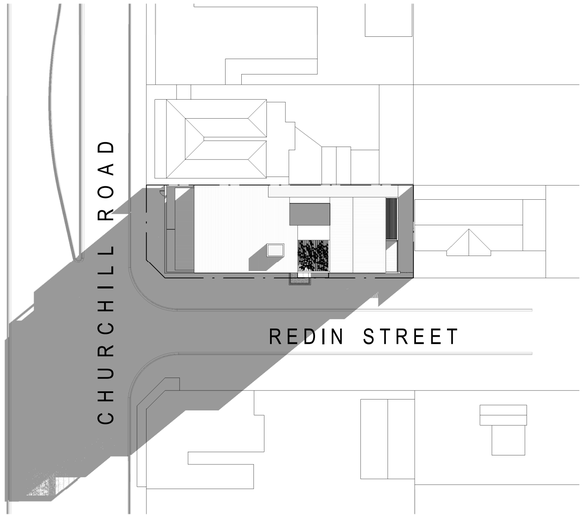
CLIENT
M CALABRO

DRAWING TITLE
STREETSCAPE

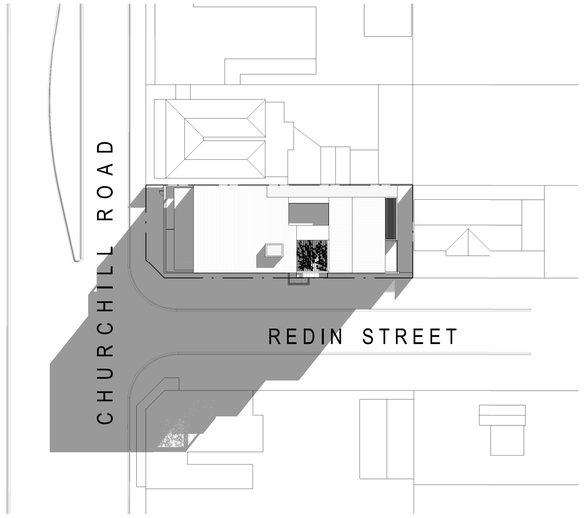
DATE: **20.09.2018**



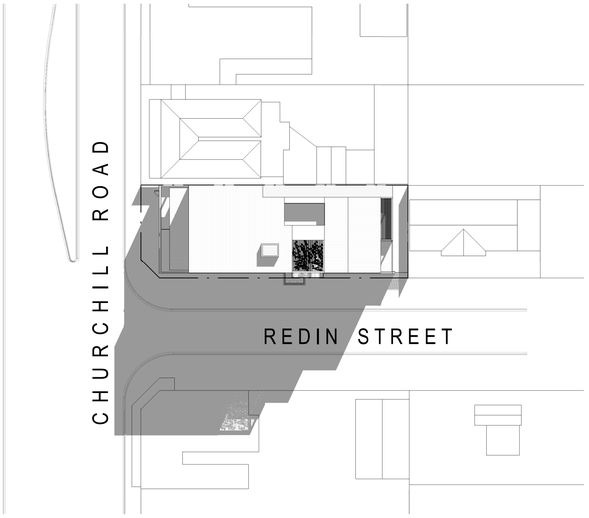
SHADOW DIAGRAM - 22nd JUNE at 9am
SCALE 1 : 500



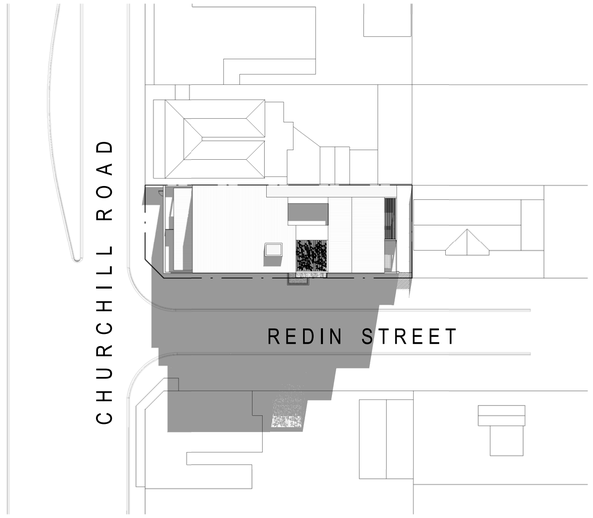
SHADOW DIAGRAM - 22nd JUNE at 10am
SCALE 1 : 500



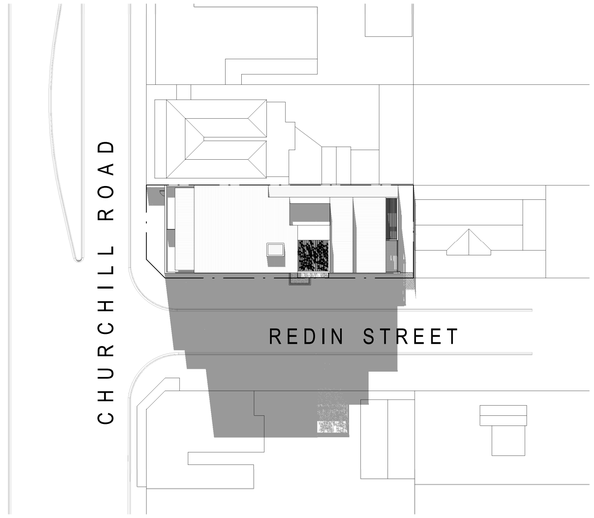
SHADOW DIAGRAM - 22nd JUNE at 11am
SCALE 1 : 500



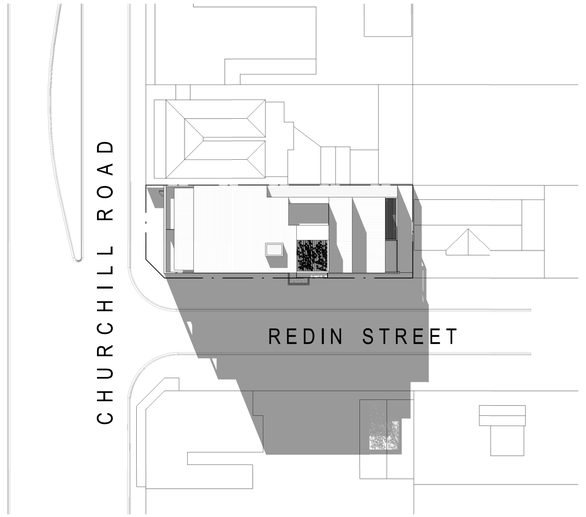
SHADOW DIAGRAM - 22nd JUNE at 12pm
SCALE 1 : 500



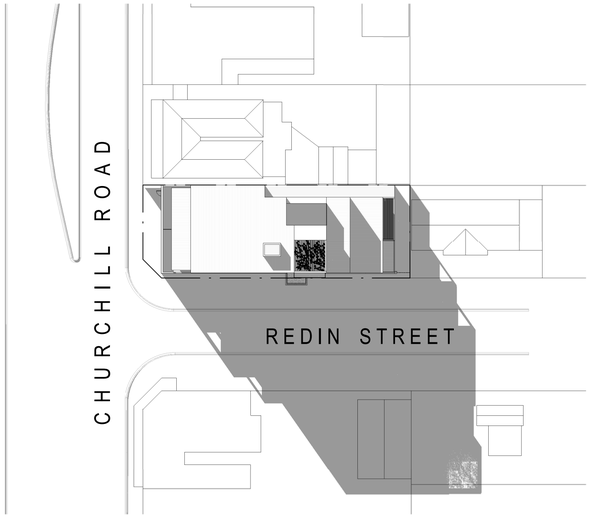
SHADOW DIAGRAM - 22nd JUNE at 1pm
SCALE 1 : 500



SHADOW DIAGRAM - 22nd JUNE at 2pm
SCALE 1 : 500



SHADOW DIAGRAM - 22nd JUNE at 3pm
SCALE 1 : 500



SHADOW DIAGRAM - 22nd JUNE at 4pm
SCALE 1 : 500

proske ARCHITECTS
26 Wakeham Street
Adelaide South Australia 5000
p (08) 8271 0100
f (08) 8312 3210
www.proske.com.au

FOR APPROVAL

A	FOR APPROVAL	20.09.2018

DRAWING DETAILS
DRAWN: **AMZ**
SCALE: **1 : 500 @ A1**

17-051. PL08.A
PROJECT
253 CHURCHILL
253 CHURCHILL ROAD
PROSPECT, SA
CLIENT
M CALABRO
DRAWING TITLE
SHADOW DIAGRAMS
DATE: **20.09.2018**

ATTACHMENT D

Traffic and Parking Report - Cirqa

PROPOSED RESIDENTIAL DEVELOPMENT
253 CHURCHILL ROAD, PROSPECT

TRAFFIC AND PARKING REPORT

CIRQA™

DISCLAIMER

DOCUMENT CONTROL

Report title:	Proposed Residential Development, 253 Churchill Road, Prospect
Project number:	17137
Client:	Proske Architects
Client contact:	Ann-Marie Zagotsis

Version	Date	Details/status	Prepared by	Approved by
D1	18 Sep 18	For review	TAW	BNW
V1	20 Sep 18	For submission	TAW	BNW

CIRQA Pty Ltd
info@cirqa.com.au
cirqa.com.au
39 Carrington Street, Adelaide SA 5000
PO BOX 144, Glenside SA 5065
ABN 12 681 029 983

1. INTRODUCTION

I refer to the proposed residential apartment building at 253 Churchill Road, Prospect. As requested, I have undertaken a review of the traffic and parking aspects of the proposal. This report summarises the assessment undertaken and has been based upon plans prepared by Proske Architects (drawing no. 17-051.PL01.A to 17-051.PL08A, dated 20 September 2018), attached in Appendix A.

2. BACKGROUND

2.1 SUBJECT SITE

The subject site is located on the north-eastern corner of the Churchill Road/ Redin Street intersection, Prospect. The site is bound to the north and east by residential dwellings, Redin Street (and commercial premises beyond) to the south and Churchill Road (with undeveloped land beyond) to the west. The City of Prospect's Development Plan identifies that the site is located within an Urban Corridor Zone (Boulevard Policy Area).

The subject site is currently occupied by a single detached dwelling (and associated outbuildings). Vehicle access is provided to the site via a single crossover on Churchill Road (where vehicles are required to reverse from the site onto Churchill Road) and a shared crossover (shared with the adjacent site) on Redin Street. Pedestrian access is provided via the site's frontages to both Churchill Road and Redin Street.

Churchill Road is an arterial road under the care and control of the Department of Planning, Transport and Infrastructure (DPTI). Adjacent the site, Churchill Road comprises a single traffic lane in each direction, separated by an intermittent central median (accommodating numerous right-turn lanes along its entirety for adjacent side streets). Bicycle lanes are provided on both sides of Churchill Road, facilitating both northbound (part-time bicycle lanes operating Monday to Friday between 4:30 pm and 6:00 pm) and southbound (part-time bicycle lane operating Monday to Friday between 7:30 am and 9:30 am) bicycle movements. Parking is permitted on-street on both sides of Churchill Road outside of bicycle lane hours. Sealed footpaths are provided on both sides of Churchill Road, accommodating both pedestrian and cyclist movements. Traffic data obtained from DPTI indicates that Churchill Road has an Annual Average Daily Traffic (AADT) volume in the order of 25,600 vehicles per day (vpd), of which 8.0% are commercial vehicles. A 60 km/h speed limit applies on Churchill Road adjacent the subject site.

Redin Street is a local street under the care and control of the City of Prospect. Adjacent the site, Redin Street contains a 7.5 m wide carriageway (approximate),

accommodating two-way traffic movements. Unrestricted on-street parallel parking is permitted on the northern side of Redin Street and on the southern side outside of restriction hours ('no parking' restrictions apply from Monday to Friday 8:00 am to 6:00 pm and Saturday 8:00 am to 12:00 pm). Sealed footpaths are provided on both sides of Redin Street, accommodating both pedestrian and cyclist movements. Bicycle movements are also permitted on the Redin Street carriageway under a standard shared arrangement. Traffic data is unavailable for Redin Street, albeit it is anticipated that volumes would be in the order of 500 vpd. Redin Street is subject to a default urban 50 km/h speed limit.

Churchill Road and Redin Street intersect at a priority controlled (Give Way) T-intersection, at which Churchill Road forms the priority approaches. All turning movements are permitted at the intersection, with right-turns from Churchill Road being facilitated via sheltered right-turn lanes.

Figure 1 illustrates the location of the subject site and existing crossovers with regard to the adjacent road network.

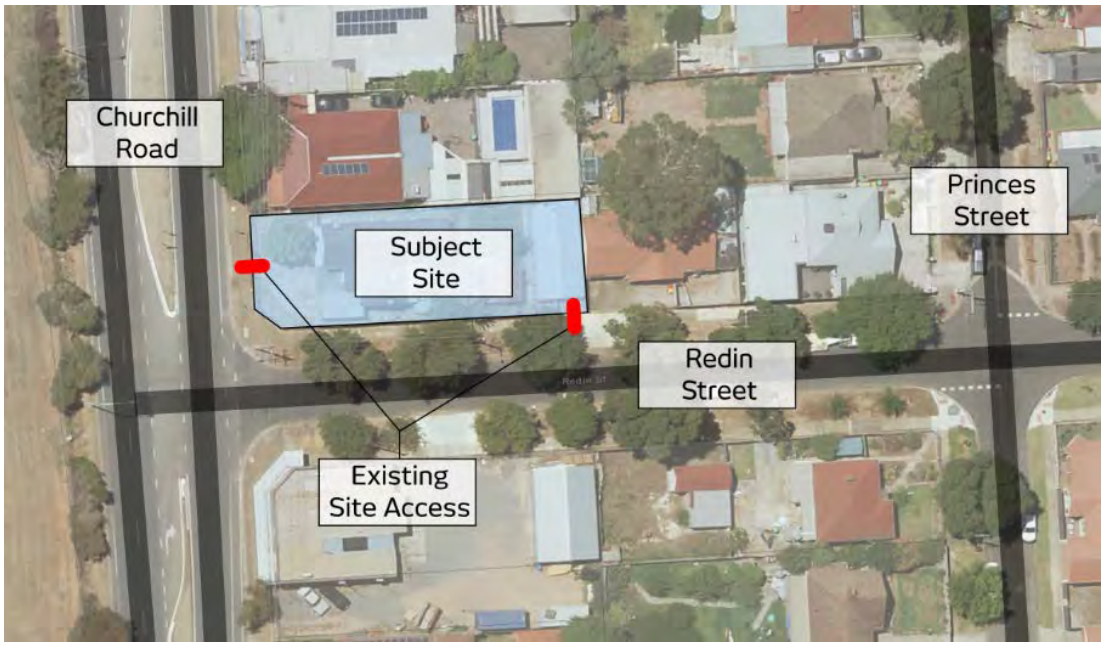


Figure 1 – Location of the subject site, existing crossovers and adjacent road network

2.2 PREVIOUSLY APPROVED DEVELOPMENT

A residential flat building (comprising 16 residential apartments) was previously approved on the subject site. Similarly to the current proposed development, the previous approval contained a singular vehicle access (dual width) via Redin Street.

3. PROPOSED DEVELOPMENT

The proposal comprises the demolition of the existing dwelling and the construction of a multi-storey residential apartment building. Specifically, the building will comprise 12x two-bedroom and 1x three-bedroom residential apartments and will be serviced by a 14-space car park on the ground floor. Such a yield will result in a reduced yield when compared to the previously approved proposal.

The parking area will comply with the requirements of the Australian/New Zealand Standard for *"Parking Facilities – Part 1: Off-street car parking"* (AS/NZS 2890.1:2004) in that:

- angled parking spaces will be at least 2.4 m wide and 5.4 m long;
- parallel parking spaces will be 2.1 m wide;
- parking aisles will be at least 5.8 m;
- 0.3 m clearance will be provided to all solid objects greater than 0.15 m in height;
- columns will be located outside of the car clearance envelope;
- a head height of at least 2.2 m will be provided; and
- two-way circulation aisles will be 5.5 m wide.

It should be noted that the relevant Australian Standard (AS/NZS 2890.1:2004) requires an additional 0.5 m of aisle width (totalling 6.3 m) where parallel parking spaces are provided on the opposite side of a parking aisle to angled parking spaces. Such a scenario applies to the parking aisle adjacent spaces P6, P7, P8 and P9 in the subject proposal. However, due to width constraints of the site (associated with overhead powerline clearances, structural requirements etc.), an aisle width of 6.2 m is proposed. Whilst appropriate access can still be achieved to all parking spaces within the site, parking spaces P6, P7, P8 and P9 have been widened to 2.5 m to afford additional manoeuvrability. As such, a 6.2 m wide parking aisle is considered to be acceptable for appropriate access to/from the subject spaces. Figure 2 illustrates a vehicle entering and exiting the subject spaces.

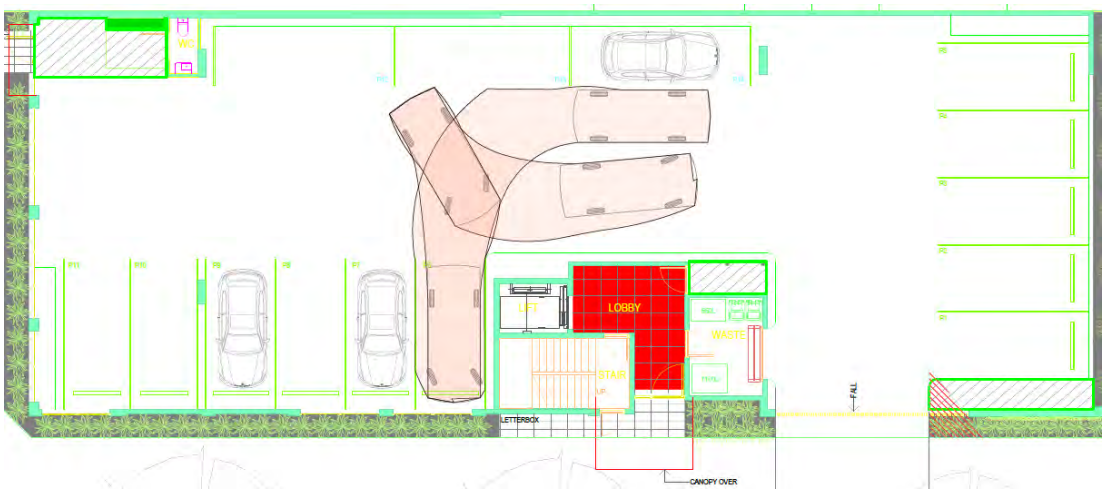


Figure 2 – A vehicle entering and exiting angled parking spaces opposite the parallel spaces.

Regarding the length of the parallel spaces, the Australian Standard (AS/NZS 2890.1:2004) identifies parallel parking space lengths dependent on a one-way aisle width (measured to the centreline of the access aisle if the aisle is two-way). This is to allow a vehicle to parallel park without obstructing the flow of vehicles travelling in the opposite direction along the access aisle.

With regard to the proposal (where parking space P12 = 6.45 m long, P13 = 6.3 m long and P14 = 6.45 m long), spaces P12 and P14 would need to be 6.6 m long in order to meet the specific requirements of the Standard (space P13 will meet the requirements of AS/NZS 2890.1:2004 as shown). However, given that forecast traffic volumes associated with the proposed development are very low (in the order of seven vehicle movements during the peak hour), it is considered acceptable for vehicles to utilise more than half of the parking aisle when parallel parking. Importantly, the 6.45 m long parallel parking spaces will still allow appropriate manoeuvring area for a vehicle to parallel park within the P12 and P14 parking spaces with no additional movements required (above that normally required to parallel park).

Furthermore, the individual parking spaces would have a very low turnover and the likelihood of a vehicle having to wait whilst a vehicle is parallel parking (in spaces P12 and P14) would be very low. It should also be noted that (in the rare event that such a scenario did occur), there would be adequate room within the internal access aisle for a vehicle to store without obstructing vehicle access to /from the site. This scenario would also be no different to a vehicle having to wait whilst a vehicle enters or exits a regular 90-degree space.

Given that only one access point is proposed as part of the development, vehicles will be required to turn around within the site in order to park within a parallel parking space. Figure 3 illustrates a vehicle turning around within the site.

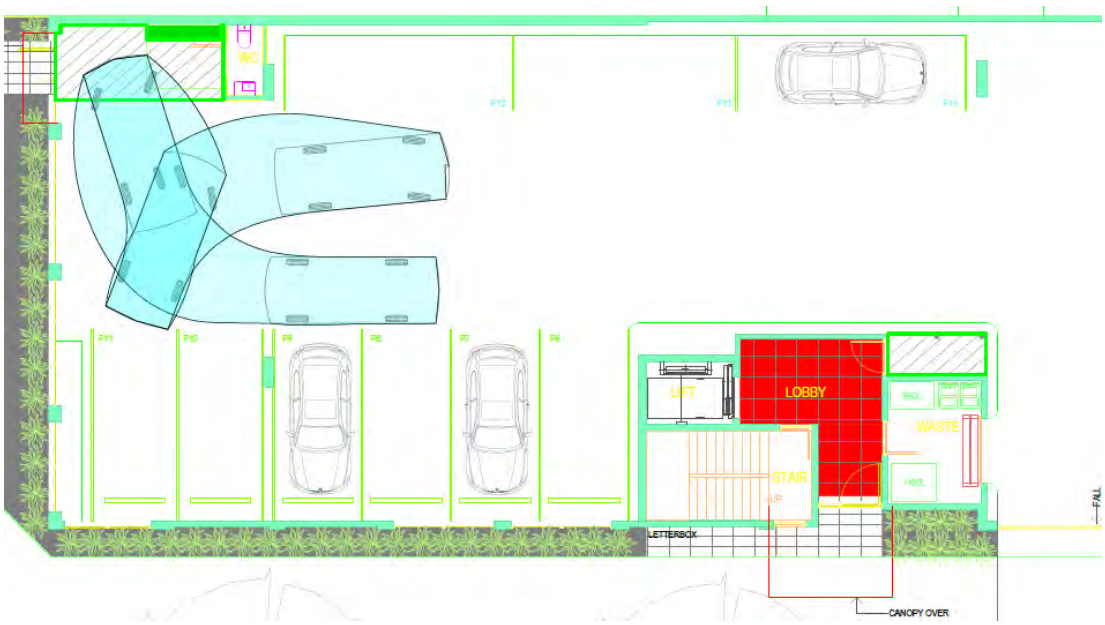


Figure 3 – A vehicle turning around within the subject site

End-of-aisle extensions will be provided beyond the last parking space in both parking aisles on the subject site. With regard to the western end-of-aisle extension, structural columns will be located within the end-of-aisle extensions, effectively reducing its length to 0.89 m (a 1.0 m end-of-aisle extension is required by the Standard). However, due to the increased aisle width and the turn-around area nominated opposite the last parking space, manoeuvrability from the last parking space will not be restricted. Figure 4 illustrates a vehicle manoeuvring from the last parking space.

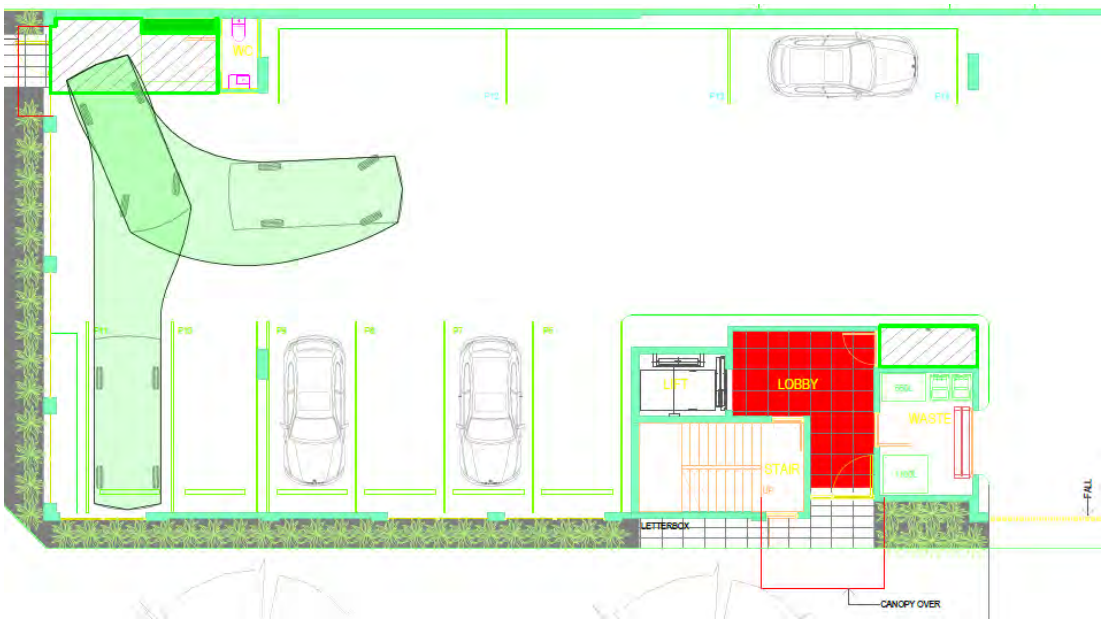


Figure 4 – A vehicle manoeuvring from the last parking space

Vehicle access to the parking area will be provided via a new two-way crossover on Redin Street. This will result in the closure of the existing crossover on Churchill Road (i.e. the crossover being reinstated as kerb) and the modification of the existing shared crossover on Redin Street (such that access is retained for the adjacent site). The site's new crossover will facilitate all turning movements and will permit vehicles to enter and exit the site in a forward direction. Pedestrian sightline provisions have been accommodated at the site's access point in accordance with AS/NZS 2890.1:2004. Figure 5 illustrates the site's access in relation to Churchill Road.

Figure 5 – The proposed access point on Redin Street in relation to Churchill Road

Pedestrian and cyclist access to the site will be provided via the site's frontages to Churchill Road and Redin Street.

Refuse collection is proposed to occur on Redin Street, adjacent the site. Veolia (private waste contractors) has been engaged as part of this project and have provided a separate report detailing the proposed waste collection systems (attached in Appendix B).

4. PARKING ASSESSMENT

The City of Prospect's Development Plan identifies the following vehicle parking requirement applicable to "*residential development in the form of residential flat buildings and residential development in multi-storey buildings*":

- Studio, 1-bedroom or 2-bedroom dwellings – one space per dwelling;

- 3 or more bedrooms dwellings – 1.25 spaces per dwelling; and
- Visitor - 0.25 spaces per dwelling.

Based upon the above parking rate, the proposed development would have a theoretical residential parking requirement for 14 parking spaces. Given that 14 spaces will be provided within the secure parking area, the residential vehicle parking requirements of Council's Development Plan have been met.

With regard to visitor parking, the proposed development would have a theoretical visitor parking requirement for 3.25 spaces (rounded up to four spaces). Such a requirement would be required to be accommodated on-street adjacent the subject site. Based upon inspection of the subject site and available aerial and street-view photography, such a demand would be readily accommodated. Furthermore, such demands would be occasional and would be of short to medium-term duration, resulting in minimal impact on parking availability within the vicinity of the site.

It should also be noted that the previously approved proposal comprised a four space parking shortfall. Such a shortfall was proposed to be accommodated on both Churchill Road and Redin Street. Given that the current proposal will not result in an increase in on-street parking (when compared to the previously approved proposal), the small shortfall is not considered to significantly impact upon on-street parking availability.

5. TRAFFIC ASSESSMENT

The NSW Roads and Maritime Services' (RMS) "*Guide to Traffic Generating Developments*" (the Guide) identifies peak hour traffic generation rates of 0.4 to 0.5 trips per dwelling during the am and pm peak hour for medium-density residential flat buildings.

Based upon the above traffic generation range, it is forecast that the proposed development will generate in the order of six to seven peak hour trips during both the am and pm peak periods. This would result in approximately two ingress and five egress movements occurring during the am peak hour and vice versa during the pm peak hour. Such volumes are low and would be readily accommodated on the adjacent road network with minimal impact.

It should also be noted that the previous proposal was approved with one vehicle access point on Redin Street (as is the subject proposal) and 16 residential apartments (now reduced to 13 residential apartments). As such, the previous proposal would have resulted in a higher traffic impact on the adjacent road network (albeit minimal) than that of the current development proposal. Based

upon this, the revised (current) proposal is considered to result in an improvement with regard to traffic impact on the adjacent road network.

6. SUMMARY

The proposal comprises the construction of a multi-storey building containing 14 residential apartments. A total of 14 parking spaces will be provided on the ground floor within a secure parking area. The parking area will generally comply with the requirements of the Australian Standard and will allow appropriate vehicle access to and from all parking spaces and within the site.

Vehicle access to the site will be provided via a new two-way crossover on Redin Street, resulting in the closure of the existing crossover on Churchill Road and the modification of the existing shared crossover on Redin Street. Pedestrian sightlines will be provided at the site's vehicle access. Pedestrian and cyclist access will be provided via the site's frontages to Churchill Road and Redin Street.

The proposed development will accommodate Council's theoretical residential parking requirement of 14 spaces within the parking area. However, four spaces associated with visitor parking will be required to be accommodated on-street adjacent the subject site. Such a scenario will have minimal impact on the availability of parking within the vicinity of the site, particularly given that on-street parking is available on both Redin Street and Churchill Road.

With regard to traffic impact, the site will generate in the order of six to seven peak hour vehicle movements (equating to approximately two ingress and five egress movements occurring during the am peak hour and vice versa during the pm peak hour). Such movements are low and would be readily accommodated at the site's access point and on the adjacent road network with minimal impact.

APPENDIX A

PLANS PREPARED BY PROSKE ARCHITECTS DATED 20 SEPTEMBER 2018

Plans have been removed, please refer to Attachment C

APPENDIX B

VEOLIA REPORT

DATED JANUARY 2018

Leader in sustainable waste management and recycling solutions

253 Churchill Rd, Prospect

Submission for Waste Collection Services

Prepared by Veolia Environmental Services (Australia) Pty Ltd

January 2018

VEOLIA
ENVIRONMENTAL
SERVICES

CONFIDENTIALITY CONDITIONS

(a) All information whether oral, electronic, printed or graphic contained in this document or obtained by you from Veolia (**Information**) is confidential to Veolia and shall not be used by you other than for the purpose of reviewing this document and the proposal contained herein.

(b) You shall not copy or reproduce any Information except when, and then only to the extent, reasonably necessary for the purpose of reviewing this document and the proposal contained herein.

(c) Upon receiving notice that our proposal has not been accepted, and if notified by Veolia, you shall destroy, in a secure manner, this document and any Information.

(d) You shall ensure that any employee or any other person to whom you supply the Information is bound by the terms of these conditions.

Dear Ann-Marie,

Veolia is pleased to submit the following Waste Management Plan for the proposed development at 253 Churchill Rd, Prospect.

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

Apartment Area:

We suggest using the following sized Mobile Garbage Bin (MGB) the quantities of each are details in the report.

- General Waste – for all contaminated wet waste streams
    - 1100ltr MGB
- Dry recycling – recycled through IWS recycling centre
    - 660ltr MGB

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

We look forward to working with you throughout this process and into the future. Should you require additional information or clarification relating to this document, please do not hesitate to contact myself on 0419 037 343

Regards

Jake Cunningham
Sales Representative

Executive Summary

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

253 Churchill Rd, Prospect are also mindful of promoting the correct management of its waste by decreasing the amount of waste going to landfill and increasing the quantity of waste that is recyclable through a "value for money" service.

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

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

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

This experience enables Veolia to provide the suite of services required by 253 Churchill Rd, Prospect development, whilst maintaining the necessary standards of environmental health and safety compliance. Veolia is proud of its commitment and compliance to all aspects of Quality, Occupational Health Safety & Welfare and Environmental Management Systems to support our commitment to sustainable development.

Our proposal recognises the need to address the disposal of all waste streams generated from each area of 253 Churchill Rd, Prospect development. Our model will focus on effective waste minimisation strategies, including the recycling or beneficial re-use of product wherever appropriate at extremely competitive rates. Veolia has adopted the principle of 'World's Best Practice' and is dedicated to achieving the highest standards in our field.

In the waste management sector, disposal of biodegradable waste will ultimately attract a higher landfill cost at poorly run landfill operations. Government and commerce are becoming increasingly aware of the environmental and economic benefits of sorting all waste streams to recover high yields of recyclable waste. The increased recycling of plastics, paper, cardboard, waste oily waters, sludges, greases and other recyclable materials will improve 253 Churchill Rd, Prospect, life-cycle Greenhouse Gas (GHG) Emissions and ecological footprint. Veolia can provide monthly reports on GHG emission savings, in addition to data on volumes and weights diverted from landfill.

A major component of our proposal provides for not only the minimisation of waste, but more importantly for the diversion from landfill to our recycling facility to ensure where possible 100% of your waste streams are diverted through the recycling process. This is the key to supporting 253 Churchill Rd, Prospect commitment to sustainable development and will also assist in the better management of costs. Veolia believes in conducting regular audits of its waste segregation management system to ensure that it complies with 253 Churchill Rd, Prospect environmental directives. The evaluation of the effectiveness of this system may be monitored through regular agreed KPI reporting.

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

It is important that 253 Churchill Rd, Prospect develops a waste and recycling management program and aligns with an environmental service provider who is strategically positioned to help 253 Churchill Rd, Prospect mitigate its environmental footprint.

The key characteristics of our proposal are:

Cost savings.

Deliver Long Term Cost Savings: Through a structured program focusing on waste diversion from conventional landfill, Veolia can deliver cost savings through lower disposal costs across 253 Churchill Rd, Prospect development.

Minimise waste to landfill.

Towards Zero Waste to Landfill: Veolia provides access to various technologies developed both locally and overseas, which are already proven within the Veolia Group. Our proposal offers solutions that address a range of environmental concerns, with the primary focus being the diversion of waste from landfill to a recycling centre. Some sample environmental credentials afforded to 253 Churchill Rd, Prospect development include:

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

A dedicated contract manager focused on exceeding your expectations

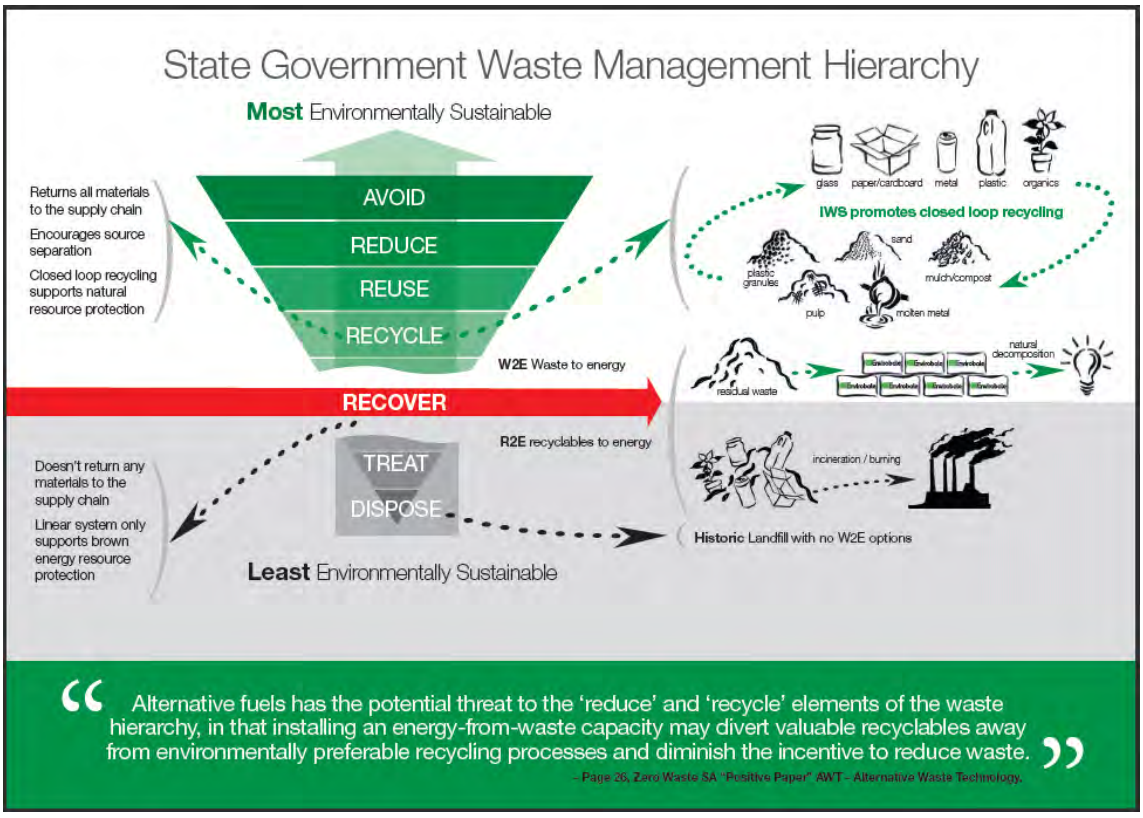
One Contact: Veolia is able to provide a dedicated Waste Services Team and we will assign a major account executive to 253 Churchill Rd, Prospect development. This provides one point of contact for 253 Churchill Rd, Prospect development to monitor waste expenditure costs and recycling performance, enabling real improvements in both over the life of the contract. Veolia will provide one phone number to 253 Churchill Rd, Prospect development for all enquiries and this will be operational 24 hours a day, 7 days a week.

Leading Edge Reports: A monthly national report, which not only captures recycling and waste data, but calculates waste related Greenhouse Gas Emissions and savings from transport and waste disposal is available on a monthly basis for 253 Churchill Rd, Prospect development.

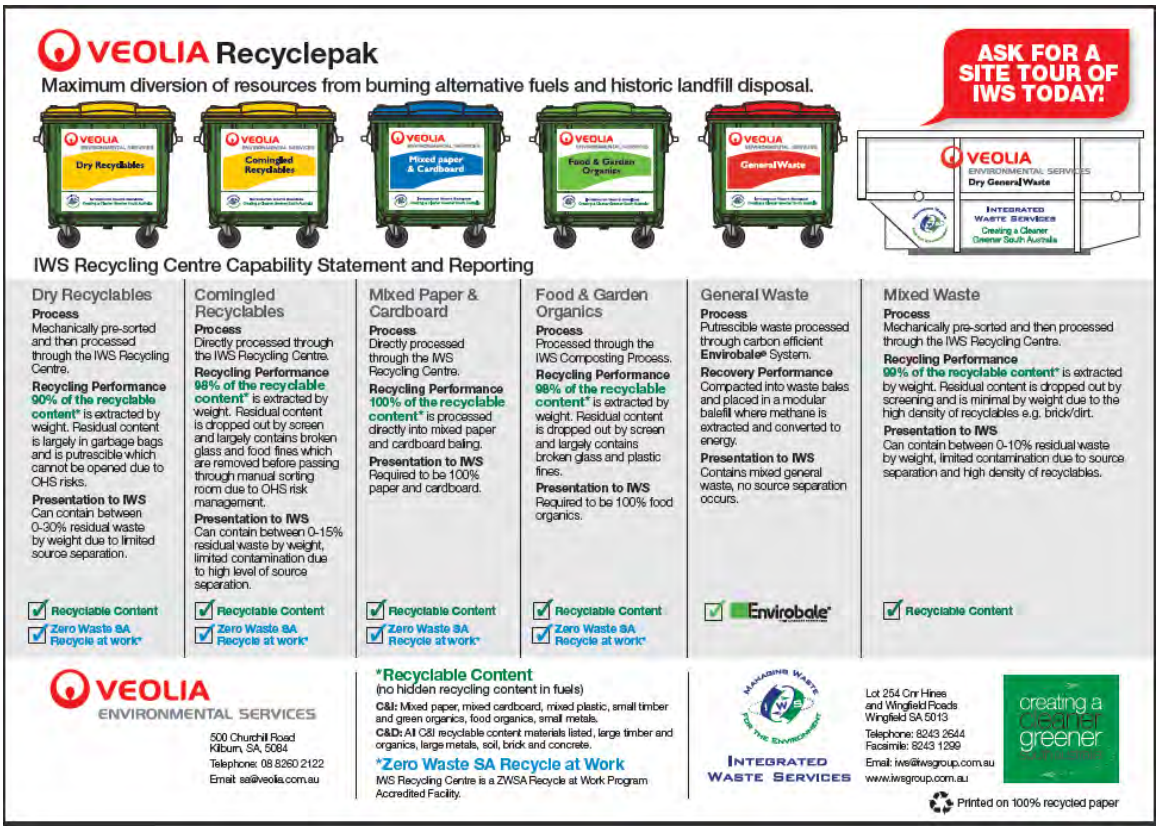
We are also able to provide reporting based on:

- Cost Centre volumes and costs, waste volumes & weights, waste types, recycling volumes, recycling types, disposal costs etc.
- A feature of our reporting will be a Green House Gas (GHG) calculation, which will detail what impact 42 – 46 Churchill Rd Prospect development has had on the environment and the benefits they have delivered through increased recycling.

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



1. Waste Management Hierarchy



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

Triple National Certification: ***253 Churchill Rd, Prospect development*** will have peace-of-mind that their waste is being collected, recycled and disposed of in a safe and environmentally compliant manner. This is backed up by our highly enviable triple certification of ISO 14001 (Environment), ISO 9001 (Quality) and AS 4801 (Safety) management systems.

Award Winning Business: Veolia is the recipient of the 2011 Australian Business Award for Environmental Sustainability. This was the second consecutive year that Veolia won this award, selected from numerous national businesses by an independent committee.

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

As the organisation has grown, it has earned a reputation for quality, reliability, customer service and commitment to sustainable development based on 'World's Best Practice'. We look forward to working with 253 Churchill Rd, Prospect development throughout this period and into the future. Should you require additional information or clarification relating to this document, please do not hesitate to contact myself on

0417 523 094

Jake Cunningham

Sales Representative SA

Waste Management Plan

253 Churchill Rd, Prospect

<table>
<tr><th>Subject</th><th>Details</th></tr>
<tr><td>Development Details</td><td>253 Churchill Rd, Prospect (28 Bedrooms)</td></tr>
<tr><td>Type of waste Streams & Bin Sizes</td><td>
Apartment Bin & Retail Area

• General waste – For all contaminated wet waste
1 x 1100ltr MGB serviced weekly
• Dry recycling – Recycled through IWS recycling centre
1x 660ltr MGB serviced weekly

Bin Dimensions:
<table>
<tr><th colspan="7">Rear Lift Bins (Size Matrix)</th></tr>
<tr><th>Bin Size (Ltrs)</th><th>Wheel Diameter</th><th>Max weight in Bin</th><th>Bin Weight</th><th>Height (mm)</th><th>Width (mm)</th><th>Depth (mm)</th></tr>
<tr><td>140</td><td>200</td><td>48kg</td><td>11.4kg</td><td>920</td><td>535</td><td>640</td></tr>
<tr><td>240</td><td>200</td><td>96kg</td><td>15.5kg</td><td>1060</td><td>580</td><td>730</td></tr>
<tr><td>660</td><td>200</td><td>265kg</td><td>45kg</td><td>1200</td><td>1360</td><td>770</td></tr>
<tr><td>1100</td><td>200</td><td>440kg</td><td>58kg</td><td>1390</td><td>1360</td><td>1090</td></tr>
</table>

Rear lift Truck Dimensions:
<table>
<tr><th colspan="8">Rear Lift Truck Specifications</th></tr>
<tr><th>Size</th><th>length (mtrs)</th><th>width (mtrs)</th><th>height (Mtrs)</th><th>Operating Clearance</th><th>Turning Circle (Mtrs)</th><th>Gross Vehicle Mass (GVM)</th><th>Tare weight</th></tr>
<tr><td>4x2</td><td>8.65</td><td>2.20</td><td>3.10</td><td>NA</td><td>15.00</td><td>14t</td><td>9.67t</td></tr>
<tr><td>6x4</td><td>10.10</td><td>2.50</td><td>3.30</td><td>NA</td><td>15.30</td><td>22.5t</td><td>12t</td></tr>
<tr><td colspan="2">Notes</td><td colspan="6"></td></tr>
</table>
</td></tr>
<tr><td>Service Frequency & Waste Volumes</td><td>Apartment Area:
Based on the Property Council of Australia's South Australia "Better Practice</td></tr>
</table>

	Guide Waste Management" if the waste streams are split to general waste and recycling the apartments will generate the following volumes weekly; • General Waste 35 litres per bedroom per week x 28 bedrooms = 980 litres • Recycling 20 litres per bedroom per week x 28 bedrooms = 560 litres o At this stage after looking into the plans I would propose the number and size of MGB's listed in the development details above, and weekly collection schedule to service the development. This can be reviewed once at full capacity.
Bin Storage Locations & movement of bins	Apartment Area: o Bins will be stored in the ground level Bin waste area. o Retail tenants will be required to take their own waste to the waste room and place the waste in the correct bin
Collection Points	Apartment Area & Retail Area • A Veolia truck will service the Apartments and Retail areas via an agreed collection point, the collection point will be accessed to comply with Veolia's OH&S regulations.
Specialised Facilities & Equipment	N/A
Account Management & Customer Education	o Veolia will have a dedicated Account Manager to oversee the waste management services for 253 Churchill Rd, Prospect. Veolia will provide educational information and signage to help achieve improved source separation. All Waste streams will be managed by Veolia, and monitored accordingly.

This Page has intentionally been left Blank

This Page has intentionally been left Blank

Terms & Conditions

1. Definitions

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

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

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

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

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

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

2. Client Responsibilities

The Client agrees:

2.1 Service

(a) that Veolia has the exclusive right to supply all Services to the Site;

(b) to provide Veolia with reasonable opportunity to offer to provide Services to the Client at premises other than the Site;

(c) to promptly inform Veolia of any change in the Client's Services' requirements;

(d) to disclose to Veolia all information in the Client's possession relevant to the provision of the Services;

(e) to comply with all legal requirements and the requirements of all relevant regulatory authorities relating to the Services;

(f) that Veolia has the right to suspend the provision of the Services in the event of non-payment for the same by the Client;

2.2 Equipment

(a) to use the Equipment only for its proper and intended purpose;

(b) to provide Veolia such access to the Equipment and the Site as is reasonably required to enable Veolia to provide the Services safely and in accordance with this Agreement;

(c) to maintain the cleanliness of the Equipment;

(d) not to damage, deface or remove identifying marks from the Equipment;

(e) to report to Veolia immediately any damage to, misuse of, or unsafe, Equipment;

(f) to reimburse Veolia for the cost of any stolen Equipment, whether from the Site or the vicinity of the Site;

2.3 Service

(a) to ensure that all waste supplied for collection is of the type or nature specified in this Agreement and, unless otherwise agreed by Veolia, uncompacted;

(b) not to overload the Equipment (either by weight or volume)

2.4 Payment

(a) to pay Veolia:

(i) the Contract Price as a debt due and payable to Veolia upon signing of the Agreement, such debt to be paid by monthly instalments payable over the term of this Agreement; and

(ii) any adjustments made by Veolia in accordance with this Agreement; and

(b) any and all amounts invoiced in accordance with this Agreement must be paid within 14 days from the date of the invoice; and

(c) if this Agreement is renewed, that the provisions of clause 2.4(a) will apply upon renewal to the Contract Price payable in respect of such renewed period.

2.5 Assignment

not to assign its interest under this Agreement without the prior written consent of Veolia.

3. Veolia Responsibilities

Veolia shall perform the Services in accordance with this Agreement.

4. Liabilities

4.1 Additional Charges and Fee Increases

The Client acknowledges that amounts payable by it to Veolia under this agreement may be adjusted from time to time by Veolia, acting reasonably, as a result of:

(a) Veolia having incurred extra costs or suffered loss and damage as a result of a breach by the Client of its responsibilities under this Agreement;

(b) the actual weight of the waste the subject of the Services exceeding the estimated weight thereof;

(c) a change in the nature, density, quantity or timing of the Services (including any change in the type, density, weight or quantity of the waste the subject of the Services);

(d) any increase in the Service Fees as a result of:

(i) any increase in the Adelaide All Groups CPI;

(ii) any increase in the cost of the performance of Veolia's obligations under this Agreement (including labour costs, fuel, government taxes or charges, disposal fees); or

(iii) any other relevant circumstance.

Veolia undertakes to provide notice to the Client of any such increases.

4.2 Client Indemnity

The Client indemnifies Veolia against loss or damage to Veolia's property and against any claim or action which may be brought or made by any person against Veolia, its employees or agents in respect of personal injury or death of any person or loss of or damage to property caused by a negligent or wrongful act or omission of the Client, its employees, other contractors or agents.

The Client's liability to indemnify Veolia is reduced proportionally to the extent that Veolia, its employees, subcontractors or agents have contributed to the injury, death, loss or damage.

4.3 Veolia Liability

Veolia's liability at law is limited to:

(a) the resupply of the Services; or

(b) at Veolia's option, the payment of the cost of resupply of those Services.

Except for this and to the extent permitted by law, Veolia accepts no liability whatsoever for any claim for loss or damage of any kind without limitation. Veolia will not be liable for the non-performance of the Services caused by an act, omission or event beyond its control.

5. Term

5.1 The offer in this document is valid for fourteen (14) days from the date it is made.

5.2 The operation of the Agreement is subject to Veolia having first obtained a satisfactory credit check of the Client.

5.3 The term of this Agreement:

(a) Is an initial fixed period of three (3) years from the Contract Commencement Date ("Initial Period") specified in this Agreement, and thereafter, shall continue for successive fixed periods of three (3) years each, subject to termination in accordance with clause 6.1; or

(b) where the Services comprise a one-off project, expires upon their completion.

5.4 The term of this Agreement continues regardless of whether the Client moves from one Site to another Site (New Site). In the event of such relocation, Veolia will provide the Services at the New Site, on the terms of this Agreement.

6. Termination

6.1 Either party may terminate the Agreement:

(a) Immediately by written notice to the other where that other:

(i) becomes bankrupt, or insolvent, or becomes subject to external administration; or

(ii) commits a substantial breach or default under the Agreement; or

(iii) repudiates the Agreement; or

(b) by giving to the other party no less than 60 days' written notice of intention to terminate, such notice to take effect at the end of the Initial Period or at the end of any further fixed period pursuant to clause 5.3.

6.2 If the Agreement is terminated by Veolia under clause 6.1(a) or by the Client under clause 6.1(b), the Client must pay Veolia the sum of:

(a) all monies due and payable under any invoices rendered but unpaid; and

(b) as liquidated damages, fifty per cent (50%) of the average monthly revenue for the number of months from termination until expiry of the then current term of the Agreement and which the Client agrees are a genuine pre-estimate of Veolia's loss. 'Average monthly revenue' is the average monthly gross amount paid or payable by the Client to Veolia under the Agreement.

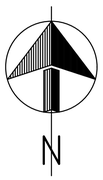
7. Disputes

(a) If any dispute or difference arises between Veolia and the Client, other than pursuant to clause 6, it shall be referred to their respective representatives for resolution. In the event that the representatives are themselves unable to resolve the dispute, the representatives' superiors will attempt to resolve it speedily by negotiation and in good faith.

(b) In the event that Services are terminated or suspended pending resolution of a dispute under this Agreement, at Veolia's sole discretion Veolia's bin/s may remain on the Site and Veolia reserves the right to lock the bin/s until the dispute in question has been resolved or the Agreement terminated. In the event of termination, at Veolia's sole discretion, the bin/s may remain on the Site until payment of all liquidated damages, if applicable, in accordance with clause 6.2(b).

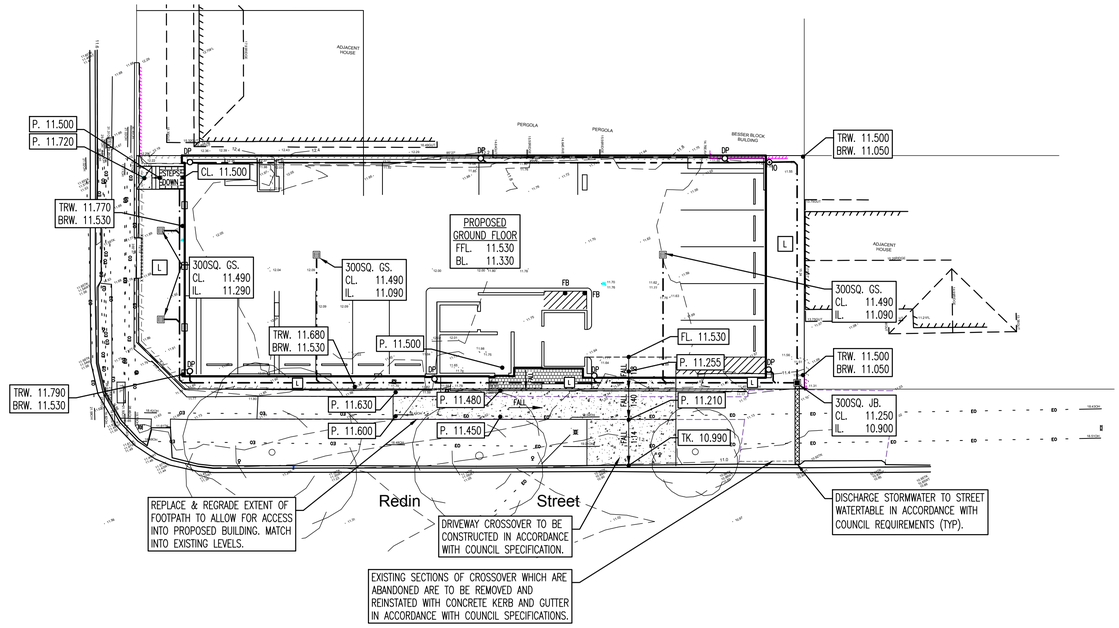
ATTACHMENT E

Civil Plan - TMK Engineers



LEGEND

- BLOCK PAVING
- CONCRETE PAVEMENT
- L — LANDSCAPING / GRASSED AREA
- x 99.99 — EXISTING SPOT LEVEL
- EXISTING CONTOUR
- PVC STORMWATER PIPE @ 1.0% MIN U.N.O.
- uPVC STORMWATER PIPE (SEALED) U.N.O.
- FB — FIXED BOLLARD
- DP — SELECTED DOWNPIPE
- IO — INSPECTION OPENING
- (GS) 300SQ. GRATED SUMP (UNO)
- (JB) 300SQ. JUNCTION BOX (UNO)
- CONCRETE UPSTAND (500 MAX)
- 150 WIDE x 100 DEEP GALVANISED BOX CULVERT
- 99.89 — DESIGN LEVEL
- T.K. — TOP OF KERB.
- W.T. — WATER TABLE.
- P. — PAVEMENT.
- T.R.W. — TOP OF RETAINING WALL.
- B.R.W. — BOTTOM OF RETAINING WALL.
- C.L. — COVER LEVEL.
- I.L. — INVERT LEVEL.
- F.F.L. — FINISHED FLOOR LEVEL.
- B.L. — BENCH LEVEL.
- N.S. — NATURAL SURFACE LEVEL



CIVIL PLAN
1:200

SURVEYED: BY OTHERS

1 : 200 @ A1
0 2 4 6 8 10m

NOTE:
THIS IS A PLANNING DRAWING ONLY, FURTHER ENGINEERING DESIGN INCLUDING SPECIFICATIONS, SIZING AND STORMWATER INVERTS TO BE PROVIDED PRIOR TO BUILDING RULES ASSESSMENT AND CONSTRUCTION.

No	REVISION	DRAWN	CHE'KD	DATE
PB.	FOR PLANNING APPROVAL	BSA	RP	30.01.18
PA.	FOR PLANNING APPROVAL	--	--	19.12.17

PROJECT
PROPOSED DEVELOPMENT
AT: 253 CHURCHILL ROAD
PROSPECT
FOR: M CALABRO

DRAWING TITLE
CIVIL PLAN

Civil, Structural, Environmental, Geotechnical, Mechanical, Electrical, Fire, Hydraulics, Lifts, Green ESD
Level 6, 100 Pirie Street,
Adelaide SA 5000
Telephone 08 8238 4100
Facsimile 08 8410 1405
Berri Office: 25 Vaughan Terrace,
Berri SA 5343

SCALES AS SHOWN
DRAWN RP
DATE DEC '17
ENGINEER RP
CHECKED AG

DRAWING No.
1709090-C1/PB

ATTACHMENT F

Landscape Concept Plans - Outerspace

LEGEND

- EXISTING TREES TO BE RETAINED
- PROPOSED GOLDEN RAIN TREE
- PROPOSED TUCKEROO
- PROPOSED CYPRESS PINE
- LOW SHRUBS AND GROUNDCOVERS
- PROPOSED HEDGE
- LANDSCAPE ARCHITECT'S SCOPE OF WORK
- BRICK PAVING
- PAVED BANDING
- CONCRETE
- LATTICE WITH CLIMBING PLANT TO SOFTEN WALLS OF CARPARK
- PROPOSED LOCATION OF FEATURE SCULPTURE; BY OTHERS

STREET TREES

Cupaniopsis anacardioides
Tuckeroo
Height: 8m
Width: 5m

Koelreuteria paniculata
Golden Rain Tree
Height: 12m
Width: 10m

BUFFER TREES

Cupressus sempervirens 'stricta'
Italian Cypress Pine
Height: 12m
Width: 2.5m

VERGE PLANTINGS

Dianella tas red
Tassie Red
Height: 0.5m
Width: 0.5m

Lomandra longifolia 'Tanika'
Dwarf Mat Rush
Height: 0.6m
Width: 0.6m

Westringia fruticosa
Coastal Rosemary
Height: 1.5m
Width: 1.5m

Correa 'Dusky Bells'
Australian fuschia
Height: 1m
Width: 2m

Nandina domestica 'Blush'
Nandina Blush
Height: 1m
Width: 0.9m

Trachelospermum jasminoides
Chinese Star Jasmine
Height: 0.15
Width: 1m

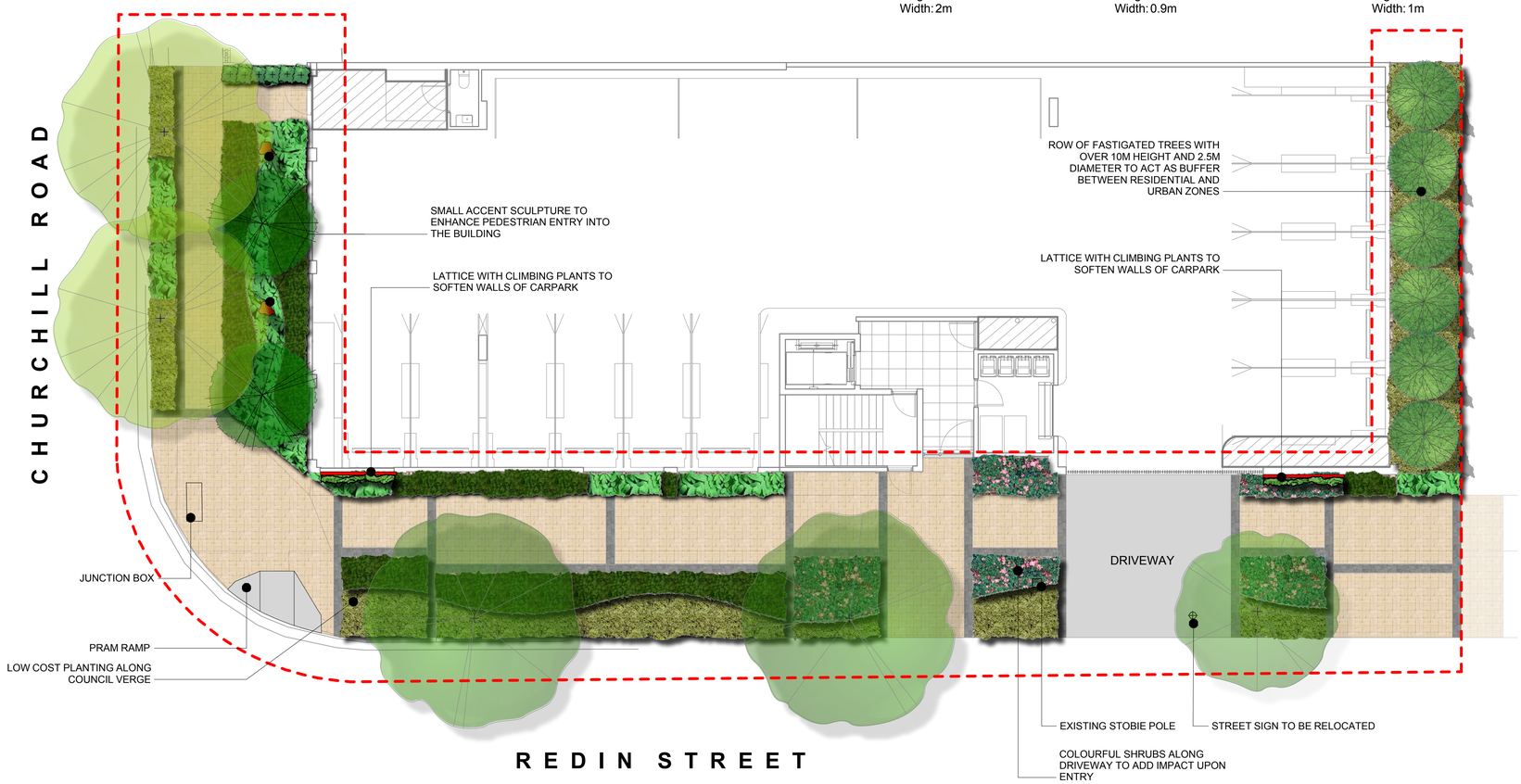
PRECEDENT IMAGES

BEACH SAND BRICK PAVER

BANDING

LATTICE WITH CLIMBING PLANT

ENTRY SCULPTURES



DESIGN INTENT

THE LANDSCAPE DESIGN SOFTENS THE CARPARK STRUCTURE WITH PLANTS THAT HAVE BEEN SELECTED TO GIVE A STRONG IDENTITY TO THE DEVELOPMENT.

FEATURE PLANTING ARE SITUATED AT VEHICLE AND PEDESTRIAN ENTRIES PROVIDING AN INSTANT IMPACT FOR USERS ENTERING THE CARPARK

STREETSCAPE PAVING TO MATCH INTO EXISTING CHURCHILL ROAD FUTURE PAVING

OUTER SPACE
258a rundle street adelaide, sa 5000
p: (08) 8223 3228
e: admin@outerspace.net.au
w: www.outerspace.net.au

PROJECT	253 CHURCHILL ROAD, PROSPECT
CLIENT	PROSKE ARCHITECTS
DRAWING	DRAFT LANDSCAPE CONCEPT PLAN-STREETSCAPE

DRAWN BY	MN
APPROVED BY	PW
DRAWING No.	OS1801_CP01a
ISSUE DATE	31-01-18

0 1 2 3 4 5 10m
SCALE 1:100 @ A1

PRELIMINARY
NOT FOR CONSTRUCTION

LEGEND

BLUE STONE PAVERS

SANDSTONE PAVERS

PLANTER BOXES WITH SHRUB PLANTING

PLANTER WITH FEATURE PLANTING

CLIMBERS ON RONSTAN TENSION WIRE; PLANTED ON PLANTER BOX AND POTS

OUTDOOR SEATS AND TABLE

LANDSCAPE ARCHITECT'S SCOPE OF WORK

ROOF TERRACE PLANTING

Chamaedoria elegans
Parlor Palm
Height: 1.8m
Width: 0.6m

Nandina domestica 'Blush'
Nandina Blush
Height: 1m
Width: 0.9m

Philodendron xanadu
Xanadu
Height: 0.75
Width: 1.0m

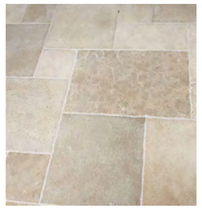
Sanseviera trifasciata
Snake Plant
Height: 1.2
Width: 0.6m

Spathiphyllum wallisii 'Giant'
Peace Lily
Height: 2m
Width: 1m

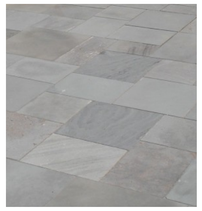
CLIMBING PLANTS

Trachelospermum jasminoides
Chinese Star Jasmine
Height: 0.15
Width: 1m

PRECEDENT IMAGES



SANDSTONE PAVERS

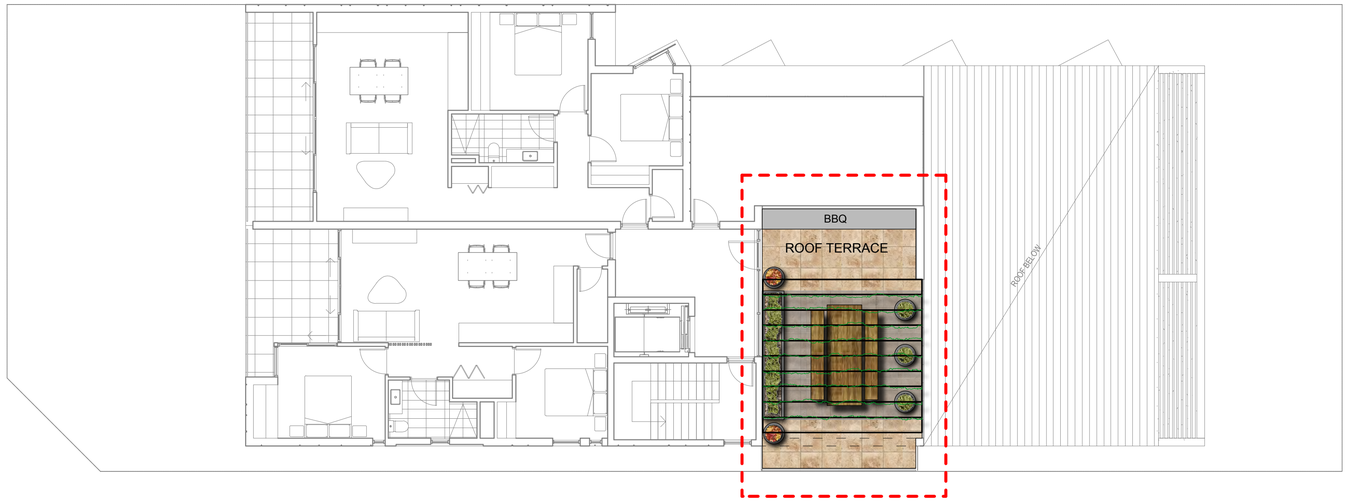


BLUE STONE PAVERS

QUATRO PLANTER BOX

GLOBE PLANTER

OUTDOOR SEATS AND TABLE



OUTER SPACE
258a rundle street adelaide, sa 5000
p: (08) 8223 3228
e: admin@outerspace.net.au
w: www.outerspace.net.au

PROJECT 253 CHURCHILL ROAD, PROSPECT

CLIENT PROSKE ARCHITECTS

DRAWING DRAFT LANDSCAPE CONCEPT PLAN- FOURTH FLOOR

DRAWN BY MN
APPROVED BY PW
DRAWING No. OS1801_CP02a
ISSUE DATE 31-01-18

0 1 2 3 4 5 10m
SCALE 1:100 @ A1

PRELIMINARY
NOT FOR CONSTRUCTION

ATTACHMENT I

Sonus Report August 2018 for 244-248 Churchill Road Prospect

244 Churchill Road

Minister's Specification SA 78B Assessment

S5681C3

August 2018

sonus.

Jason Turner
Associate
Phone: +61 (0) 410 920 122
Email: jturner@sonus.com.au
www.sonus.com.au

Document Title	:	244 Churchill Road Minister's Specification SA 78B Assessment
Document Reference	:	S5681C3
Date	:	August 2018
Author	:	Jason Turner, MAAS
Reviewer	:	Chris Turnbull, MAAS

INTRODUCTION

A *Minister's Specification SA 78B* (SA 78B) assessment has been made of the proposed residential dwellings at 244 Churchill Road, Prospect.

The development comprises a multi-level residential building containing 42 apartments. The assessment has considered the ingress of noise from Churchill Road and the nearby rail corridor into the residences. Acoustic treatment options are provided to ensure that all apartments in the development are designed in accordance with the maximum performance requirements of SA78B using a modified "verification" method.

The assessment has been based on the following:

- *Proske Architects* drawings for "MIXED USE DEVELOPMENT 244-248 CHURCHILL ROAD PROSPECT" including:
  - "LEVEL 01 FLOOR PLAN" (reference "17.001.PL06.F") dated 5 June 2018;
  - "LEVEL 02 FLOOR PLAN" (reference "17.001.PL07.F") dated 5 June 2018;
  - "LEVEL 03 FLOOR PLAN" (reference "17.001.PL08.E") dated 5 June 2018;
  - "LEVEL 04 FLOOR PLAN" (reference "17.001.PL09.E") dated 5 June 2018;
  - "ELEVATIONS 01" (reference "17.001.PL010.B") dated 5 June 2018; and,
  - "ELEVATIONS 02" (reference "17.001.PL011.B") dated 5 June 2018.
- The Minister's Specification SA 78B *Construction requirements for the control of external sound* (SA78B), and the associated South Australian Planning Policy Library Technical Information Sheet 08 *Noise and Air Emissions Overlay 3*;
- Continuous rail noise level measurements conducted at the adjacent rail corridor from 19 to 21 May 2008; and,
- Continuous traffic noise level measurements conducted at the subject site from 3 to 9 August 2018.

CRITERIA

Development Plan

Churchill Road is a designated "Type A" road in the Prospect Council Development Plan (the Development Plan), and the subject site is located in a "designated area" (through the Air and Noise Emissions Overlay of the Development Plan). The rail corridor west of the subject site is also a designated noise source within the Development Plan. As such, the procedures of the *Minister's Specification SA 78B* are mandatory for the assessment of traffic and rail noise.

Ministers Specification SA 78B

SA78B applies to *"all Class 1, 2, 3, 4 or 9c aged care buildings that are in a designated area (or adjacent to a designated sound source) identified on the Noise and Air Emissions Overlay in the relevant Development Plan"*, and establishes mandatory requirements for the building facade to adequately reduce noise inside the building. Acoustic treatments are required at all residences within 100m of a designated 60km/h "Type A" road, such as Churchill Road, and for all residences within 50m of a designated rail corridor. These requirements are confirmed by the Building Certifier at the Building Rules Consent stage of the project.

Figure 1: *Site locality.*

SA78B provides two methods of assessing the noise from a designated road; a "deemed to satisfy" and a "verification" method. Both methods aim to achieve the following performance requirements for internal noise levels in the development:

Table 1: *SA78B "Internal sound criteria for road and rail sound intrusion"*

Type of room	**Internal Sound Criteria**		**Applicable time period**
	Building design target averaged over the total number of such rooms in the building	Maximum allowable for individual rooms in the building	
Bedroom	30 *dB(A)* $L_{Aeq, 9hr}$	35 *dB(A)* $L_{Aeq, 9hr}$	Night (10pm to 7am)
Other *habitable* room	35 *dB(A)* $L_{Aeq, 15hr}$	40 *dB(A)* $L_{Aeq, 15hr}$	Day (7am to 10pm)

ASSESSMENT

Typically, a "verification" method is provided to allow detailed consideration of site-specific factors, and thus a more accurate prediction of required treatments than the generally more conservative "deemed-to satisfy" process.

In the case of SA 78B, the "verification" method does not provide for the consideration of actual site noise levels, and results in more onerous treatment requirements than the "deemed to satisfy" process. However, the BCA enables alternative verification methods to be used where it can be shown in a rigorous manner that the performance requirements have been met.

To this end, the proposed "verification" method adopts the underlying maximum level per room from SA 78B, and uses traffic and rail noise levels measured at the site. That is, 35 dB(A) ($L_{Aeq,\ 9hr}$) is to be achieved in bedrooms and 40 dB(A) ($L_{Aeq,\ 15hr}$) is to be achieved in all other habitable rooms based on actual measurements at the site.

To inform this assessment, continuous traffic noise level monitoring was conducted at the subject site from 3rd to 9th August 2017. The following traffic noise levels were recorded for a typical weekday on Churchill Road:

Table 2: *Road sound source noise levels determined via measurements*

Churchill Road at Subject Site	Overall Level	Octave Band Centre Frequencies						
		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
$L_{Aeq,15hr}$ at 10m (dB(A))	72	50	56	58	63	67	66	63
$L_{Aeq,9hr}$ at 10m (dB(A))	68	46	52	55	60	63	62	59

Additionally, rail noise monitoring was conducted at the adjacent rail corridor between 19th and 21st May 2008. The following rail noise levels were recorded for a typical weekday:

Table 3: *Rail sound source noise levels determined via measurements*

Rail Corridor at Subject Site	Overall Level	Octave Band Centre Frequencies						
		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
$L_{Aeq,15hr}$ at 10m (dB(A))	64	60	58	51	47	53	54	47
$L_{Aeq,9hr}$ at 10m (dB(A))	59	55	53	46	42	48	49	42

To complete the assessment, a traffic and rail noise model of the subject site was created in the SoundPlan noise modelling software, and calibrated using the above measured results. The model was designed in accordance with the procedures of the *South Australian DPTI Road Traffic Noise Guidelines* (the DPTI Guidelines), and based on traffic volumes provided for Churchill Road. To conservatively allow for future increases in the road and rail activity, the volume of road and rail activity in the model was increased by 30%.

Acoustic treatment measures required to achieve the maximum performance requirements within the proposed apartments were then determined based on the sound source levels in Table 2 and 3, the noise propagation model, and the architectural layout drawings.

RECOMMENDATIONS

Ceilings

- Construct the roof and ceiling from the following (or equivalent):
    - sheet metal cladding with minimum thickness of 0.55 mm and thermal insulation as per the roof system's thermal requirements directly underneath;
    - minimum ceiling cavity width of 300mm;
    - 50mm thick insulation with minimum density of 10kg/m^3 installed above the ceiling; and,
    - 10mm thick plasterboard ceiling fixed to the underside of the trusses.

Walls

- Construct external walls from the following (or equivalent):
    - External cladding as proposed with weather proof lining (sarking) behind, fixed to the studs with 25mm Top Hats;
    - 90mm wide internal studs;
    - 60mm thick insulation, with a minimum density of 22 kg/m^3, installed in the cavity; and,
    - the following internal linings mounted to the studs, as shown in Figures 3 and 4:
        - Two layers of 16mm thick fire rated plasterboard *resiliently mounted* for the extent shown in **PURPLE**;
        - Two layers of 16mm thick fire rated plasterboard for the extent shown in **RED**;
        - 16mm thick fire rated plasterboard for the extent shown in **ORANGE**;
        - 10mm thick plasterboard in all other areas.

- The described wall section (shown in Figure 2) is similar to the *HardieSmart™ Boundary Wall System* which could be used in lieu of the above construction if the recommended internal linings are maintained.

Figure 2: *General Wall Section (not to scale).*

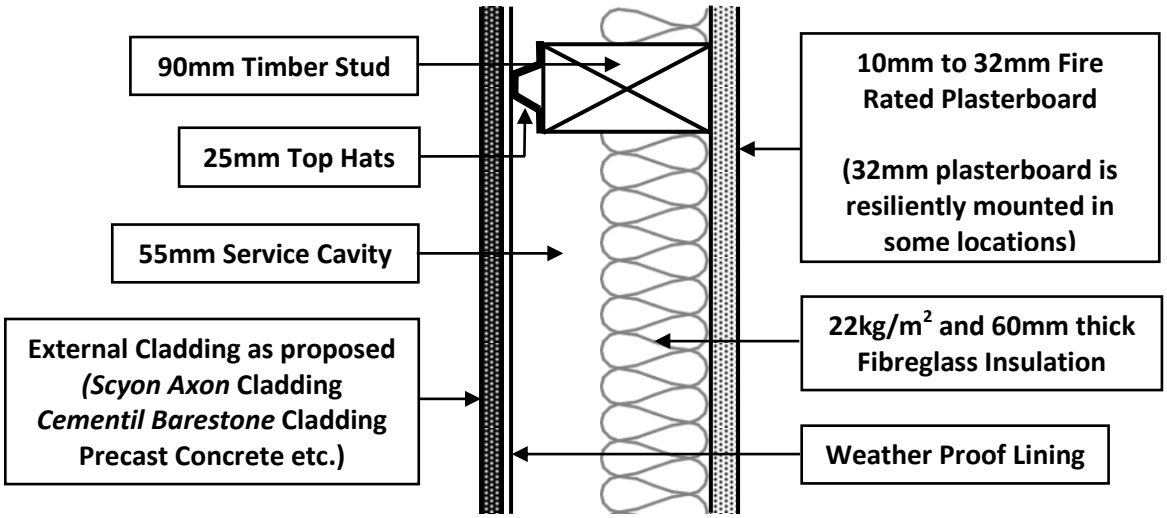


Figure 3: *Level 1, 2, and 3 internal linings.*

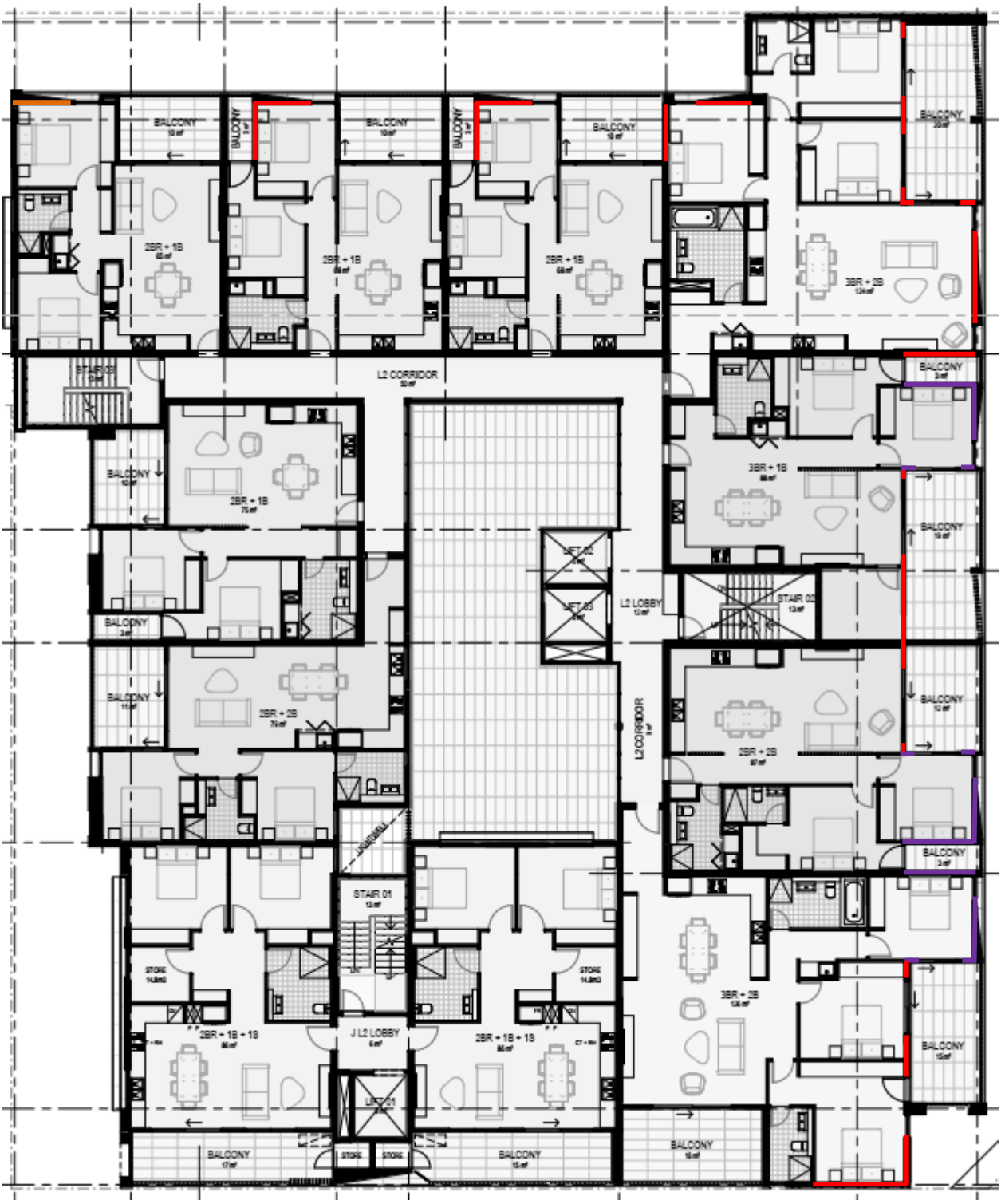
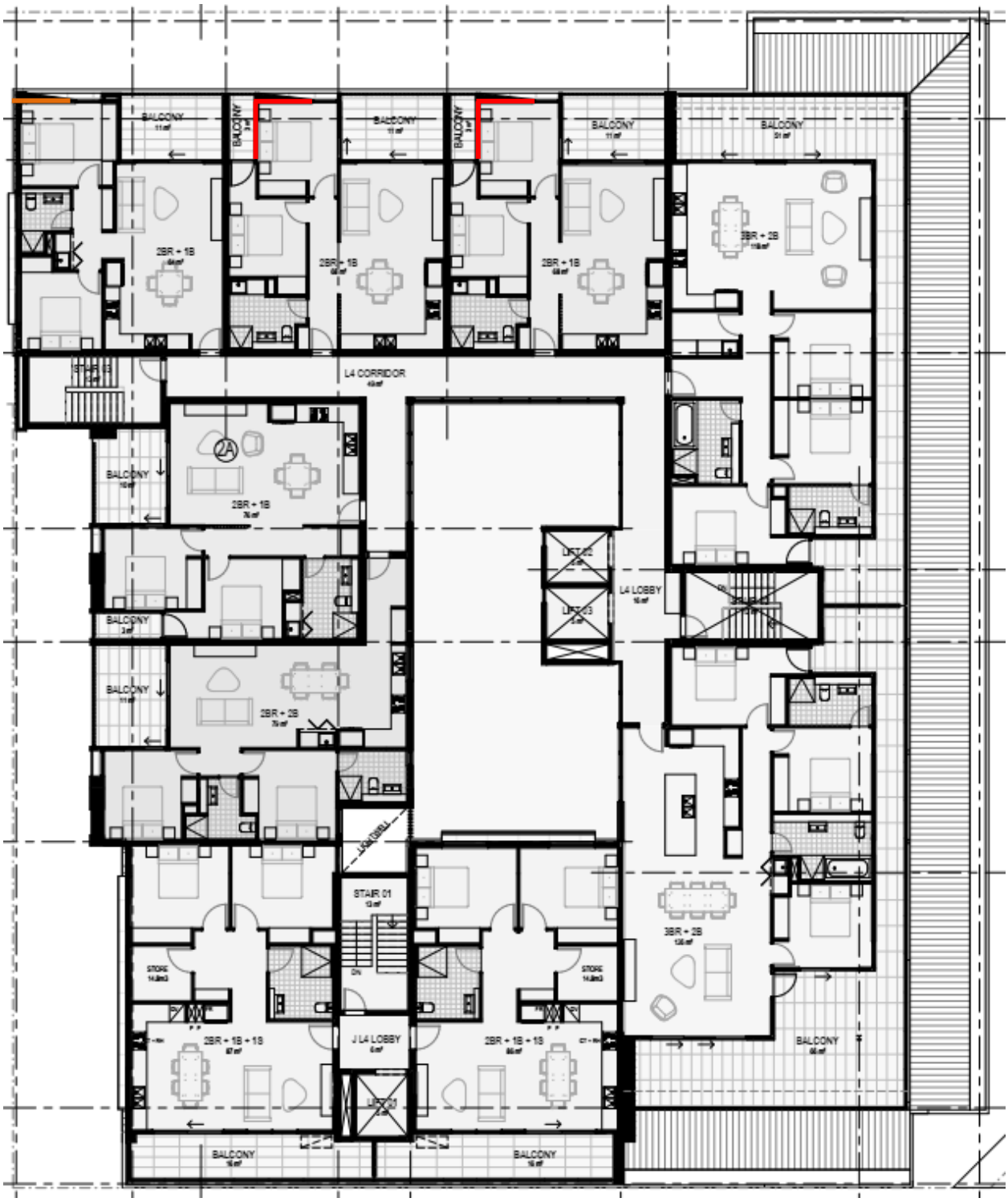
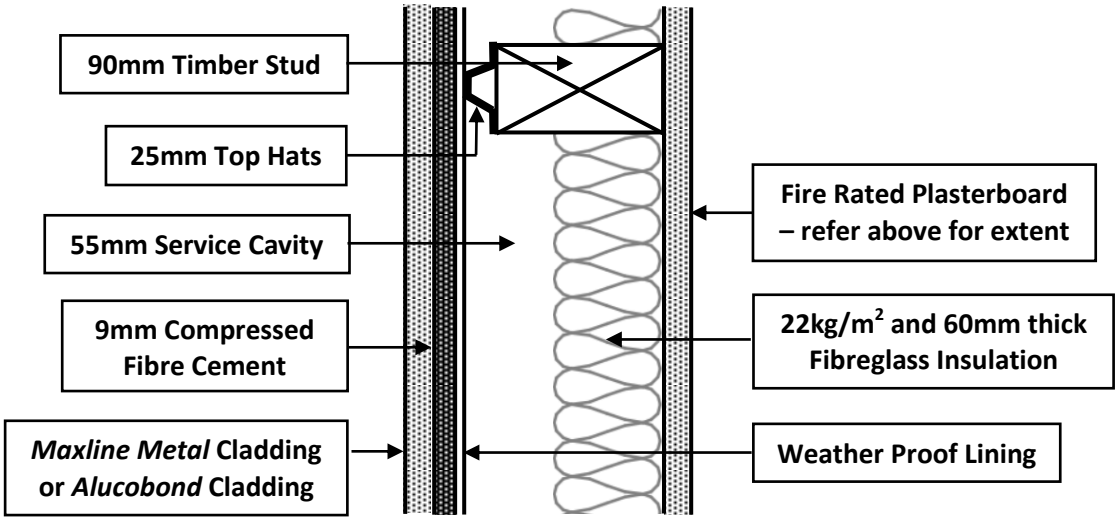


Figure 4: *Level 4 internal linings.*



- Install *Maxline Metal* cladding and *Alucobond* cladding on top of a layer of 9mm (or greater) compressed fibre cement sheet in all locations where it is proposed to form part of an external wall to a habitable space, as shown in Figure 5.

Figure 5: *Maxline Metal and Alucobond cladding Wall Section (not to scale).*



Windows and External Sliding Doors

- Construct windows and sliding doors, as shown in Figures 7 and 8, from –
  - 12.5mm thick *Vlam Hush* glass or equivalent for the extent shown in **PINK**;
  - 10.38mm thick laminated glass for the extent shown in **GREEN**;
  - 6.5mm thick *Vlam Hush* glass or equivalent for the extent shown in **YELLOW**; and,
  - 6.38mm thick laminated glass for all other glazed areas.
- Ensure all sliding doors and openable windows incorporate acoustic seals such that they are airtight when closed;

- Implement any combination of the acoustic treatments described in Table 4 for the balconies highlighted in **BLUE** in Figure 7.

Table 4: *Balcony barrier options matrix.*

Barrier Type	Required Treatments	
	Level 1 and Level 2	**Level 3**

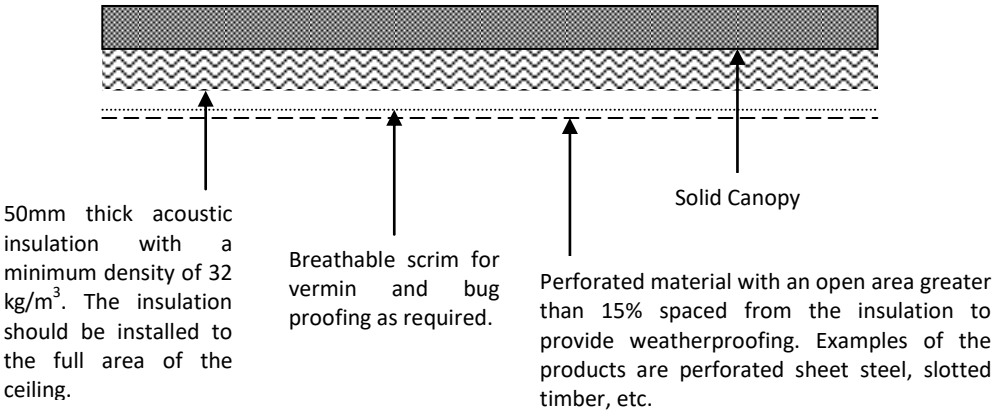
No barrier (acoustically open)	• Install acoustic absorption overhead[1]
	• Resiliently mount the plasterboard to the studs; and,
	• Implement at least one of the following:
	  ○ Reduce the area of all sliding doors between bedrooms and balconies to 2.7m^2 or less; or,
	  ○ Construct dual layer sliding doors from 10mm glass with a 200mm airgap and 6mm glass.
		• Install acoustic absorption overhead[1]
		• Resiliently mount the plasterboard to the studs
		• Implement at least one of the following:
		  ○ Reduce the area of all sliding doors between bedrooms and balconies to 2.7m^2 or less; or,
		  ○ Construct dual layer sliding doors from 10mm glass with a 200mm airgap and 6mm glass.

1.2m solid barrier[2]	• Install acoustic absorption overhead[1] • Resiliently mount the plasterboard to the studs	• Install acoustic absorption overhead[1] • Resiliently mount the plasterboard to the studs
1.5m solid barrier[2]	• Install acoustic absorption overhead[1] • Resiliently mount the plasterboard to the studs	• Install acoustic absorption overhead[1]
1.8m solid barrier[2]	• Install acoustic absorption overhead[1]	• Install acoustic absorption overhead[1]

[1] Install acoustic absorption material, such as 50mm thick polyester insulation with a minimum density of 32kg/m^3 in accordance with Figure 6, or a proprietary weather proof product with an "NRC" rating of 0.8 or greater ("Stratocell Whisper" or similar), to the full extent of the balcony ceilings as indicated in **BLUE** in Figure 7.

[2] Construct a solid barrier for the extent shown as **BLUE** in Figure 7. Suitable materials include any material with a surface density greater than 6 kg/m^2, such as 6mm glass or fibre cement cladding. All barriers should achieve the minimum height above the balcony floor as specified in Table 4 for the selected treatment. Barriers must achieve an airtight seal at all junctions including the joins to the balcony floor, building facade, and other barriers.

Figure 6: *Canopy absorption construction detail.*



- Install acoustic absorption material, as described above, to the full extent of the Level 4 balcony ceiling as indicated in **BLUE** in Figure 8.

Figure 7: *Level 1, 2, and 3 glazed areas.*

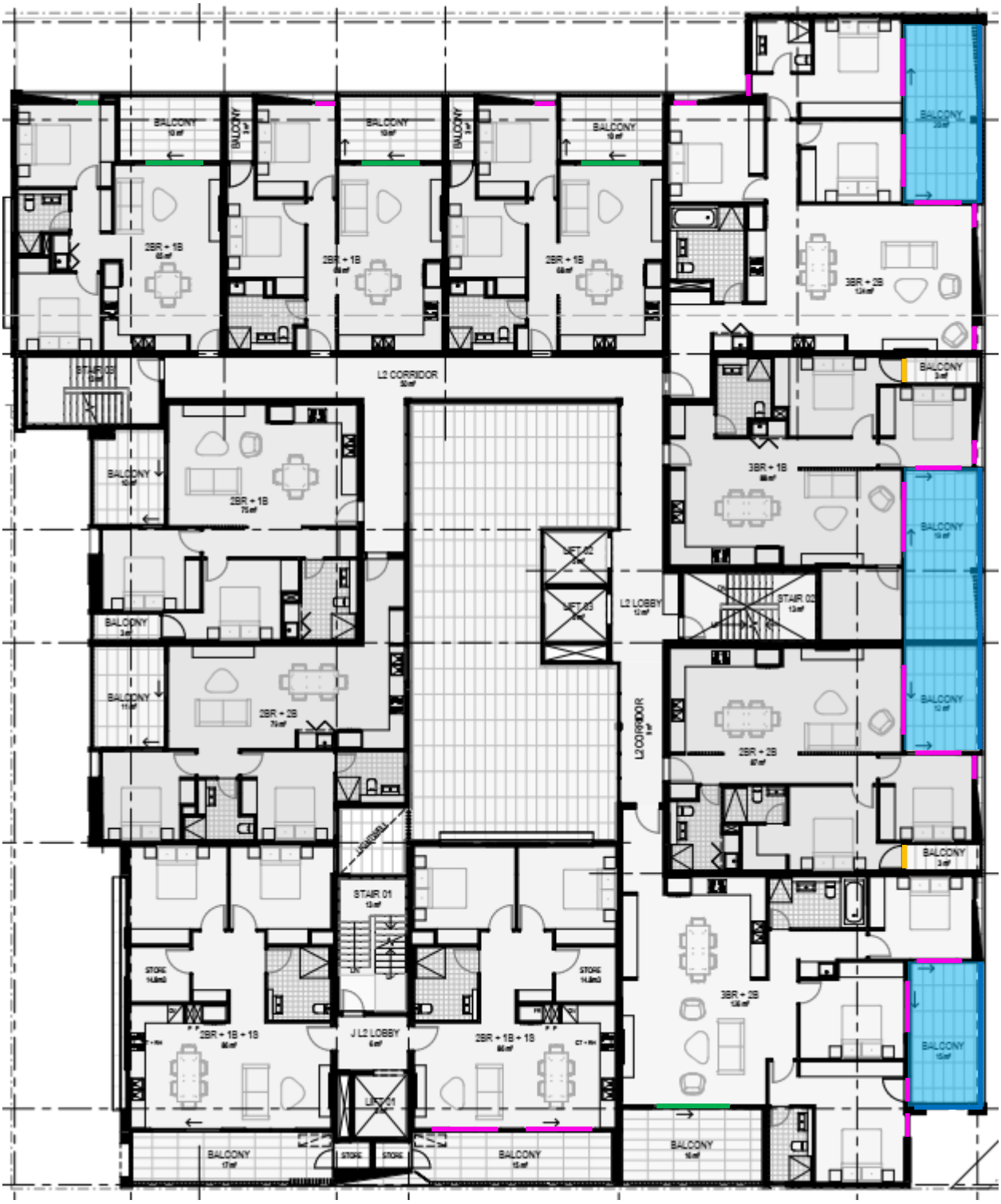


Figure 8: *Level 4 glazed areas.*