#11850149

Gamma Illumination Pty Ltd

Demolition of existing buildings and construction of 5-level mixed use development

244-288 Churchill Road, Prospect

050/M009/17

TABLE OF CONTENTS

	PAGE NO
AGENDA REPORT	2-23
ATTACHMENTS	
1: PLANS and RENDERS	24-47
2: APPLICATION DOCUMENTS	
a. Original Planning Report (and superseded plans and reports) – dated Oct 2017	48-135
b. Amended Planning Report – dated 31 August 2018, containing:	136-165
c. Cirqa Traffic Report (Version 3) dated 26 June 2018	166-190
d. Outer Space Landscaping Plan	191-192
e. Acoustic Report by Sonus	193-218
f. Waste Management Plan	219-235
3: AGENCY COMMENTS	
g. ODASA	236-239
h. DPTI	240-242
4: COUNCIL COMMENTS or TECHNICAL ADVICE	243-251
5: DEVELOPMENT PLAN PROVISIONS	252-272

Image courtesy of Proske Architects

OVERVIEW

Application No	050/M009/17
Unique ID/KNET ID	2017/23711/01 (2656)
Applicant	Gamma Illumination Pty Ltd
Proposal	Demolition of existing buildings and construction of 5-level mixed use development
Subject Land	244-288 Churchill Road, Prospect
Zone/Policy Area	Urban Corridor Zone / Boulevard Policy Area
Relevant Authority	State Commission Assessment Panel
Lodgement Date	02 November 2017
Council	City of Prospect
Development Plan	30 May 2017
Type of Development	Merit
Public Notification	Category 1
Referral Agencies	City of Prospect, Government Architect, DPTI – Transport Assessment and Policy Reform
Report Author	Janaki Benson – Senior Planner
RECOMMENDATION	Development Plan Consent subject to conditions

EXECUTIVE SUMMARY

The subject site is located on the north-western side of the intersection of Churchill Road and Gurr Street in Prospect. The applicant seeks demolition of all buildings on the land (currently used by Junction Australia for social housing) and construction of a 5-storey mixed use building with basement and ground level car parking.

The proposal is a Category 1 form of development that triggers referrals to the Government Architect, the City of Prospect Council and the Commissioner of Highways.

The development is located within the Urban Corridor Zone and Boulevard Policy Area which supports medium to high density residential development in conjunction with small scale mixed use activities.

The key planning issues to be addressed relate to height, massing, setback to Gurr Street, along with ground level activation and interest to this secondary side street.

Although the proposed over-height and yield of the development results in a less than desirable outcome to Gurr Street, overall, the proposal is considered to be consistent with the relevant provisions of the City of Prospect Development Plan, and it is recommended for Development Plan Consent subject to a number of conditions.

ASSESSMENT REPORT

1. BACKGROUND

1.1 Strategic Context

In 2013 the Ministerial Inner Metropolitan Growth (Stage 1) Development Plan Amendment was gazetted. This introduced the Urban Corridor Zone to the Prospect (City) Development Plan.

The Urban Corridor Zone was introduced to encourage and enable a new form of urban living that provides increased opportunity for people to enjoy the benefits of an inner city lifestyle. Policies within the zone encourage mixed-use forms of development complemented by well-designed and contemporary housing close to public transport, jobs and vibrant places.

Since the lodgement of this development application in November 2017, the *Urban Corridor Zone and Interface Areas Policy Area Review DPA* was gazetted in the City of Prospect's Development Plan February 2018. This DPA seeks to assist in the delivery of better design outcomes within a transforming growth area by strengthening design related policy.

1.2 Pre-Lodgement Process

The applicant did not participate in the Pre-Lodgement Process.

2. DESCRIPTION OF PROPOSAL

Application details are contained in the ATTACHMENTS.

The proposal involves demolition of all buildings on the land, currently used by Junction Australia for social housing, and construction of a 5-storey mixed use building with basement and ground level car parking.

A total of 42 residential apartments are proposed, with 8 of those apartments dedicated to Junction Australia social housing use. At ground, 2 retail tenancies and residential entry foyer are proposed to Churchill Road, with the Junction Housing foyer proposed from Gurr Street.

Vehicle access via two crossovers is proposed from the secondary road - Gurr Street. The eastern most crossover, closest to Churchill Road, is to serve Junction Australia residents and the apartments will utilise the double crossover to the west.

A summary of the proposal is as follows:

Land Use Description	Mixed use building containing: • 34 residential and 8 social housing apartments • 2 retail tenancies
Building Height	17.9 metres
Description of levels	• Basement – car parking • Ground – car parking, waste and service rooms, retail tenancies and entry foyers • First – Fourth- apartments
Apartment floor area (excluding balconies)	• Two bedroom – 66.1m² - 87.1m², • Three bedroom – 87.2m² - 126.4m²
Site Access	Two crossovers via Gurr Street:

	• Eastern crossover – Junction Australia entry • Western crossover – residential apartments entry
Car and Bicycle Parking	• 62 car parks (8 dedicate to Junction Australia) • 18 bicycle parks
Encroachments	Nil

3. SITE AND LOCALITY

3.1 Site Description

The site consistent of 3 allotments, described as follows:

Lot No	Street	Suburb	Hundred	Title Reference
76	Churchill Road	Prospect	YATALA	CT5095/823
11	Churchill Road	Prospect	YATALA	CT5795/980
10	Gurr Street	Prospect	YATALA	CT5795/979

The subject site is located on the corner of Churchill Road and Gurr Street. The subject land comprises a portion of each of the allotments identified in the above table.

The development site has a total site area of 1957m², with a 45.7 metres frontage to Churchill Road and 41 metres to Gurr Street.

The site currently contains buildings and ancillary structures associated with the existing Junction Housing use. The land is relatively flat and does not contain significant vegetation.

3.2 Locality

The immediate locality is residential in nature and primarily comprises single storey dwellings of an older housing stock. A group of single storey shops exits however on Churchill Road to the south of the site which provide a variety of local services. Directly north of the site, the land has been cleared and the construction of roads has occurred to accommodate the 'Prospect 1838' development.

With the introduction of the Urban Corridor Zone, the locality is experiencing significant urban regeneration, with the construction of several 4-5 storey residential flat buildings along Church Hill Road dispersed between single storey detached dwellings.

Churchill Road is a *Secondary Arterial Road* and provides north-south access to and from the Central Business District of Adelaide. Gurr Street is a local street and contains established street trees.

Figure1 – Site and Location Map

4. COUNCIL COMMENTS or TECHNICAL ADVICE

4.1 City of Prospect

Council provided comment on the application on 14 December 2017. The comments are summarised below as follows:

Overall, Council's planning staff do not support the proposal in its current form, and strongly recommends that SCAP has consideration of, and seeks further clarification from the applicant with regard to:

- *The setback of the development to all property boundaries, inclusive of the requirements for the Metropolitan Adelaide Road Widening Plan;*
- *The bulk and massing of the southern and eastern facades. Development on corner sites should create prominent buildings, addressing both primary and secondary street frontages. The building should reinforce corners through changes in setbacks, materials, colours, roof form or height;*
- *Ensuring that sufficient landscaping (deep soil zone) is provided for the proposal, particularly on Churchill Road and Gurr Street frontage. The proposed landscaping is of limited extent, height, quality and is poorly integrated within the overall design;*
- *Ensuring that there is adequate off-set and separation between courtyards, balconies and windows, with particular regard to visual privacy for the internal courtyards on Level 1 from windows and balconies on Levels 2-4;*

- *The configuration of dwellings, inclusive of providing a variety of dwelling sizes and internal designs that would facilitate adaptive reuse.*
- *Ensuring the post-development stormwater discharge flow rates do not exceed the pre-development discharge flow rates;*
- *Ensuring that the finished floor level and stormwater disposal be appropriately designed to mitigate the risk of localised flooding;*
- *Adequate storage for the refuse is accommodated on site and that the area is kept clean and maintained; and*
- *Ensuring that the development comprises adequate Affordable Housing to support diversity and to meet project sustainability objectives.*

Further comment was provided by Council regarding the amended plans provided by the applicant August 2018, and include the following:

- *Overall, it is noted that the setback of the building from the property boundaries is more consistent with the Development Plan provisions;*
- *The changes to the bulk and massing of the building are noted, and the setback of level 4 would assist in reducing the overall bulk and scale of the building;*
- *The layout and configuration of dwellings and balconies are positive changes;*
- *The accessibility of the waste storage area is improved for both occupants and waste contractor/s;*
- *Entrance to Churchill Road would provide positive streetscape interaction; and the introduction of landscaping is noted although the location and species of street trees as illustrated cannot be guaranteed.*

- *Notwithstanding the above however, a portion of the northern boundary wall (approximately 21m) would be directly adjacent the ground level private open space for 5 three-storey townhouses under construction on the adjoining northern allotment, at 250 Churchill Road, Prospect. The private open space areas measure 3m x 4.8m. The proposed interface and occupant amenity impacts created by the boundary wall are of concern, noting particularly that the height and length of the wall would provide minimal visual relief to soften the impacts as viewed from the adjacent properties.*

5. STATUTORY REFERRAL BODY COMMENTS

Referral responses are contained in the ATTACHMENTS.

5.1 Government Architect

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

The Government Architect (GA) provided advice on 14 October 2018 and is summarised below:

- *Review and increase of the southern setback.*
- *Review of the top floor setbacks along the south and west boundaries.*
- *Review of the presentation to Gurr Street with the view to increase the extent of active use space.*
- *Consideration of crossover consolidation.*
- *Review of Junction Australia apartment entry arrangement.*
- *Development of building management strategy to ensure pedestrian safety.*
- *Consideration of materials with finish and colour integral to their fabric.*
- *Review of the apartment layout at the south west corner, with the view to eliminate the shared light well, and provide optimum residential amenity by ensuring privacy and affording quality access to natural light and ventilation to all habitable rooms.*

Further comment was provided by the GA for the amended plans provided by the applicant August 2018, and include the following:

- *Increased setback to the Junction Australia lift core*
  I acknowledge that the minor increase in setback means the lift core structure no longer projects beyond the prescribed two metre minimum setback zone. I also acknowledge that the amendment contributes to a minor widening of the steps leading to the Junction Australia entry foyer.
- *Amendments to intersection between the central access way and the dual-lane driveway.*
  I support the inclusion of a glazed door and 45 degree sprayed corner to improve the pedestrian safety.
- *Reduction of Junction Australia driveway width and inclusion of glazed wall to the south wall of tenancy 02.*
  While I remain concerned about the overall presentation to Gurr Street, I support the amendments, as I recognise that the changes assist in increasing the extent of active use space along the side street frontage.
- *Amendments to the southwestern apartments and removal of the shared light well.*
  I support the changes to improve residential amenity and privacy. I recommend review of the courtyard design to avoid physical access to the areas directly outside of bedroom windows.
- *Change of wall material to painted precast concrete alternative pre-finished material*
  I support the proposed change in principle. If the amended scheme proposes a light weight walling system in lieu of concrete walls, I recommend development of details to ensure definition and articulation can be achieved between the solid elements and darker coloured secondary elements, as originally intended.
- *Reduction of the depth of the level 4 canopy above south facing balconies*
  I support the proposed change, as it will assist in reducing the visual impact of the over height element.

  Overall, I do not consider the changes proposed are fundamental. However I recognise the project team's willingness to address some of the concerns raised, and acknowledge that the unique operational requirements of Junction Australia may have led to certain proposed outcomes. I am of the view that the proposed amendments as a collective improve the balance between the merits of the proposal and departure from the Development Plan and the envisaged character of the area.

5.2 DPTI – Transport Assessment and Policy Reform

DPTI is a mandatory referral in accordance with Schedule 8 of the *Development Regulations 2008.* The State Commission Assessment Panel must follow the ***direction*** of this advice.

The Transport Assessment and Policy Reform of DPTI provided initial advice on the application 11 December 2017 and while the Commissioner of Highways did not object, the advice to SCAP was to seek the setbacks identified in the Development Plan (3 metres from Churchill Road property boundary). It was advised:

- *'The Metropolitan Adelaide Road Widening Plan currently shows that a strip of land up to 2.13 metres in width may be required from the Churchill Road frontage of the northern allotment. However, although the title (CT 5095/823) identifies the land as Allotment 76 in Deposited Plan 4474, a note has been applied to the title identifying that the land is subject to approved Filed Plan 11983. FP 11983 was approved in 1980 and excised a strip of land 2.13 metres in width from the Churchill Road frontage of the site. It is noted that the cadastre has been amended to reflect this and that the affected area is currently under*

footpath. Accordingly, SSD considers that the current cadastral boundary is the true boundary of the site. This being the case, the site is technically no longer affected by the 2.13 metres strip requirement shown on the Metropolitan Adelaide Road Widening Plan.

- *The Metropolitan Adelaide Road Widening Plan also makes provision for a 4.5 x 4.5 metres corner cut-off at the Churchill Road/Gurr Street corner for future road purposes. This corner cut-off must be kept clear of all development including, but not limited to, fencing, landscaping and overhanding balconies. Uninterrupted level footpath must be installed to the satisfaction of Council.*
- *Further to the above, the department's Integrated Transport and Land Use Plan (ITLUP) identifies the future duplication of Churchill Road. Whilst it is anticipated that the road widening can be accommodated within the existing road corridor at this location, this widening will substantially narrow the existing road verge. Consequently, the remaining space for pedestrian infrastructure, street trees and ground level activation of development is likely to be constrained. It is strongly recommended that the 3 metres setback identified in the development plan be adhered to in order to maximise the space available for public realm and ground level activation.'*

The following directed condition was sought:

- *The 4.5 x 4.5 metre corner cut-off at the Churchill Road / Gurr Street corner shall be kept clear of all development including, but not limited to, fencing, landscaping and overhanging balconies. This area shall be paved at footpath level.*

Recommended conditions included:

- *All vehicular access to the site shall be via Gurr Street only.*
- *The intended car parking bays on Churchill Road shall be removed from the final plans.*
- *All materials and finishes shall not be permitted to result in glare or other effects that will result in the discomfort or impairment of road users.*
- *No stormwater from this development shall be permitted to discharge on-surface to the adjacent roads. In addition, any existing drainage of the roads is to be accommodated in the development and any alterations to road drainage infrastructure as a result of this development are to be at the expense of the applicant.*

Further comment was provided by the Transport Assessment and Policy Reform of DPTI for the amended plans provided by the applicant August 2018, and include the following:

- *'…the development is now proposed to be setback 3 metres from the Churchill Road frontage. The department supports this proposed setback as it is consistent with the previous referral response.'*

6. PUBLIC NOTIFICATION

The application is a Category 1 development pursuant to Zone PDC 25. No public notification was required.

7. POLICY OVERVIEW

The subject site is within the Urban Corridor Zone and the Boulevard Policy Area as described within the City of Prospect Development Plan Consolidated 30 May 2017. Relevant planning policies are contained in Appendix One and summarised below.

7.1 Policy Area

The Desired Character for the Boulevard Policy Area seeks a variety of housing types at medium to high densities, along with small-scale businesses and local shops.

To reinforce the boulevard character of Churchill Road and maintain setbacks in other streets, buildings are anticipated to be setback from the front property boundary to provide deep root landscaping and areas for street activation and pedestrian interest.

The impact of higher density development is to be carefully managed via contextual design to ensure the amenity of adjacent neighbours outside of the zone are protected from height, overshadowing, overlooking, mass and visual bulk.

7.2 Zone

The Desired Character of the Urban Corridor Zone is an economic and residential growth area, where an increase in the both the density and diversity of housing and business is sought. Given the zone's proximity to the City and availability of transport modes, affordable and student housing is desired.

As one of the key Zones in the Council area where transformation in built form and land use is to occur, responsive and contextual development that displays good urban design principles in sought. To accommodate the significant urban growth along Churchill Road, the following key elements of development should comprise:

- 2-4 storey buildings that create a linear corridor that frames main roads;
- The use of active frontages at ground level;
- Consideration of the local topography – such as lowered ground floor levels and/or car parking underneath buildings on the west side of roads;
- The use of durable materials and finishes;
- Contemporary buildings and expressions;
- Appropriate building separation, orientation and to minimise overlooking, overshadowing and noise impacts; and
- Consolidated parking areas, screened and located away from public spaces or underneath buildings. The number of crossovers should also be minimised to retain public realm benefits.

7.3 Council Wide

The Council-Wide section of the Development Plan provides guidance in relation to the following relevant topics:

- Form of Development
- Stormwater Management
- Medium and High Rise (3 or more Storeys)
    - Design and Appearance
    - Street Interface
    - Building Separation and Outlook
    - Dwelling Configuration
    - Adaptability
    - Environmental
    - Site Facilities and Storage

7.4 Overlays

7.4.1 Affordable Housing

The proposal is subject to the affordable housing overlay.

7.4.2 Noise and Air Emissions

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

7.4.3 Strategic Transport Routes

The proposal is located along an important transport corridor and must ensure traffic associated with the development does not impeded traffic flow or create hazardous conditions for pedestrians, cyclists or drivers of vehicles.

8. PLANNING ASSESSMENT

The application has been assessed against the relevant provisions of the City of Prospect Development Plan, which are contained in Appendix One.

8.1 Quantitative Provisions

	Development Plan Guideline	Proposed	Guideline Achieved	Comment
Site Area	A minimum of 100 dwellings per hectare net	242 dwellings per hectare net	YES ☒ NO ☐ PARTIAL ☐	The density desired in the Zone is achieved.
Building Height	2 storeys min 4 storeys/15m max	5 storeys/17.9m	YES ☐ NO ☒ PARTIAL ☐	The development is over-height by 1 storey/2.9 metres
Land Use	Diversity of housing types	Residential and social housing	YES ☒ NO ☐ PARTIAL ☐	The land uses are desirable.
Car Parking	1 per studio, 1 or 2 bedroom dwelling 1.25 per 3 + bedroom dwelling	1 per studio, 1 or 2 bedroom dwelling 1.25 per 3 + bedroom dwelling	YES ☒ NO ☐ PARTIAL ☐	Sufficient car parking is provided.
Bicycle Parking	Residential: Resident - 1 for every 4 dwellings Visitor – 1 for every 10 dwellings Shop: 1 for every 300m² of gross leasable floor area Visitor: 1 for every 600m² of gross leasable area	18 parks	YES ☒ NO ☐ PARTIAL ☐	An over provision (by 2 spaces) of bike parking is provided.
Front Setback	3 metres	3 metres	YES ☒ NO ☐ PARTIAL ☐	Setback achieved.
Rear Setback	3 metres	3 metres	YES ☐ NO ☐ PARTIAL ☒	Achieved for the most part, excluding a portion of the stairwell set on the boundary for length of 1 metre.
Secondary Road Setback	2 metres	0m	YES ☐ NO ☒ PARTIAL ☐	Albeit portion of ground is setback from Gurr Street, the setback at upper levels is on the boundary.

Side Setback	No minimum irrespective of height within 18 metres from the front property boundary **assumes the building fronting the boundary has no windows or balcony/s*	0m-3.05 metres	YES ☐ NO ☐ PARTIAL ☒	While setback are achieved, this side boundary incorporates balconies closer than 3 metres (on the boundary).
Private Open Space	2 bed: 11m² 3+ bed: 15m² With minimum 2 metre dimension	2 bed: 10m²-39m² 3 bed: 19m²-66m²	YES ☐ NO ☐ PARTIAL ☒	All apartments, excluding 3 of the 32, 2-bedroom apartments, meet the minim POS requirements.
Deep Soil Landscaping	7%	5%	YES ☐ NO ☐ PARTIAL ☒	The development has a shortfall of 35m² of deep soil landscaping

8.2 Land Use

Mixed use, medium to high rise buildings with ground floor uses that provide active and visually appealing streetscapes are sought by the Objectives of the Zone. With the increase in density anticipated, a mix of land uses that enable people to work, shop and access services close to home is also important.

PDC 1 of the Boulevard Policy Area expressly envisages buildings that are mixed use or wholly residential. In a mixed use building, non-residential development should be located on the ground floor and lower levels and residential development should be located at upper levels.

While the presentation of the building at ground along Gurr Street does not provide an overly active or visually appealing frontage, the development proposes land uses expressly anticipated. With the construction of 2 commercial tenancies at ground along the Churchill Road frontage and residential apartments above at levels 1-4 above, the proposal meets the land use mix desired within buildings in the Urban Corridor Zone.

8.3 Medium and High Rise (3 or more Storeys)

8.3.1 Design, Appearance and Street Interface

Policies of the Urban Corridor Zone seek visually interesting buildings to the street that promote pedestrian activity with active uses at ground. The number of access points on side streets should also be designed to minimise entry/exit points as well as maximising the opportunities for the integration of landscaping.

While the Churchill Road frontage is considered to provide a good street interface with two retail tenancies, landscaping and a defined building entrance, the Gurr Street presentation is not as well resolved and fails to achieve a number of the requirements sought by Council Wide PDC 165. While the applicant has outlined the operations of Junction Australia have required a separate discrete building entrance and car parking area, it is considered sleeving and active uses along this frontage could still be achieved. The two vehicle crossovers, fencing/transformer location, finish

floor level (420mm above footpath level), high solid to void ratio and lack of landscaping will not result in an attractive and pedestrian friendly frontage. The at grade car parking areas will also be highly visible from the street. The Government Architect has also raised concern and review of the ground floor configuration to increase the extent of active uses along Gurr Street.

In regards to the design and architectural expression of the building, the Government Architect has also indicated support for the general approach to define the base, middle and top elements through the use of articulation and materials.

Concern over the proposed use of painted concrete as a finished material (particularly to the large expanse of northern wall) during the planning assessment has since been alleviated with the use of acid etched (dark grey) finish now proposed in its place. The other materials sought (steel, glass, Colorbond, Scyon Axon cladding, ACPs) are also supported, noting a materials board will be available at the SCAP meeting for clarity and for members' consideration.

8.3.2 Height, Massing and Setbacks

PDC 11 of the Zone prescribes a maximum building height of 4 storeys or 15 metres in the Boulevard Policy Area. A building height of 17.9 metres/5 storeys is proposed and therefore the building exceeds the maximum requirement by 1 storey/2.9metres.

Given the site's proximity to a larger development site where building's up to eight storeys are envisaged, the Government Architect supports the proposed height in principle given the opportunity offered by the size of this amalgamated site. Support from the GA however is contingent on delivery of a positive public realm contribution and high quality apartment amenity.

During the planning assessment, an increase in setback at level 5, along with a reduction of the depth of the level 5 canopy above south facing balconies has resulted in an acceptable outcome to the primary and secondary street frontages. The 5th level is now setback 7.52 metres from Churchill Road and 2 metres from Gurr at this level. These changes have assisted in reducing the visual impact of the over-height and mass of the building, particularly from Churchill Road.

The mass of the building will be more apparent from the rear however and will result in visual bulk when viewed from the adjacent properties to the west and parts of Gurr Street. The policies of the Urban Corridor seek to managing the interface of building mass and height on properties outside the zone. Given the adjacent site to the west is also located in the Urban Corridor Zone and the 3 metre minimum setback is achieve to this western boundary (excluding a 1 metre portion of the stairwell), the exceedance in height by 1 storey/2.9 metres is deemed acceptable albeit will result in some amenity impacts via bulk.

In regards to other setbacks, the development generally complies with the minimums prescribed by the Zone and are outlined under 8.1 of this report. However, the 2 metre setback to the secondary side street is not achieved. The limited setback to Gurr Street is considered undesirable and will result in a public realm outcome to this secondary side street. While portion of the ground has been setback between 1.35- 3 metres on

the corner of Churchill and Gurr Street, the balconies and floor area at upper levels are built to the boundary. There is a concern that this secondary street setback may set a precedent and impact upon the front setback of future developments purposed to the west along Gurr Street and the provision of landscaping.

Council has raised concern with the wall length and height along the northern boundary in relation to an approved development to the north. Council have highlighted that the northern boundary wall (approximately 21m) would be directly adjacent the ground level private open space for 5 three-storey townhouses under construction on the adjoining northern allotment, at 250 Churchill Road, Prospect. The private open space areas measure 3m x 4.8m. The proposed interface and occupant amenity Impacts created by the boundary wall are of concern to Council, noting particularly that the height and length of the wall would provide minimal visual relief to soften the impacts as viewed from the adjacent properties. While this concern is noted, the Zone prescribes no minimum side setback irrespective of height within 18 metres from the front property boundary. Being located to the north, these POS areas will not be impacted upon via overshadowing from this building.

8.3.3 Building Separation and Outlook

Council Wide PDC 140 and 171 seeks habitable rooms, windows and balconies be designed and positioned with adequate separation and screening from one another to provide visual and acoustic privacy and allow for natural ventilation and the infiltration of daylight into interior and outdoor spaces.

All windows and balconies designed for this building (excluding 4 apartments at first floor along the northern boundary) are setback a minimum of 3 metres from rear and side boundaries to ensure access to sunlight and provide visual and acoustic privacy for occupants. All balconies have been designed to be screened from one another via solid walls and screens up to soffit level.

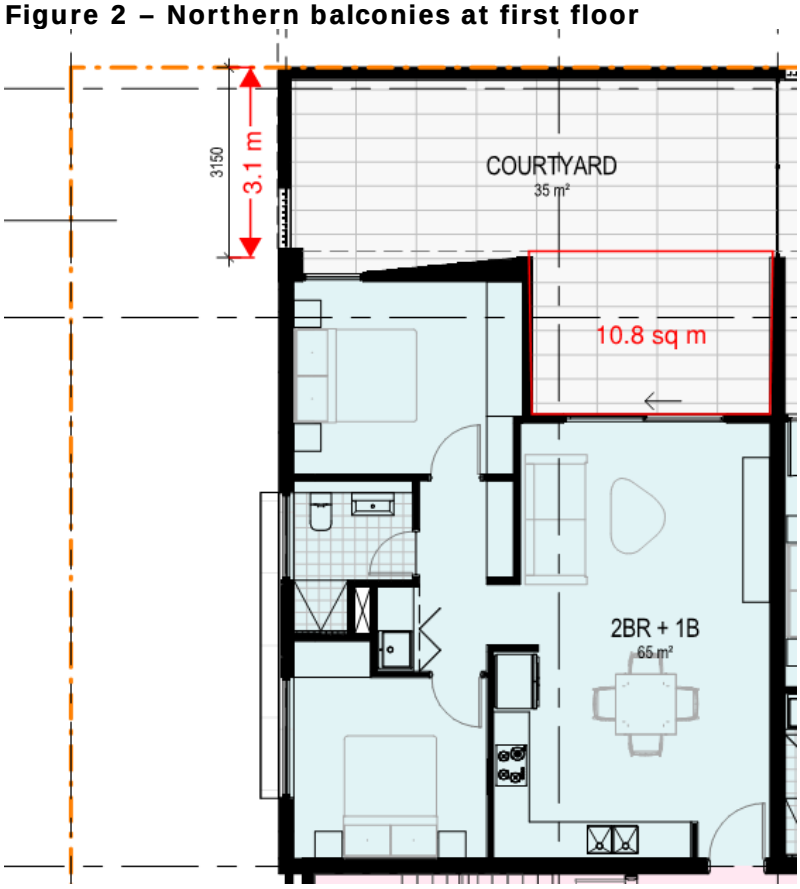
In repose to concern raised by the Government Architect in relation to the original plans, windows for those south-western apartments now obtain access to natural light from the internal courtyard (rather than a small light well now deleted form the design) and have 1.8 metre high window sills with 300mm deep awning surrounds (and adjustable vertical louvre screens) to ensure a good level of privacy and access to natural light.

For those balconies at first floor that are proposed to be built along the northern side boundary, adequate access to light and ventilation will still be available, along with privacy measures given:

- The generous size of these balconies ensures adequate separation from the northern boundary in the event this common boundary was ever built out (noting a planning consent for a row of 14 three storey town houses along its southern boundary directly adjacent the subject land has been granted and is anticipated to adjoin POS areas). A 10.8m² area of these balconies has a 3 metre separation to the northern boundary (see Figure 2 below). 11m² is the minimum balcony size prescribed for a 2 bedroom apartment and therefore the balcony will provide adequate amenity for occupants regardless; and

- Solid screening up to 1.8 metres along the northern boundary to ensure privacy for both the occupants and dwellings on adjacent the site.

Figure 2 – Northern balconies at first floor



8.3.4 Dwelling Configuration & Adaptability

It is desired that multi-storey buildings include a variety of internal designs that will facilitate adaptive reuse.

It is considered that the development has been designed having regard to Council Wide PDC 176, being a mixed use development of social housing and private apartments, along with retail tenancies at ground floor level. The ground to floor retail tenancies have floor to ceiling heights of 3.7 metres, consistent with their intended use for commercial purposes.

8.3.5 Environmental

Council Wide PDC 177 seeks the design of multi-storey buildings minimise micro-climatic and solar access impacts on adjacent land or buildings (within the Urban Corridor Zone), including effects of patterns of wind, daylight, glare and shadow.

Overshadowing diagrams showing the extent of overshadowing to result from the development between 9am-3pm at the height of winter have been undertaken by Proske Architects.

While it is acknowledged the zone anticipates shadow impacts are to result from the density of development sought (provided these impacts are not 'detrimental'), the 0m side setback to Gurr Street at upper levels,

and 2.9 metre exceedance in height (extra level) has not assisted in minimising overshadowing as desired. Given the north-south orientation of the subject site, all existing dwellings adjacent the subject site are afforded access to direct light however to POS or a habitable room window (at least 2 hours or more between 9am-3pm on 21 June), noting the zone does not provide guidance in terms of minimum access to direct light but seeks to 'minimise' detrimental impacts. It is worthy to note that future development proposed to the north of the subject site up to 3 storeys is likely to result in further impacts on abutting properties to what is demonstrated by these diagrams which show the effects of this building in isolation.

As the building does not exceed 5 storeys or 21 metres in building height (at 17.9 metres), an assessment of wind tunnelling effects on adjacent streets was not required by CW PDC 179.

The use of materials that include steel, glass, Colorbond, Scyon Axon cladding, ACPs and precast concrete/acid etched/painted, is not anticipated to result in excessive glare. The applicant has confirmed a materials board will be available for viewing at the SCAP meeting to confirm the proposed finishes for the materials.

8.3.6 Site Facilities and Storage

Council Wide PDC 182 under *Site Facilities and Storage* seeks a covered storage area of not less than 8 cubic metres in the dwelling (but not including a habitable room) or a garage/on-site communal facility and be conveniently located and screened from view from streets and neighbouring properties.

In this case, the development provides storage lockers in the car parking areas at ground and basement level. Each apartment is provided with a locker that has a size of 8 cubic metres and will not be readily visible from the public realm.

8.3.7 Landscaping

The Zone and Boulevard Policy Area anticipates that development incorporate landscaping that enhances the built form, contributes to a pleasant pedestrian environment and provide an attractive transition between the public and private realms.

To achieve this, Council Wide PDC 180 & 181 seek deep soil zones that can accommodate deep root vegetation with access to natural light (to assist with maintaining vegetation health), including tall trees with large canopies.

For sites such as this that exceed 1500m², a minimum of 7% deep soil area should be provided with a minimum dimension of 6m x 6m. One (1) large or medium tree per 60m² of deep soil should also be provided that has a height of 6-12+ metres. In this case, the development dedicates approximately 5.2% (101.7m²) of the site for deep soil landscaped areas, which is shown on the both the site and landscaping plan prepared by Outer Space. Along with deep soil zones, the landscaping plan details other lower level vegetated areas along Churchill Road, design of the first floor community courtyard and balconies on this floor along the northern boundary.

The deep soil areas provided for this development include two areas to the Churchill Road frontage, with the largest deep soil area, at 53m² located to the rear/western side of the proposed building. All areas will have adequate access to direct light to maintain vegetation health.

The limited setback to Gurr Street, along with the vehicle crossovers, hinders the ability for landscaping to be provided to this frontage. While the renders forming part of the application documentation show indicative landscaping along the Gurr Street frontage, this landscaping is located outside the subject site on the Council land and cannot be relied upon or guaranteed. If this landscaping on the Council road reserve is not realised, the presentation to Gurr Street will devoid of vegetation or greenery (excluding the vegetated area on the corner of Gurr and Churchill).

While the proposal has a shortfall in deep root areas (1.8% or 35m²), it is considered that the overall development will provide a reasonable level of amenity for the occupants via landscaping that will also contribute to the Churchill Road public environment. Conversely, the level of landscaping to the Gurr Street frontage is limited and will not result in a pleasant pedestrian environment to this frontage nor provide an attractive transition between the public and private realm on this street.

8.3.8 Private Open Space

Council Wide PDC 153 & 154 prescribes private open space (POS) located above ground level should have:

- a minimum dimension of 2 metres;
- be directly accessible from a habitable room; and
- meet the following requirements:
    - 11m² for a 2 bedroom dwelling;
    - 15m² for a dwelling with 3 or more bedrooms.

All apartments, excluding 3 of the 32, 2-bedroom apartments, meet the above requirements and will therefore provide adequate POS for residents. The 1m² short fall in POS for 3 of the 32, 2-bedroom apartments is considered negligible given the dimension (minimum 2.8 metres), outlook and orientation of these 10m² balconies expected to provide sufficient amenity for the anticipated occupants.

Council Wide PDC 155 also allows POS to be substituted for the equivalent area of communal open space provided certain criteria is met. A communal court yard of 120m² in area is proposed on the first floor for all residents of this development. The communal open space meets this criteria in that this area is visually screened from public areas being internally located and contains landscaping and facilities that are functional such as seating and a common bbq area.

Given the above, the development provides sufficient POS via balconies as well as a communal courtyard at first floor that will encourage recreational use.

8.4 Traffic Impact, Access and Parking

A traffic report undertaken by CIRQA has been provided by the applicant that assesses waste truck movement, car parking requirements sought by the Development Plan and the impact of vehicle movement on the surrounding road network.

The Transport Assessment and Policy Reform of DPTI, as a referral body, has also provided comment in regards to traffic impact to Churchill Road – a *Secondary Arterial Road.* The secondary street, Gurr Street, is a local street under the care and control of the City of Prospect.

8.4.1 Car and bicycle parking

Due to Junction Australia's requirements, vehicle entry to these apartments will operate independently of the remaining private residential apartments. This results in two separate driveway entries and vehicle access points along Gurr Street.

The Junction Australia entry will be serviced by an independent eight-space secure parking area accessed to the east (of which one space will be designated for people with disabilities), as well as a separate foyer/lift/stairwell/waste room.

The remaining residential apartments and the 2 commercial tenancies will be serviced by the large parking area accessed via the western most double-width crossover along Gurr Street. This parking area will contain 54 parking spaces (of which one space will be designated for people with disabilities) and all the 18 bike parks required by the Development Plan (1 space for every four dwellings plus 1 space for every 10 dwellings for visitors for the residential component and 1 space for every 300m² of gross floor area and plus 1 space for every 600m² of gross floor area for visitors).

The City of Prospect's Development Plan identifies the following vehicle parking requirements:

- 1 space per 2 bedroom dwelling (plus 0.25 visitor spaces per dwelling) plus 1.25 spaces per 3+ bedroom dwelling for residential development in a multi-storey building; and
- 3 spaces per 100m² of gross leasable area for shops.

Based upon the above requirements, the Junction Australia apartments will generate a demand of 8 resident spaces and 2 visitor spaces. As the secure Junction Australia parking area only provides 8 spaces, the 2 visitor spaces associated with this housing are to be accommodated in the larger parking area associated with the remaining residential apartments. This larger parking area provides a total of 54 spaces which will cater for the 37 needed for the private residential apartments and their 9 visitors, along with the six spaces needed for the retail tenancies.

The development has a theoretical vehicle parking rate of 62 spaces. Given 62 spaces are provided for the development as a whole (albeit split into two different areas as outlined above), Council's Development Plan requirements are considered met.

8.4.2 Traffic impact

With regard to traffic, the proposed development is anticipated to generate in the order of 40 am and 32 pm peak trips. The modelling undertaken by the applicant's traffic engineer indicates that such volumes would be readily accommodated on the adjacent road network and at the Churchill Road/Gurr Street/Albert Street intersection with minimal impact on queues and delays.

The Transport Assessment and Policy Reform of DPTI have also reviewed the CIRQA report and agree that the traffic report identifies minimal delays for vehicles on Churchill Road resulting from the development (particularly the

eastern access that has minimal separation from Churchill Road/Gurr Street corner).

DPTI have also noted support for the 3 metre setback to Churchill Road now proposed, along with proposed waste collection off Gurr Street. The CIRQA traffic report demonstrates that a MRV (per AS 2890.2:2002) can enter and exit the site in a forward direction for on-site refuse collection.

8.5 Environmental Factors

8.5.1 Crime Prevention

Council Wide policies regarding crime prevention seek design measures such as sightlines, opportunities for passive surveillance, mix of complementary land use activities, prevention of concealment areas and clear legible building entries be incorporated into building design.

In this case, the development proposes:

- No fencing proposed on the primary and secondary streets;
- A mix of residential and commercial land uses proposed (albeit the specific land uses for the retail tenancies are not yet know);
- A direct ground level access way from the Churchill Road entry to the car park that avoids 'blind' corners. A corner cut-off has been provided at the end of this corridor next to the car park to ensure sightlines are improved into the car park and assist with pedestrian safety;
- The Junction Australia foyer will be provided with a west facing glass window that will allow the opportunity for residents to overlook the larger car parking area to the west;
- The building entrances are orientated to public areas/Churchill Road and Gurr Street frontages. The operational requirements for the Junction Australia housing however has meant the entry to these apartments on Gurr has been design to be more discrete and is not apparent;
- Balconies and windows that overlook both public streets; and
- The lighting of common foyer areas and the car parks.

In its current form, opportunity for casual surveillance from Gurr will be limited at ground noting the balconies may provide views over the street.

Generally, the building has been design to include crime prevention measures as outline above.

8.5.2 Noise Emissions

An acoustic report undertaken by Sonus acoustic engineers has been commissioned by the applicant. This report has assessed the ingress of noise from Churchill Road and the nearby rail corridor into the proposed apartments.

Noise attenuation measures have been recommended by Sonus for particular apartments that demonstrate wall, windows and ceiling treatments will ensure the amenity of residents is protected from the external noise sources.

In the event of SCAP support, a condition of approval will require the recommendations in the Sonus report (S5681C3) are undertaken to ensure that all apartments in the development are designed in accordance with the maximum performance requirements of the *Minister's Specifications SA 788* and Council Wide PDC 111.

8.5.3 Waste Management

In regards to waste, dedicated areas for the collection of on-site waste is proposed for each land use at ground level.

The Junction Australia apartments will utilise its own secure 17m² waste area within its car parking area and the remaining residential apartments will share its waste storage area with the 2 retail tenancies (39m²).

Rawtec have undertaken a Waste Management Plan for the development which supports the waste storage areas proposed. Based on the estimated waste and recycling volumes to be generated, the number of collection vehicle movements has been estimated at 9 per week.

Council has reviewed the Rawtec report (dated 14/06/18) and have raised no concerns with the latest report. Accordingly, the development achieves Council Wide PDC 182 and 183 in regards to waste management.

8.5.4 Energy Efficiency

The design of the building will provide adequate thermal comfort for occupants while minimising the need for mechanical heating and cooling by providing such design features as:

- North-facing windows to the 16 north facing apartments;
- Apartment layouts that will enable main living areas to be separately heated and cooled for all dwellings;
- Sufficient ventilation to all apartments with cross-ventilation provided for 4 apartments on each level;
- Limiting the size and number of windows (and glass doors) to:
    - less than 30% of the total wall area;
    - no more than 50% of the total wall area on the western and eastern elevations; and
- The inclusion of external shading to north and west facing windows.

8.5.5 Flooding

To mitigate the risk of localised flooding during a major storm event, raised by Council in regards to the original site levels proposed, the design has been amended to ensure the basement and ground floors FFL's have been raised by 490mm to 8.27 metres and 111.27 metres respectively.

While not ideal from a street interface perspective, the levels proposed are required to prevent the site from inundation. In any event, the ground level of the building does not exceed 1.2 metres above the level of the footpath as desired by Council Wide PDC 165 at 420mm above footpath level. Therefore the development will still to contribute to pedestrian access and street level activation to an acceptable degree on Churchill Road. This floor level however (along with the setback, vehicle crossovers and lack of activation) will contribute to the poor street interface connection along Gurr Street.

8.5.6 Stormwater

A Stormwater Management Report by PT Design accords with the Council's requirements for stormwater to be detained so that flows from a 1:20 storm event do not exceed pre-development flows. Detention will be provided in a 20,000 litre above ground rainwater tank that drains to a side entry pit in the south-east corner of the site.

9. CONCLUSION

The proposal will enable a medium density mixed-use development as desired within the Urban Corridor Zone. The proposal will assist with increasing both resident population and the diversity of housing.

The apartments have been designed to provide good amenity for the occupants via apartment size, provision of private open space, outlook and access to light and ventilation. Amenity impacts via overshadowing, height and visual bulk on adjacent properties are also considered acceptable given the type of development and density desired in the Zone and Policy Area.

Traffic impact on the surrounding road network has been demonstrated to have adequate capacity to accommodate the development and not impact upon movement along Churchill Road. Sufficient car and bike parking in line with the Development Plan requirements is also provided.

While the proposal has a shortfall in deep root landscaped areas, it is considered that the overall development will provide a reasonable level of amenity for the occupants via landscaping that will also contribute to the Churchill Road public environment. The level of landscaping to the Gurr Street frontage is limited however and will not result in a pleasant pedestrian environment to this frontage.

While the development exceeds the maximum height prescribed for this Policy Area and the Gurr Street setback and its interface will result in an undesirable public realm outcome, the development is considered to be consistent with the Development Plan on balance and support is recommended.

10. RECOMMENDATION

It is recommended that the State Commission Assessment Panel:

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

2) RESOLVE that the State Commission Assessment Panel is satisfied that the proposal generally accords with the related Objectives and Principles of Development Control of the City of Prospect Development Plan.

3) RESOLVE to grant Development Plan Consent to the proposal by Gamma Illumination for demolition of existing buildings and construction of 5-level mixed use development at 244-288 Churchill Road, Prospect, subject to the following reserved matters and conditions of consent.

PLANNING CONDITIONS

1. That except where minor amendments may be required by other relevant Acts, or by conditions imposed by this application, the development shall be established in strict accordance with the details and following plans and reports submitted in Development Application No 050/M009/17:
    a. Drawing No. 17.001.PL00.C ‘Site Context Plan’ dated 25.10.2018;
    b. Drawing No. 17.001.PL01.C ‘Site Demolition Plan’ dated 25.10.2018;
    c. Drawing No. 17.001.PL02. C ‘Site Plan’ dated 25.10.2018;
    d. Drawing No. 17.001.PL03.C ‘Streetscape Elevations’ dated 25.10.2018;
    e. Drawing No. 17.001.PL04.C ‘Basement Floor Plan’ dated 25.10.2018;
    f. Drawing No. 17.001.PL05.C ‘Ground Floor Plan’ dated 25.10.2018;
    g. Drawing No. 17.001.PL06.C ‘Level 01 Floor Plan’ dated 25.10.2018;
    h. Drawing No. 17.001.PL07.C ‘Level 02 Floor Plan’ dated 25.10.2018;

i. Drawing No. 17.001.PL08.C 'Level 03 Floor Plan' dated 25.10.2018;
j. Drawing No. 17.001.PL09.C 'Level 04 Floor Plan' dated 25.10.2018;
k. Drawing No. 17.001.PL10.B 'Roof Plan' dated 25.10.2018;
l. Drawing No. 17.001.PL11.C 'Elevations 01' dated 25.10/2018;
m. Drawing No. 17.001.PL12.C 'Elevations 02' dated 25.10.2018;
n. Drawing No. 17.001.PL13.C 'Typical Apartment Floor Plans' dated 25.10.2018;
o. Drawing No. 17.001.PL14.B 'Design Sections' dated 30.08.2018;
p. Drawing No. PL23.A. 'Materials & Finishes Mood Board';
q. Outer Space landscaping Plan dated 06.06.2018; and
r. Email from Graham Burns detailing materials and finishes, received 26.10.2018.

2. The acoustic attenuation measures recommended in the Sonus Report (S5681C3), dated 30.08.2018 by Jason Turner, shall be fully incorporated into the building rules documentation to the reasonable satisfaction of the SCAP. Such acoustic measures shall be made operational prior to the occupation or use of the development.

3. 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.

4. 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.

5. 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.

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

7. A watering system shall be installed at the time landscaping is established and operated so that all plants receive sufficient water to ensure their survival and growth.

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

9. An appropriate Soil Erosion and Drainage Management Plan (SEDMP) (as described in the "Stormwater Pollution Control, General Code of Practice for Local, State and Federal Government") shall be prepared and implemented which includes a range of strategies to collect, treat, store and dispose of stormwater during construction and from the final form of the development (i.e. from roofs, driveways, parking areas, lawns, etc) while minimising disposal into the environment. EPA information sheets, guidelines documents, codes of practice, technical bulletins etc can be accessed on the following website: http://www.epa.sa.gov.au.

DPTI Conditions

10. The 4.5 x 4.5 metre corner cut-off at the Churchill Road / Gurr Street corner shall be kept clear of all development including, but not limited to, fencing, landscaping and overhanging balconies. This area shall be paved at footpath level.

11. All vehicle car parks, driveways and vehicle entry and manoeuvring areas shall be designed and constructed in accordance with Australian Standards (AS/NZS 2890.1:2004 and AS/NZS 2890.6.2009) and be constructed, drained and paved with bitumen, concrete or paving bricks in accordance with sound engineering practice and appropriately line marked to the reasonable satisfaction of the SCAP prior to the occupation or use of the development.

12. All bicycle parks shall be designed and constructed in accordance with Australian Standard 2890.3-2015.

13. All car parking areas, driveways and vehicle manoeuvring areas shall be maintained at all times to the reasonable satisfaction of the SCAP.

14. All materials and goods shall be loaded and unloaded within the boundaries of the subject land.

ADVISORY NOTES

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

b. The applicant is also advised that any act or work authorised or required by this Notification must be substantially commenced within 1 year of the final Development Approval issued by Council and substantially completed within 3 years of the date of final Development Approval issued by Council, unless that Development Approval is extended by the Council.

c. The applicant has a right of appeal against the conditions which have been imposed on this Development Plan Consent. Such an appeal must be lodged at the Environment, Resources and Development Court within two months from the day of receiving this notice or such longer time as the Court may allow. The applicant is asked to contact the Court if wishing to appeal. The Court is located in the Sir Samuel Way Building, Victoria Square, Adelaide, (telephone number 8204 0289).

d. A Construction Environment Management Plan (CEMP) shall be prepared in collaboration with the City of Prospect (Council) and implemented throughout construction in accordance with current industry standards including the Local Nuisance and Litter Control Act 2016, the EPA publications “Handbook for Pollution Avoidance on Commercial and Residential Building Sites – Second Edition” and, where applicable, “Environmental Management of On-site Remediation” – to minimise environmental harm and disturbance during construction. The management plan should incorporate, without being limited to, the following matters:
    - timing, staging and methodology of the construction process and working hours;
    - traffic management strategies;
    - control and management of construction noise, vibration, dust and mud;

- management of infrastructure services during construction and re-establishment of local amenity and landscaping;
- stormwater and groundwater management during construction;
- site security, fencing and safety and management of impacts on local amenity for residents, traffic and pedestrians;
- disposal of construction waste, any hazardous waste and refuse in an appropriate manner according to the nature of the waste;
- protection and cleaning of roads and pathways; and
- overall site clean-up.

e. National Broadband Network (NBN): The National Broadband Network is being rolled out across the City of Prospect. It is recommended that you consider your future connection to the optical fibre network prior to commencing works. Please visit www.nbnco.com.au for further details on how to get connected.

f. 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.

g. 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.

h. The Metropolitan Adelaide Road Widening Plan identifies a possible requirement for a 4.5 x 4.5 metres cut-off at the Churchill Road/Gurr Street corner of this site for future road purposes. The consent of the Commissioner of Highways under the Metropolitan Adelaide Road Widening Plan Act is required to all building works on or within 6.0 metres of the possible requirement. It has been determined that the full possible requirement is required to be kept clear of all development.

Should the development encroach within the above consent area, the applicant should complete the '*Application for Consent of the Commissioner of Highways for Building Work'* form, along with three copies of the stamped plans, for consent purposes.

Janaki Benson
Senior Planner
INNER METRO DEVELOPMENT ASSESSMENT
DEPARTMENT OF PLANNING, TRANSPORT and INFRASTRUCTURE

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LEGEND

SUBJECT SITE

AMENITIES

SHOPPING
RESTAURANT & SPECIALTY SHOPPING
MEDICAL
EDUCATION

PUBLIC TRANSPORT

BUS ROUTE
BUS STOP
RAILWAY LINE
ISLINGTON RAILWAY STATION

ZONING

CITY OF PROSPECT ZONE BOUNDARY
RA 350 COUNCIL ZONING CODE. REFER CITY OF PROSPECT DEVELOPMENT PLAN

C	FOR APPROVAL	25.10.2018
B	FOR APPROVAL	30.08.2018
A	FOR APPROVAL	27.10.2017

FOR APPROVAL

17.001. PL00.C

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
SITE CONTEXT PLAN

DRAWING DETAILS
DRAWN: **Author**
SCALE: **As indicated @ A1**
DATE: **25.10.2018**

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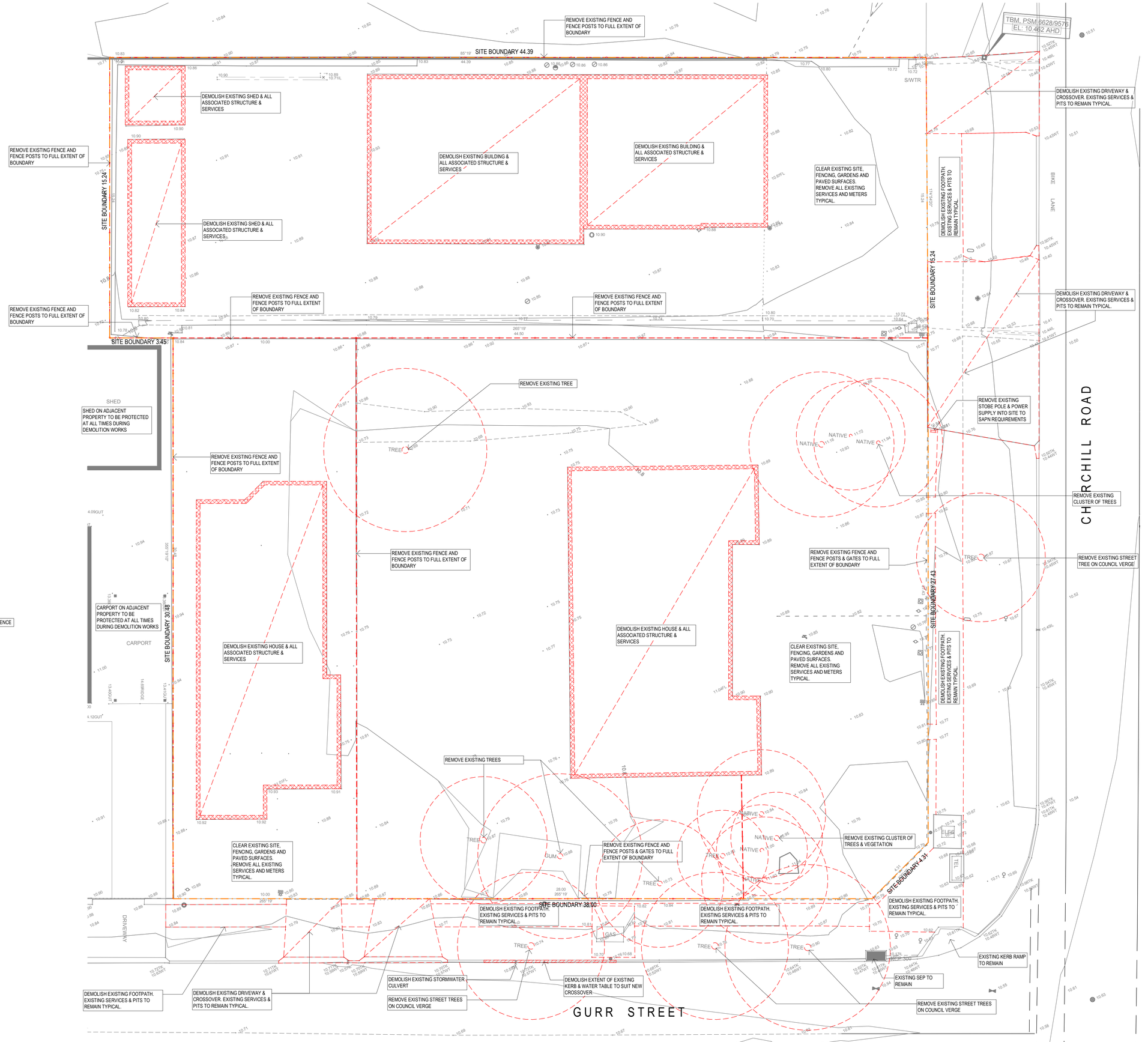

SITE DEMOLITION PLAN

SCALE 1 : 100

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FOR APPROVAL

17.001.PL01.C

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MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

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SITE DEMOLITION PLAN

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NEW 2100 HIGH COLORBOND GOOD NEIGHBOUR FENCE TO BOUNDARY WITH NOMINAL 400-500mm HIGH RETAINING WALL UNDER. COLOUR: WOODLAND GREY

ADJACENT VACANT ALLOTMENT

SITE BOUNDARY 44.39

TBM, PSM 6628/9576 EL: 10.462 AHD

ADJACENT PRIVATE OPEN SPACE

SITE BOUNDARY 15.24

DEEP ROOT ZONE 53 m²

NEW 2100 HIGH COLORBOND GOOD NEIGHBOUR FENCE TO BOUNDARY WITH NOMINAL 400-500mm HIGH RETAINING WALL UNDER. COLOUR: WOODLAND GREY.

SITE BOUNDARY 3.45

SHED

ADJACENT SHED

20,000L RWT

1:8

1:4

VEHICLE RAMP 60 m²

RESIDENTIAL GROUND CAR PARK 548 m² (08 SPACES)

DEEP ROOT ZONE 13 m²

TENANCY 01 131 m²

PROPOSED NEW STREET TREE & GARDEN BED. REFER DETAILED LANDSCAPE PLAN

PROPOSED NEW STREET TREE & GARDEN BED. REFER DETAILED LANDSCAPE PLAN

PROPOSED NEW STREET TREE & GARDEN BED. REFER DETAILED LANDSCAPE PLAN

BIKE LANE

GARDEN

SITE BOUNDARY 15.24

WC 5 m²

RESIDENTIAL FOYER 23 m²

ENTRY COURT 38 m²

LIFT 02 5 m²

LIFT 03 5 m²

STAIR 02 13 m²

RAISED PLANTER

DOUBLE HEIGHT VOID

BIKE PARKS x4

RAISED WALKWAY 70 m²

RESIDENTIAL WASTE 38 m²

ACCESS WAY 30 m²

GARDEN

GARDEN

PROPOSED NEW STREETSCAPE PAVING & FOOTPATHS. REFER DETAILED LANDSCAPE PLAN

CHURCHILL ROAD

HOUSE

15.67RIDGE

ADJACENT RESIDENCE

ADJACENT CARPORT

CARPORT

SITE BOUNDARY 30.48

RETAIL / VISITOR CAR PARK 328 m² (06 SPACES)

JUNCTION WASTE 16 m²

STAIR 01 13 m²

JUNCTION CAR PARK 265 m² (8 SPACES)

TENANCY 02 79 m²

ACCESS RAMP 1:14

SITE BOUNDARY 27.43

PROPOSED NEW STREET TREE & GARDEN BED. REFER DETAILED LANDSCAPE PLAN

PROPOSED NEW STREET TREE & GARDEN BED. REFER DETAILED LANDSCAPE PLAN

NEW 2100 HIGH COLORBOND GOOD NEIGHBOUR FENCE TO BOUNDARY WITH NOMINAL 400-500mm HIGH RETAINING WALL UNDER. COLOUR: WOODLAND GREY

JUNCTION FOYER 14 m²

LIFT 01 5 m²

TRANSFORMER 15 m²

VEHICLE RAMP 1:16

RAMP UP 265:19

SITE BOUNDARY 38.00

LINE OF BUILDING OVERHANG ABOVE

DEEP ROOT ZONE 29 m²

GARDEN

SITE BOUNDARY 4.31

PROPOSED NEW STREETSCAPE PAVING & FOOTPATHS. REFER DETAILED LANDSCAPE PLAN

DPTI ROAD WIDENING 4.5 X 4.5M CORNER CUT OFF ZONE SHOWN DASHED RED

DRIVEWAY

PROPOSED NEW STREET TREE & GARDEN BED. REFER DETAILED LANDSCAPE PLAN

NEW DRIVEWAY & CROSSOVER TO COUNCIL REQUIREMENTS

PROPOSED NEW STREET TREES & GARDEN BED. REFER DETAILED LANDSCAPE PLAN

PROPOSED NEW STREETSCAPE PAVING & FOOTPATHS. REFER DETAILED LANDSCAPE PLAN

NEW DRIVEWAY & CROSSOVER TO COUNCIL REQUIREMENTS

GURR STREET

SITE PLAN
SCALE 1 : 100

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TOTAL ALLOTMENT AREA

ALLOTMENT AREA	1922 m²

GROSS BUILDING AREA SCHEDULE

DESCRIPTION	AREA
BASEMENT FLOOR AREA	1604 m²
GROUND FLOOR AREA	1327 m²
LEVEL 1 FLOOR AREA	1203 m²
LEVEL 2 FLOOR AREA	1211 m²
LEVEL 3 FLOOR AREA	1211 m²
LEVEL 4 FLOOR AREA	999 m²
TOTAL GROSS BUILDING AREA	7556 m²

NOTE: GROSS AREAS ARE TAKEN TO EXTERNAL FACE OF EXTERNAL WALLS. AREAS EXCLUDE PRIVATE COURTYARDS, BALCONIES & COMMUNITY COURTYARD

CAR PARKING SCHEDULE

JUNCTION	8
RESIDENTIAL	48
RETAIL	6
TOTAL CAR PARKS: 62	

CAR PARKING NOTES

COMMERCIAL TENANCY TOTAL AREA	210 m2
REQUIRED CAR PARKS	**06**
JUNCTION APARTMENTS TOTAL (2 BED)	08
REQUIRED CAR PARKS (INC VISITORS)	**10**
1 BED APARTMENTS TOTAL	00
REQUIRED CAR PARKS (INC VISITORS)	**00**
2 BED APARTMENTS TOTAL	24
REQUIRED CAR PARKS (INC VISITORS)	**30**
3 BED APARTMENTS TOTAL	10
REQUIRED CAR PARKS (INC VISITORS)	**15**
TOTAL REQUIRED CAR PARKS (INC VISITORS)	**62**
TOTAL CAR PARKS PROVIDED ON SITE	**62**

C	FOR APPROVAL	25.10.2018
B	FOR APPROVAL	30.08.2018
A	FOR APPROVAL	27.10.2017

FOR APPROVAL

17.001.PL02.C

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
SITE PLAN

DRAWING DETAILS
DRAWN: **MB**
SCALE: **1 : 100 @ A1**
DATE: **25.10.2018**

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STREETSCAPE ELEVATION (CHURCHILL ROAD)

SCALE 1 : 200

STREETSCAPE ELEVATION (GURR STREET)

SCALE 1 : 200

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B	FOR APPROVAL	30.08.2018
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FOR APPROVAL

17.001. PL03.C

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
STREETSCAPE ELEVATIONS

DRAWING DETAILS
DRAWN: **Author**
SCALE: **1 : 200 @ A1**
DATE: **25.10.2018**

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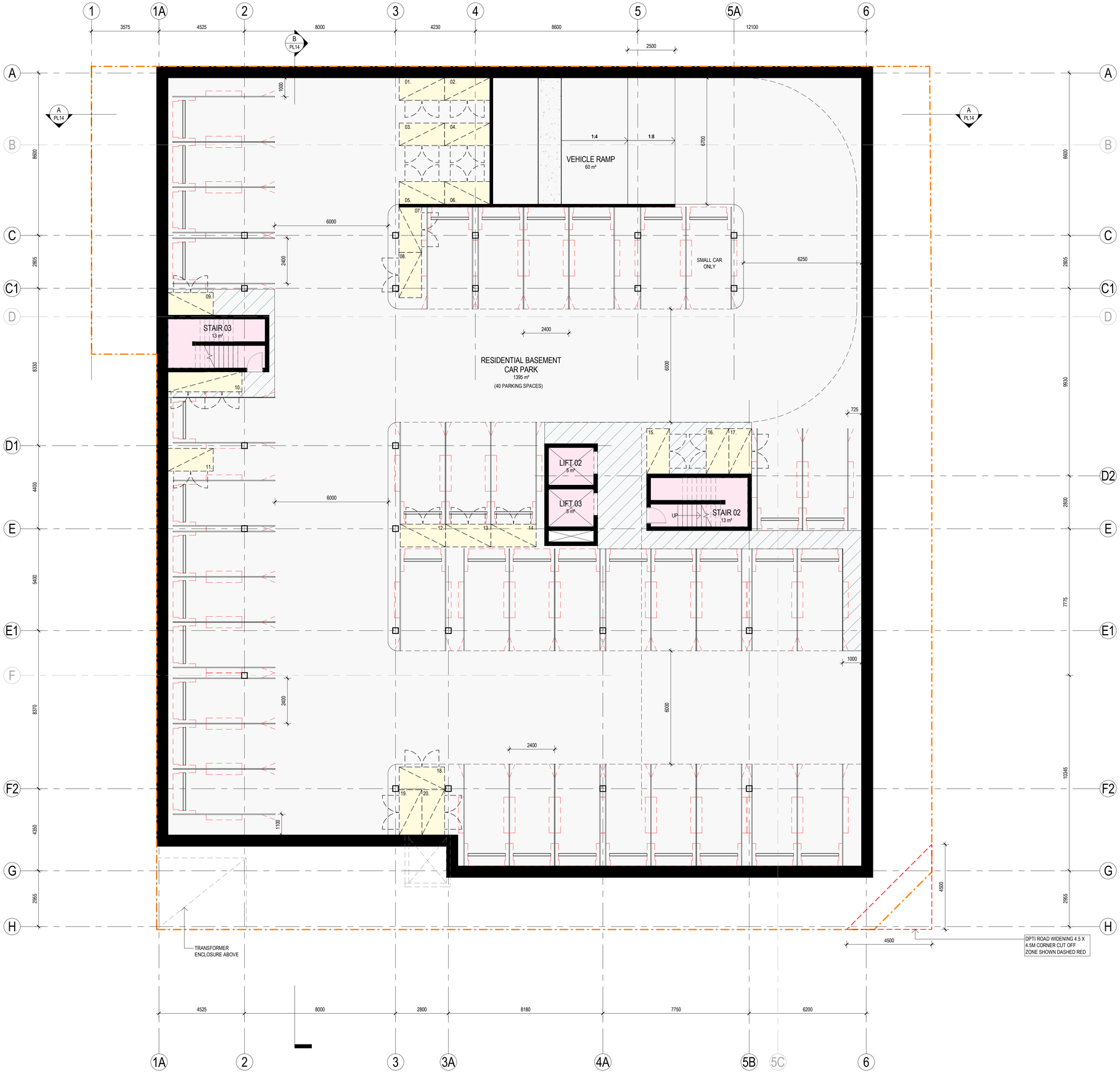

BASEMENT FLOOR PLAN
SCALE 1 : 100

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BASEMENT FLOOR AREA...

CAR PARK & VEHICLE CIRCULATION	1460.59 m²
COMMON CIRCULATION (FOYERS, STAIRS, LIFTS, CORRIDORS)	36.38 m²
TOTAL NET BUILDING AREA	1496.97 m²

CAR PARKING SCHEDULE

JUNCTION	8
RESIDENTIAL	48
RETAIL	6
TOTAL CAR PARKS: 62	

CAR PARKING NOTES

COMMERCIAL TENANCY TOTAL AREA	210 m2
REQUIRED CAR PARKS	**06**
JUNCTION APARTMENTS TOTAL (2 BED)	08
REQUIRED CAR PARKS (INC VISITORS)	**10**
1 BED APARTMENTS TOTAL	00
REQUIRED CAR PARKS (INC VISITORS)	**00**
2 BED APARTMENTS TOTAL	24
REQUIRED CAR PARKS (INC VISITORS)	**30**
3 BED APARTMENTS TOTAL	10
REQUIRED CAR PARKS (INC VISITORS)	**15**
TOTAL REQUIRED CAR PARKS (INC VISITORS)	**62**
TOTAL CAR PARKS PROVIDED ON SITE	**62**

APARTMENT STORAGE NOTES

8m3 SECURE STORAGE LOCKER
(1 PER APARTMENT)

C	FOR APPROVAL	25.10.2018
B	FOR APPROVAL	30.08.2018
A	FOR APPROVAL	27.10.2017

FOR APPROVAL

17.001. PL04.C

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
BASEMENT FLOOR PLAN

DRAWING DETAILS
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GROUND FLOOR PLAN
SCALE 1 : 100

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GROUND FLOOR AREA SCHEDULE (NET)

CAR PARK & VEHICLE CIRCULATION	1142.53 m²
COMMON CIRCULATION (FOYERS, STAIRS, LIFTS, CORRIDORS)	92.16 m²
PLANTING ZONE	128.33 m²
SERVICES & AMENITY	74.32 m²
TENANCY 01	129.74 m²
TENANCY 02	78.06 m²
TOTAL NET GROUND FLOOR AREA	1645.18 m²

CAR PARKING SCHEDULE

JUNCTION	8
RESIDENTIAL	48
RETAIL	6
TOTAL CAR PARKS: 62	

CAR PARKING NOTES

COMMERCIAL TENANCY TOTAL AREA	210 m2
REQUIRED CAR PARKS	**06**
JUNCTION APARTMENTS TOTAL (2 BED)	08
REQUIRED CAR PARKS (INC VISITORS)	**10**
1 BED APARTMENTS TOTAL	00
REQUIRED CAR PARKS (INC VISITORS)	**00**
2 BED APARTMENTS TOTAL	24
REQUIRED CAR PARKS (INC VISITORS)	**30**
3 BED APARTMENTS TOTAL	10
REQUIRED CAR PARKS (INC VISITORS)	**15**
TOTAL REQUIRED CAR PARKS (INC VISITORS)	**62**
TOTAL CAR PARKS PROVIDED ON SITE	**62**

APARTMENT STORAGE NOTES

8m3 SECURE STORAGE LOCKER
(1 PER APARTMENT)

C	FOR APPROVAL	25.10.2018
B	FOR APPROVAL	30.08.2018
A	FOR APPROVAL	27.10.2017

FOR APPROVAL

17.001.PL05.C

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
GROUND FLOOR PLAN

DRAWING DETAILS
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LEVEL 01 FLOOR PLAN
SCALE 1 : 100

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LEVEL 1 AREA SCHEDULE (NET)

APARTMENT LIVING AREAS INCLUDE INTERNAL WALLS & APARTMENT SERVICE RISERS. ALL REMAINING AREAS ARE TAKEN FROM INTERNAL FACE OF WALL LINE.

COMMUNAL COURTYARD	118.72 m²
TOTAL APARTMENT LIVING	949.21 m²
TOTAL COMMON CIRCULATION (FOYERS, STAIRS LIFTS, CORRIDORS)	129.76 m²
TOTAL EXTERNAL COURTYARD/BALCONY	268.18 m²
TOTAL NET LEVEL 1 FLOOR AREA	1465.88 m²

C	FOR APPROVAL	25.10.2018
B	FOR APPROVAL	30.08.2018
A	FOR APPROVAL	27.10.2017

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17.001. PL06.C

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
LEVEL 01 FLOOR PLAN

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LEVEL 02 FLOOR PLAN
SCALE 1 : 100

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LEVEL 2 AREA SCHEDULE (NET)

APARTMENT LIVING AREAS INCLUDE INTERNAL WALLS & APARTMENT SERVICE RISERS. ALL REMAINING AREAS ARE TAKEN FROM INTERNAL FACE OF WALL LINE.

TOTAL APARTMENT LIVING	969.26 m²
TOTAL COMMON CIRCULATION (FOYERS, STAIRS, LIFTS, CORRIDORS)	120.16 m²
TOTAL EXTERNAL COURYARD/BALCONY	189.54 m²
TOTAL NET LEVEL 2 FLOOR AREA	1278.96 m²

C	FOR APPROVAL	25.10.2018
B	FOR APPROVAL	30.08.2018
A	FOR APPROVAL	27.10.2017

FOR APPROVAL

17.001. PL07.C

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
LEVEL 02 FLOOR PLAN

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LEVEL 03 FLOOR PLAN
SCALE 1 : 100

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LEVEL 3 AREA SCHEDULE (NET)

APARTMENT LIVING AREAS INCLUDE INTERNAL WALLS & APARTMENT SERVICE RISERS. ALL REMAINING AREAS ARE TAKEN FROM INTERNAL FACE OF WALL LINE.

TOTAL APARTMENT LIVING	958.21 m²
TOTAL COMMON CIRCULATION (FOYERS, STAIRS LIFTS, CORRIDORS)	129.76 m²
TOTAL EXTERNAL COURYARD/BALCONY	191.05 m²
TOTAL NET LEVEL 3 FLOOR AREA	1279.03 m²

C	FOR APPROVAL	25.10.2018
B	FOR APPROVAL	30.08.2018
A	FOR APPROVAL	27.10.2017

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17.001. PL08.C

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
LEVEL 03 FLOOR PLAN

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LEVEL 04 FLOOR PLAN
SCALE 1 : 100

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LEVEL 4 AREA SCHEDULE (NET)

APARTMENT LIVING AREAS INCLUDE INTERNAL WALLS & APARTMENT SERVICE RISERS. ALL REMAINING AREAS ARE TAKEN FROM INTERNAL FACE OF WALL LINE.

TOTAL APARTMENT LIVING	693.10 m²
TOTAL COMMON CIRCULATION (FOYERS, STAIRS LIFTS, CORRIDORS)	124.85 m²
TOTAL EXTERNAL COURYARD/BALCONY	301.81 m²
TOTAL NET LEVEL 4 FLOOR AREA	1119.77 m²

C	FOR APPROVAL	25.10.2018
B	FOR APPROVAL	30.08.2018
A	FOR APPROVAL	27.10.2017

FOR APPROVAL

17.001. PL09.C

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
LEVEL 04 FLOOR PLAN

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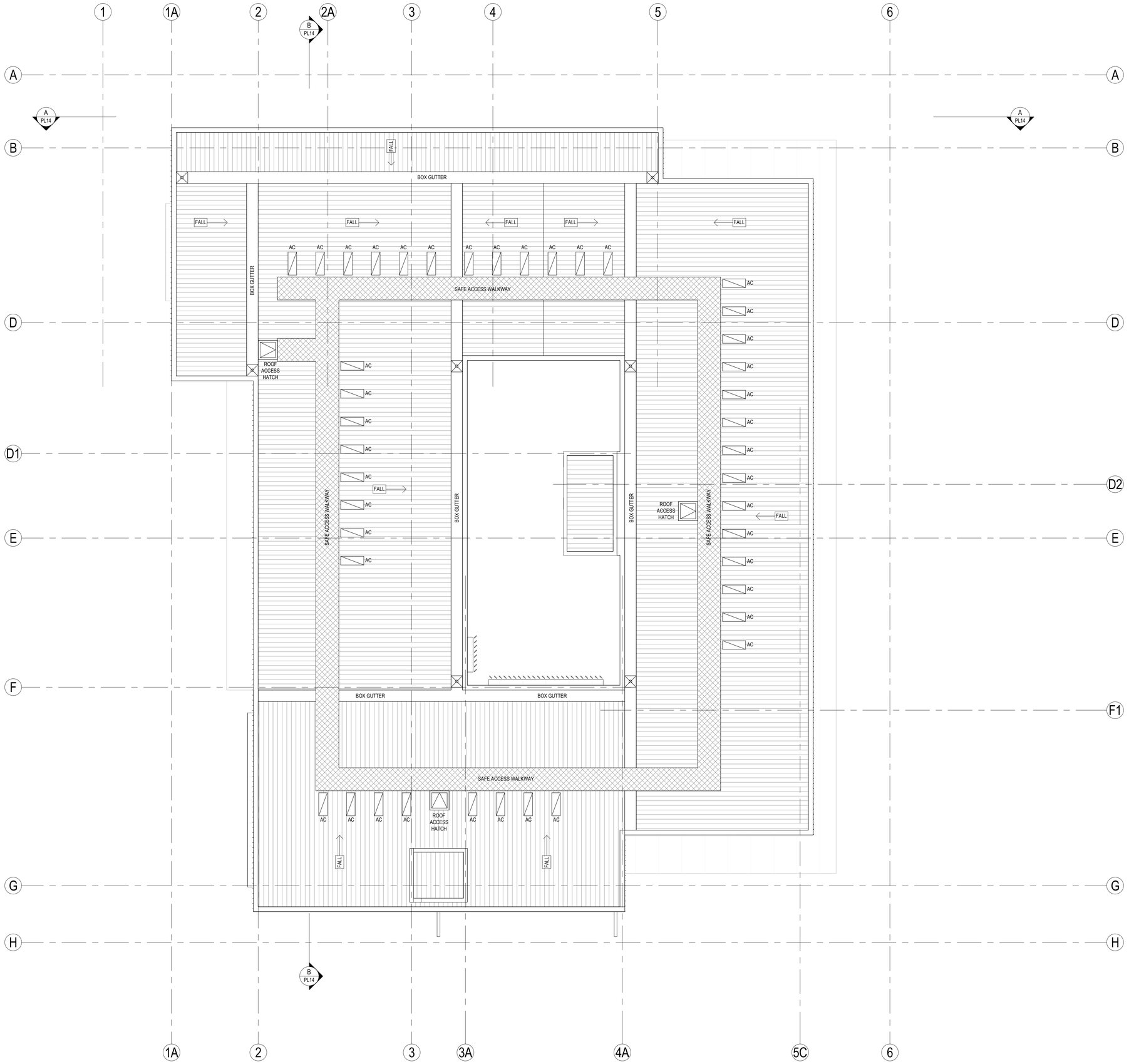

ROOF PLAN
SCALE 1 : 100

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17.001. PL10.B

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
ROOF PLAN

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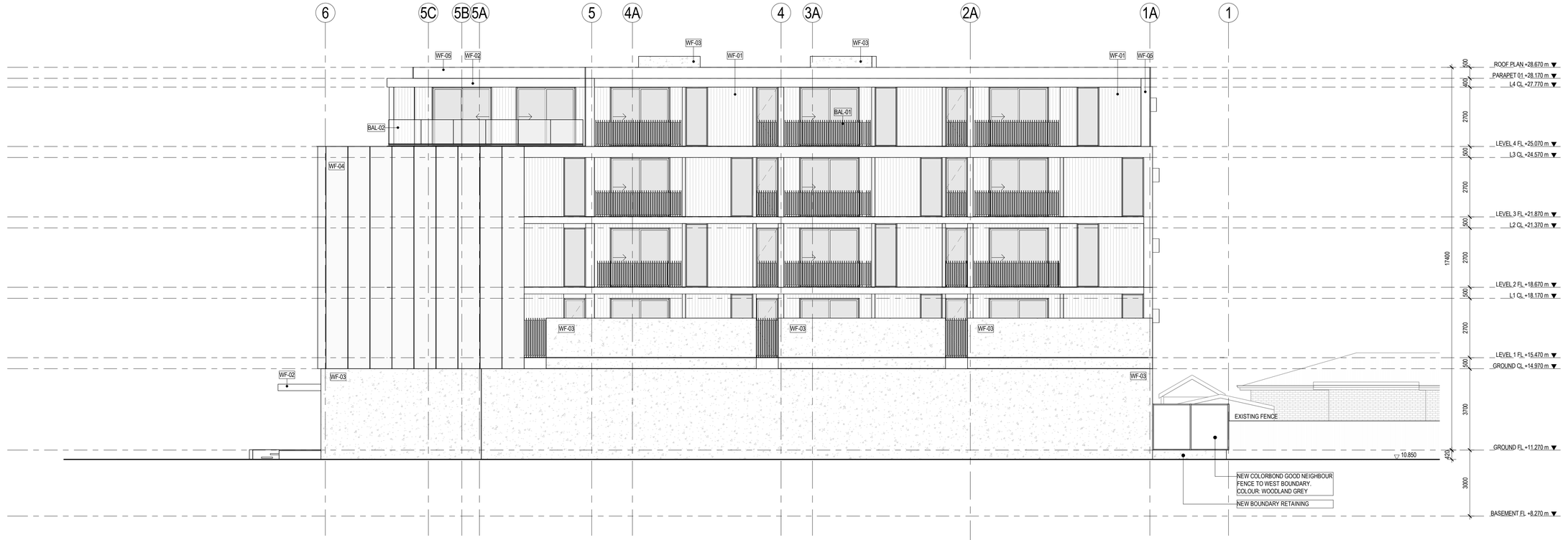
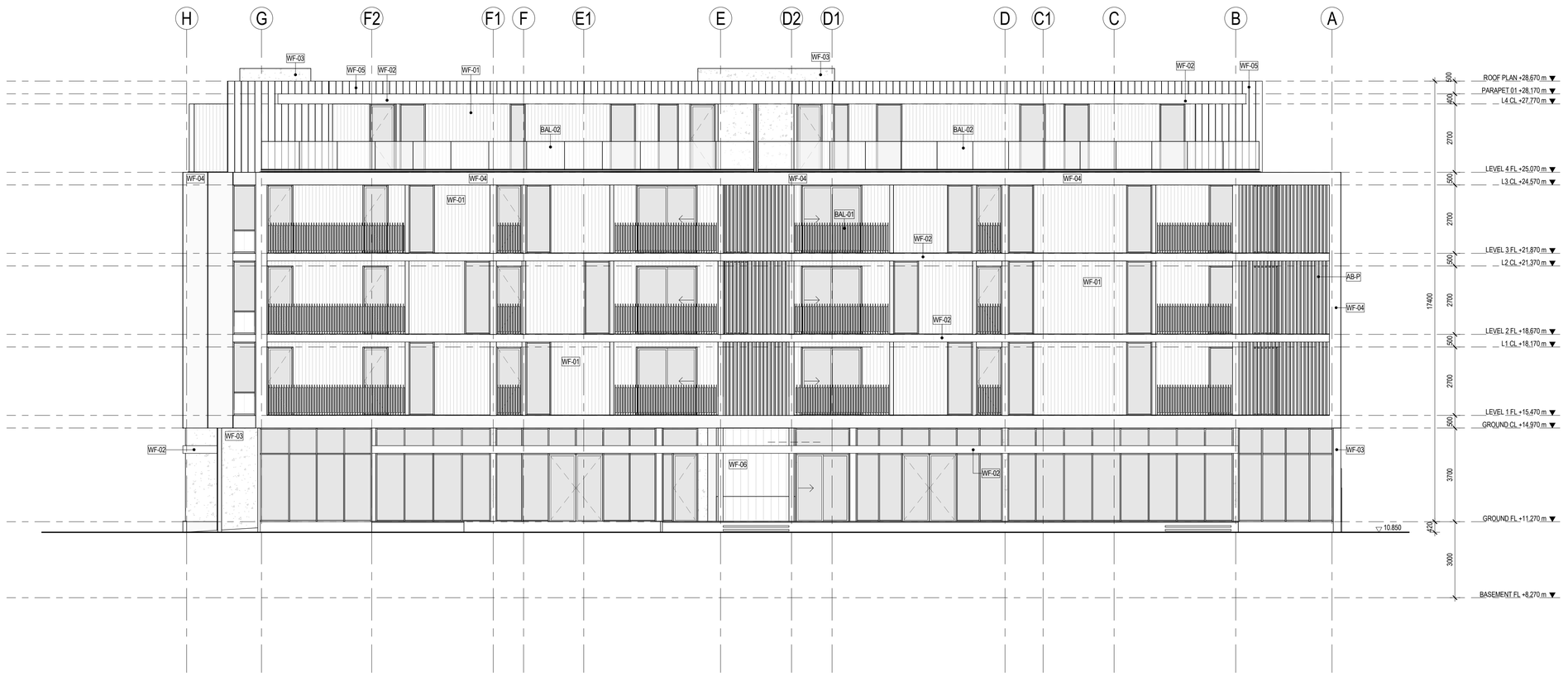


NORTH ELEVATION

SCALE 1 : 100



EAST ELEVATION

SCALE 1 : 100

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EXTERNAL FINISHES

AB-P	VERTICAL ALUMINIUM BATTEN SCREEN. POWDER COAT FINISH DARK GREY / BROWN TONAL RANGE
BAL-01	VERTICAL STEEL ANGLE BALUSTRADE. PAINT FINISH DARK GREY / BROWN TONAL RANGE. 1200mm HIGH TYPICAL FOR BALCONIES. 1800mm TYPICAL HEIGHT FOR L1 COURTYARD WALLS.
BAL-02	GLAZED BALUSTRADE
GD	SEGMENTED SMOOTH PANEL GARAGE DOOR. COLORBOND STEALTH (MATTE MONUMENT) OR SIMILAR
PSC	PERFORATED METAL SCREEN. POWDERCOAT BLACK
WF-01	JAMES HARDIE SCYON AXON PANEL CLADDING VERTICAL GROOVE. PAINT FINISH DARK GREY / BROWN TONAL RANGE
WF-02	COMPOSITE ALUMINIUM PANEL CLADDING. MATTE BLACK FINISH
WF-03	PRECAST CONCRETE PANEL. DARK GREY ACID ETCHED FINISH
WF-04	PRE-FINISHED INSULATED PANEL CLADDING SMOOTH FACE WITH VERTICAL EXPRESSED JOINTS. COLORBOND SURFMIST OR SIMILAR
WF-05	'MAXLINE' METAL CLADDING. COLORBOND MATTE SHALE GREY OR SIMILAR
WF-06	INTERLOCKING METAL CLADDING VERTICAL FORMAT. WEATHERING STEEL FINISH OR SIMILAR TONAL RANGE
WF-07	CEMINTEL BARESTONE CLADDING NATURAL FINISH

C	FOR APPROVAL	25.10.2018
B	FOR APPROVAL	30.08.2018
A	FOR APPROVAL	27.10.2017

FOR APPROVAL

17.001. PL11.C

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
ELEVATIONS 01

DRAWING DETAILS
DRAWN: **Author**
SCALE: **1 : 100 @ A1**
DATE: **25.10.2018**

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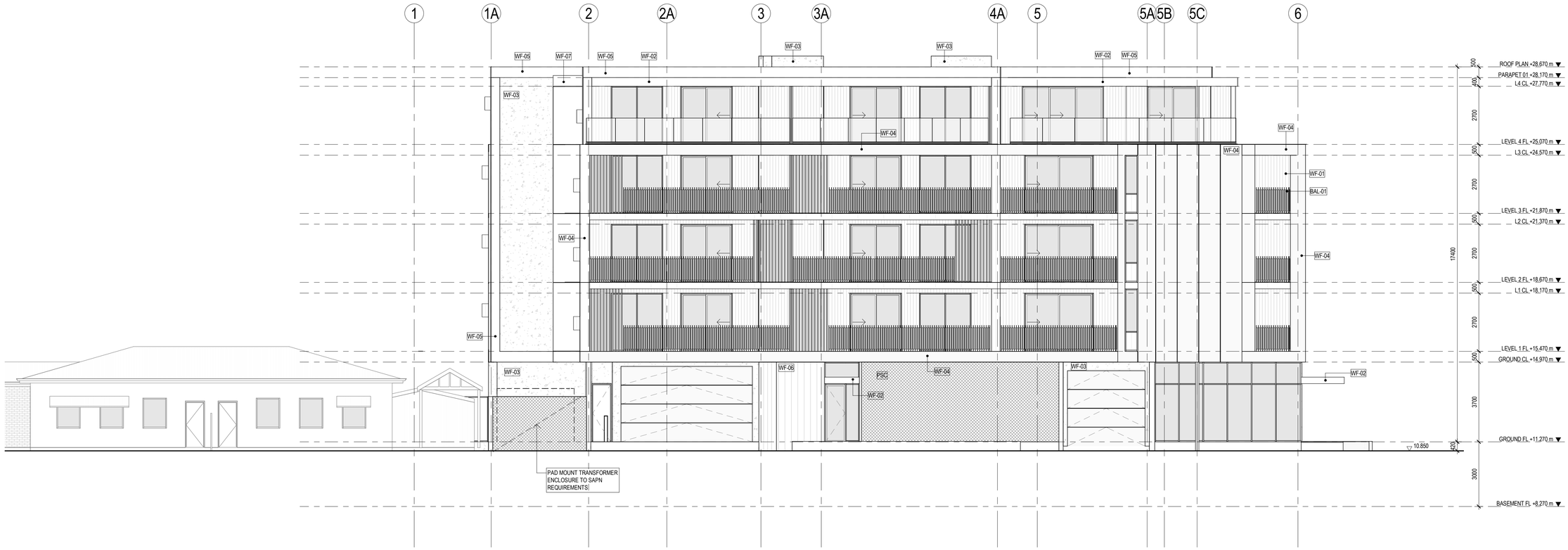
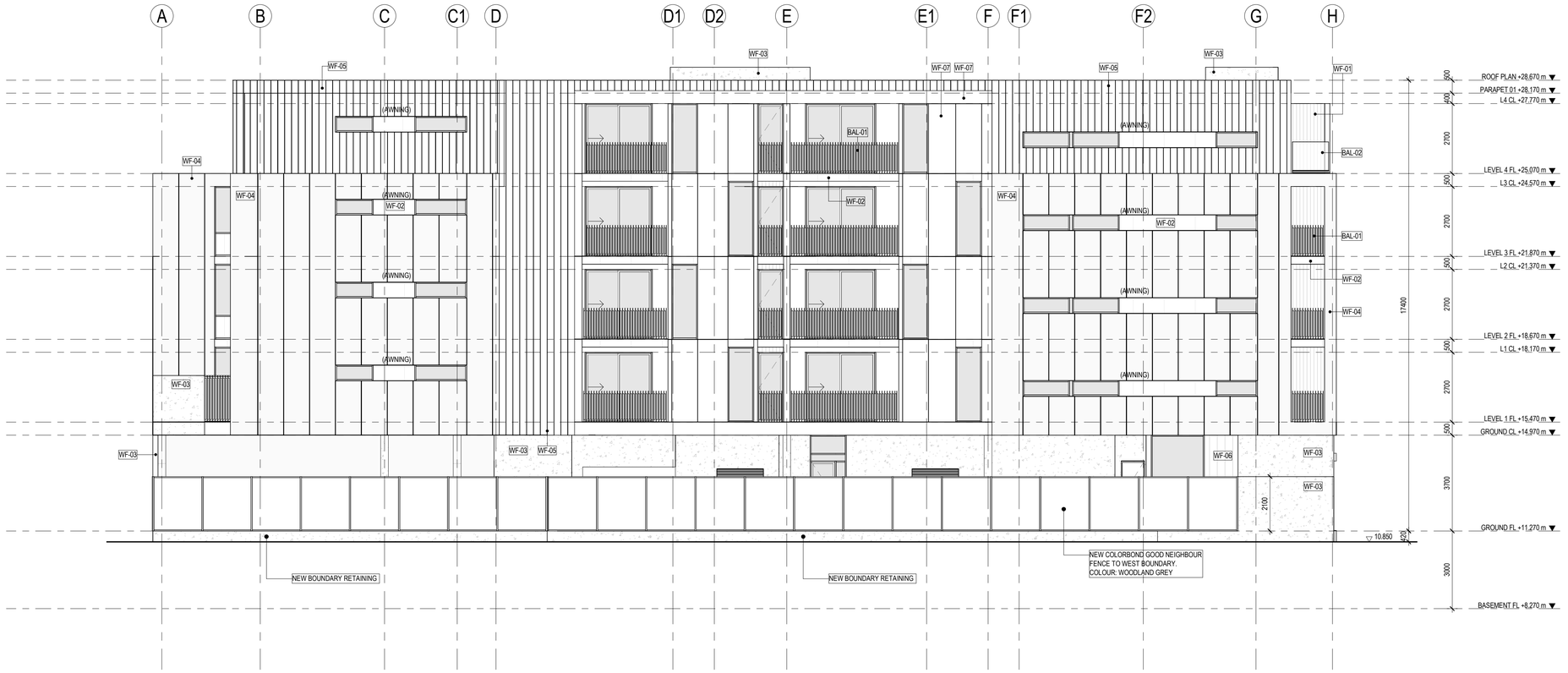


SOUTH ELEVATION
SCALE 1 : 100



WEST ELEVATION
SCALE 1 : 100

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EXTERNAL FINISHES

AB-P	VERTICAL ALUMINIUM BATTEN SCREEN. POWDER COAT FINISH DARK GREY / BROWN TONAL RANGE
BAL-01	VERTICAL STEEL ANGLE BALUSTRADE. PAINT FINISH DARK GREY / BROWN TONAL RANGE. 1200mm HIGH TYPICAL FOR BALCONIES, 1800mm TYPICAL HEIGHT FOR L1 COURTYARD WALLS.
BAL-02	GLAZED BALUSTRADE
GD	SEGMENTED SMOOTH PANEL GARAGE DOOR. COLORBOND STEALTH (MATTE MONUMENT) OR SIMILAR
PSC	PERFORATED METAL SCREEN. POWDERCOAT BLACK
WF-01	JAMES HARDIE SCYON AXON PANEL CLADDING VERTICAL GROOVE. PAINT FINISH DARK GREY / BROWN TONAL RANGE
WF-02	COMPOSITE ALUMINIUM PANEL CLADDING. MATTE BLACK FINISH
WF-03	PRECAST CONCRETE PANEL. DARK GREY ACID ETCHED FINISH
WF-04	PRE-FINISHED INSULATED PANEL CLADDING SMOOTH FACE WITH VERTICAL EXPRESSED JOINTS. COLORBOND SURFMIST OR SIMILAR
WF-05	'MAXLINE' METAL CLADDING. COLORBOND MATTE SHALE GREY OR SIMILAR
WF-06	INTERLOCKING METAL CLADDING VERTICAL FORMAT. WEATHERING STEEL FINISH OR SIMILAR TONAL RANGE
WF-07	CEMINTEL BARESTONE CLADDING NATURAL FINISH

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B	FOR APPROVAL	30.08.2018
A	FOR APPROVAL	27.10.2017

FOR APPROVAL

17.001.PL12.C

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
ELEVATIONS 02

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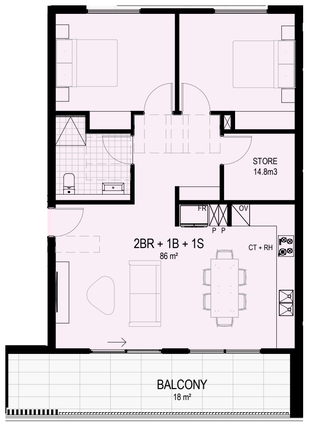
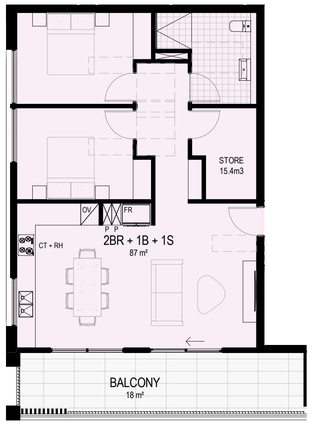


2BR + 1B + 1S - TYPE 01 - FLOOR PLAN

SCALE 1 : 100

2B + 1B + 1S - TYPE 01 - AREA SCHEDULE

LIVING	85.79 m²
BALCONY (POS)	19.39 m²
TOTAL NET APARTMENT AREA	105.18 m²

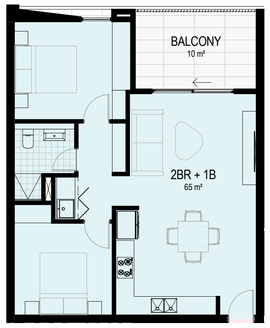


2BR + 1B + 1S - TYPE 02 - FLOOR PLAN

SCALE 1 : 100

2B + 1B + 1S - TYPE 02 - AREA SCHEDULE

LIVING	85.77 m²
BALCONY	19.48 m²
TOTAL NET APARTMENT AREA	105.25 m²

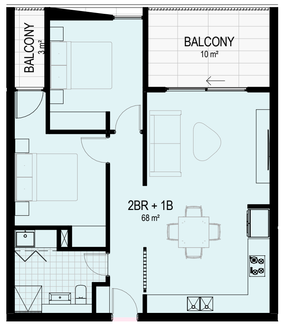


2BR + 1B - TYPE 01 - FLOOR PLAN

SCALE 1 : 100

2B + 1B - TYPE 01 - AREA SCHEDULE

BALCONY (POS)	10.28 m²
LIVING	66.08 m²
TOTAL NET APARTMENT AREA	76.37 m²

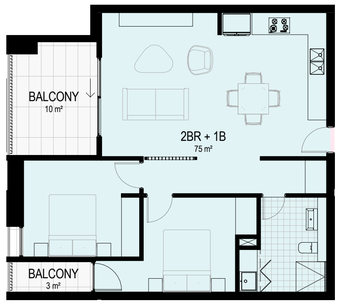


2BR + 1B - TYPE 02 - FLOOR PLAN

SCALE 1 : 100

2B + 1B - TYPE 02 - AREA SCHEDULE

BALCONY	2.62 m²
BALCONY (POS)	10.44 m²
LIVING	67.56 m²
TOTAL NET APARTMENT AREA	80.62 m²

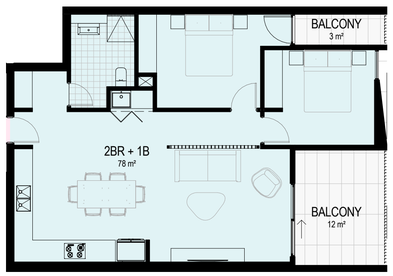


2BR + 1B - TYPE 03 - FLOOR PLAN

SCALE 1 : 100

2B + 1B - TYPE 03 - AREA SCHEDULE

BALCONY	2.72 m²
BALCONY (POS)	10.39 m²
LIVING	75.41 m²
TOTAL NET APARTMENT AREA	88.52 m²

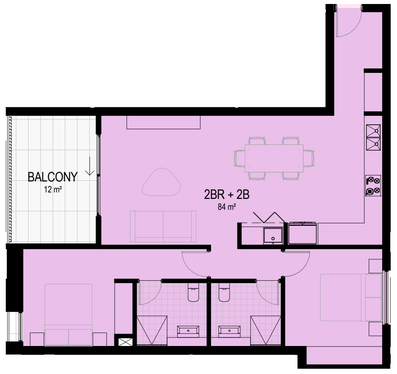


2BR + 1B - TYPE 04 - FLOOR PLAN

SCALE 1 : 100

2B + 1B - TYPE 04 - AREA SCHEDULE

BALCONY	3.17 m²
BALCONY (POS)	11.32 m²
LIVING	78.22 m²
TOTAL NET APARTMENT AREA	92.71 m²

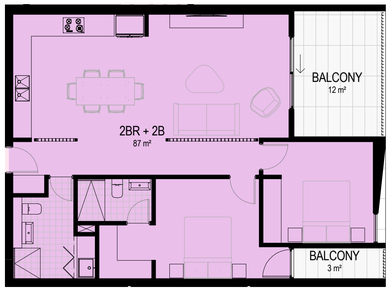


2BR + 2B - TYPE 01 - FLOOR PLAN

SCALE 1 : 100

2BR + 2B - TYPE 01 - AREA SCHEDULE

BALCONY (POS)	12.18 m²
LIVING	84.53 m²
TOTAL NET APARTMENT AREA	96.71 m²

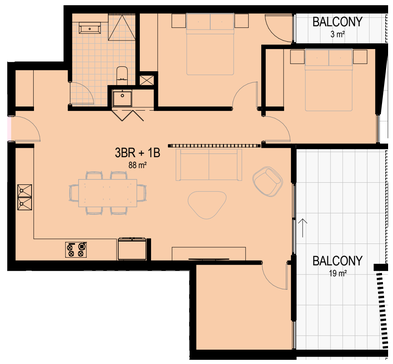


2BR + 2B - TYPE 02 - FLOOR PLAN

SCALE 1 : 100

2BR + 2B - TYPE 02 - AREA SCHEDULE

BALCONY	3.03 m²
BALCONY (POS)	12.36 m²
LIVING	87.13 m²
TOTAL NET APARTMENT AREA	102.52 m²

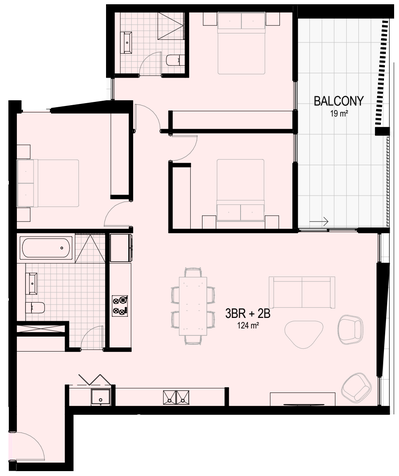


3BR + 1B - TYPE 01 - FLOOR PLAN

SCALE 1 : 100

3BR + 1B - TYPE 01 - AREA SCHEDULE

BALCONY	3.17 m²
BALCONY (POS)	19.72 m²
LIVING	87.24 m²
TOTAL NET APARTMENT AREA	110.13 m²



3BR + 2B - TYPE 01 - FLOOR PLAN

SCALE 1 : 100

3BR + 2B - TYPE 01 - AREA SCHEDULE

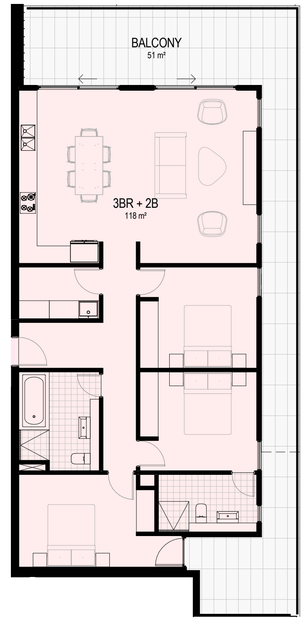
BALCONY (POS)	20.56 m²
LIVING	124.27 m²
TOTAL NET APARTMENT AREA	144.83 m²

3BR + 2B - TYPE 02 - FLOOR PLAN

SCALE 1 : 100

3BR + 2B - TYPE 02 - AREA SCHEDULE

BALCONY (POS)	15.26 m²
BALCONY (POS)	16.38 m²
LIVING	125.88 m²
TOTAL NET APARTMENT AREA	157.52 m²

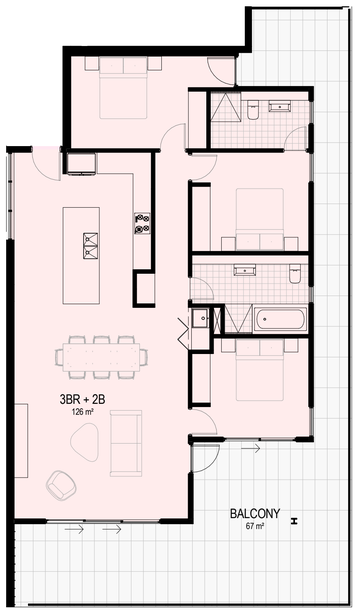


3BR + 2B - TYPE 03 - FLOOR PLAN

SCALE 1 : 100

3BR + 2B - TYPE 03 - AREA SCHEDULE

BALCONY	50.65 m²
LIVING	0.00 m²
LIVING	118.29 m²
TOTAL NET APARTMENT AREA	168.94 m²



3BR + 2B - TYPE 04 - FLOOR PLAN

SCALE 1 : 100

3BR + 2B - TYPE 04 - AREA SCHEDULE

BALCONY (POS)	66.06 m²
LIVING	126.36 m²
TOTAL NET APARTMENT AREA	192.42 m²

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REFER LEVEL 1 FLOOR PLAN FOR APARTMENT TYPES WITH PRIVATE COURTYARDS IN LIEU OF BALCONIES

C	FOR APPROVAL	25.10.2018
B	FOR APPROVAL	30.08.2018
A	FOR APPROVAL	27.10.2017

FOR APPROVAL

17.001.PL13.C

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
TYPICAL APARTMENT FLOOR PLANS

DRAWING DETAILS
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DATE: **25.10.2018**

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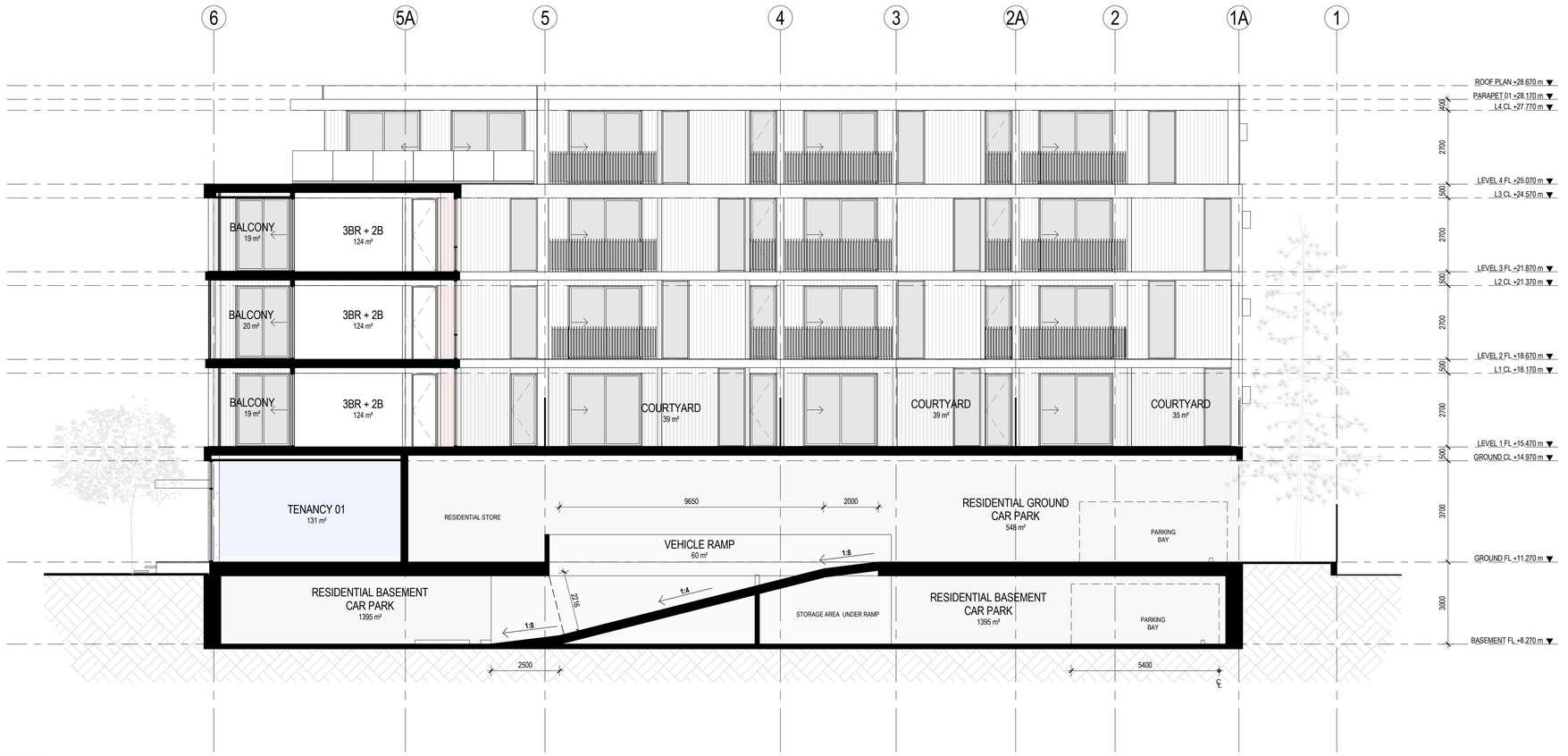
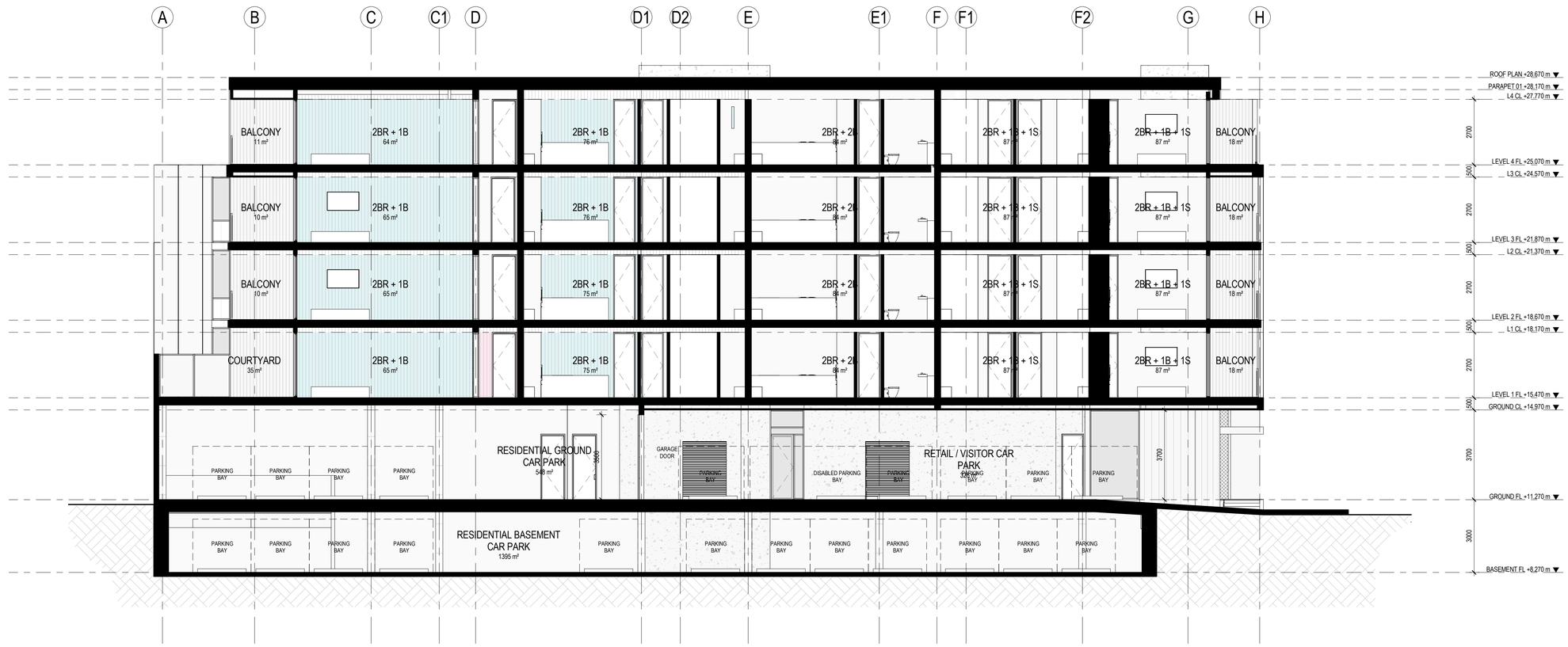


DESIGN SECTION A

SCALE 1 : 100



DESIGN SECTION B

SCALE 1 : 100

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17.001. PL14.B

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
DESIGN SECTIONS

DRAWING DETAILS
DRAWN: **Author**
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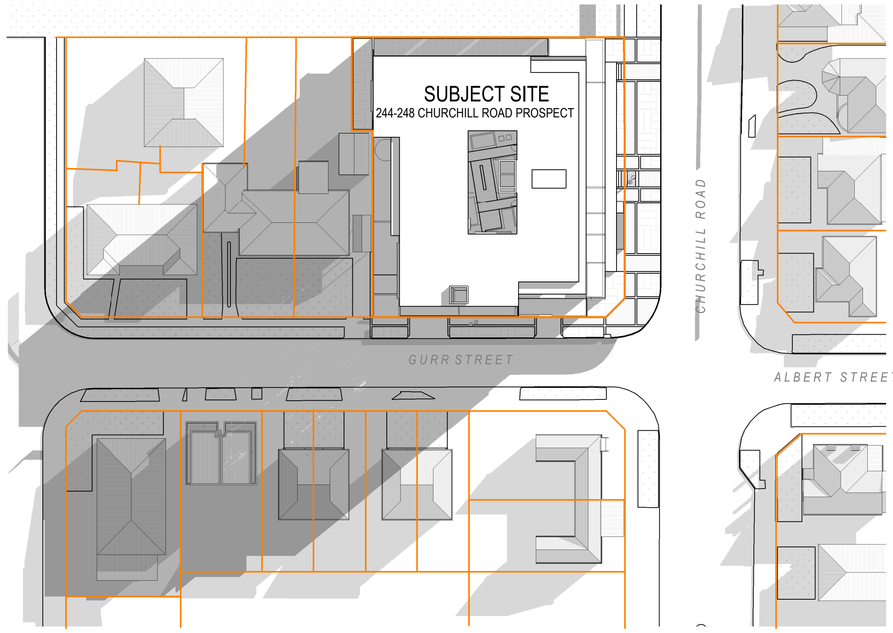
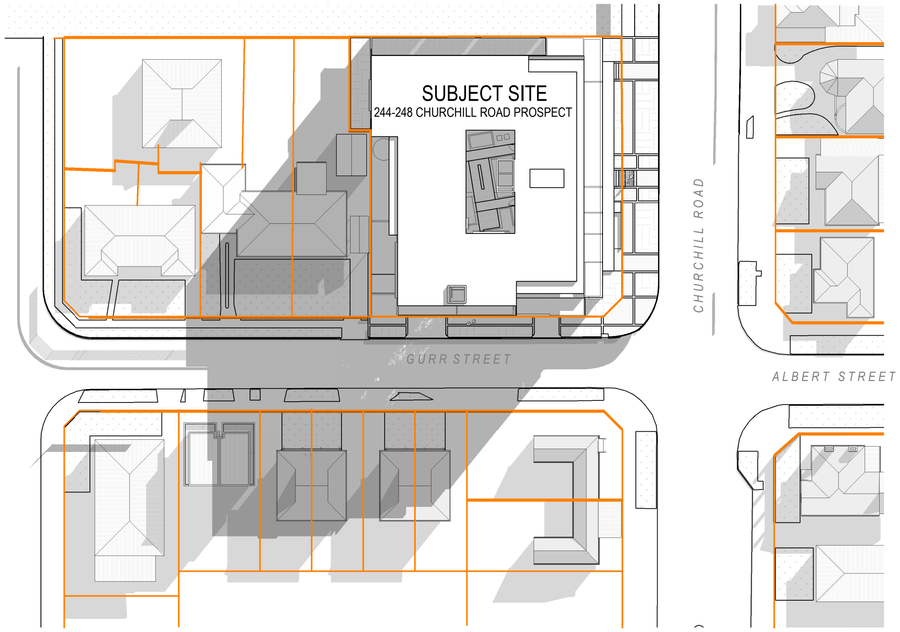
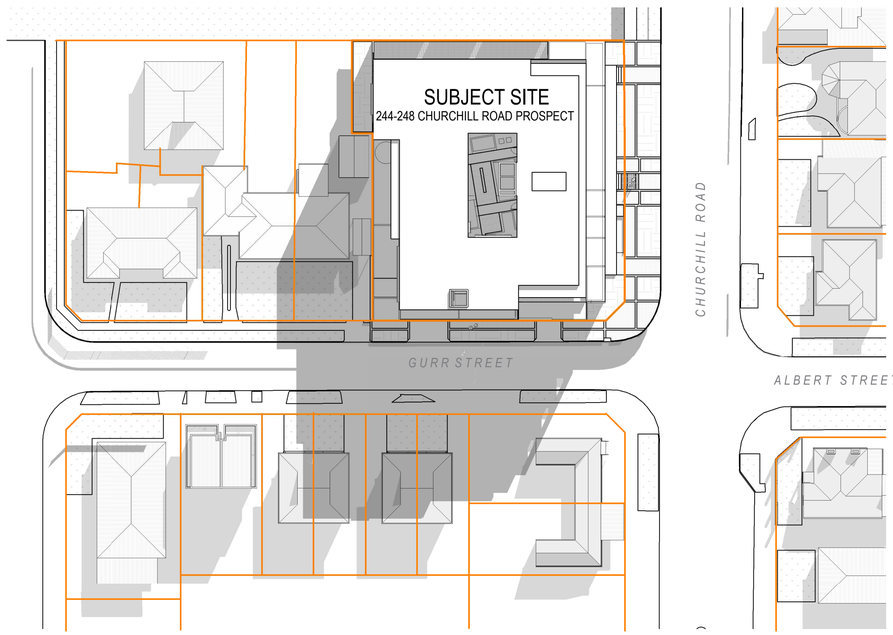


SUN ANALYSIS - 9AM (21ST JUNE)



SUN ANALYSIS - 10AM (21ST JUNE)



SUN ANALYSIS - 11AM (21ST JUNE)

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17.001. PL15.B

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

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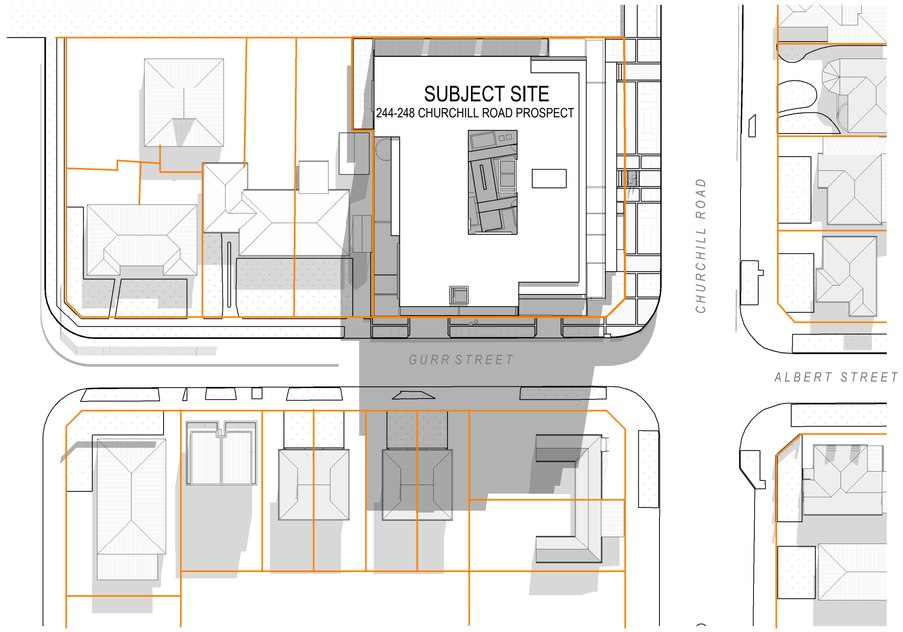

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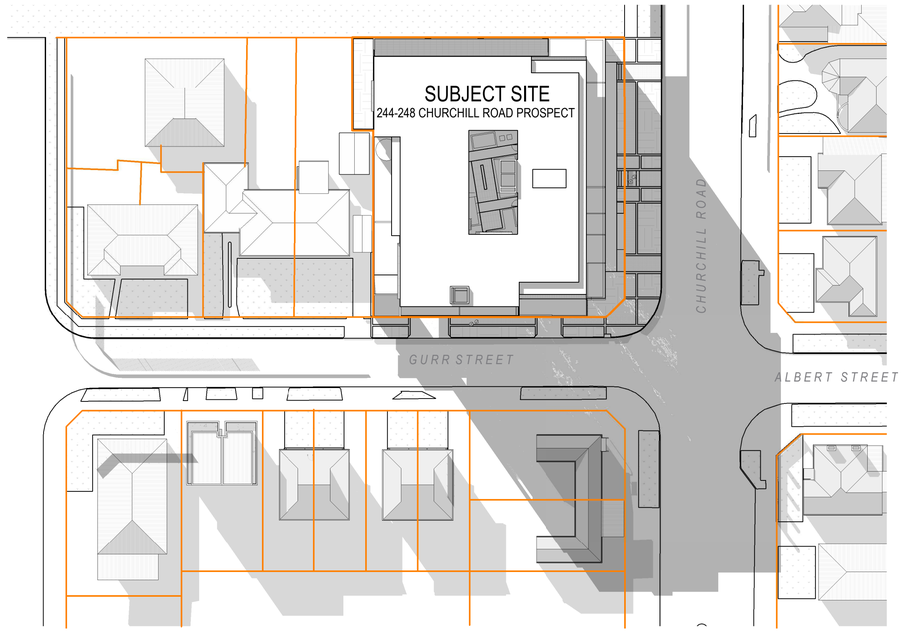

SUN ANALYSIS - 3PM (21ST JUNE)

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17.001.PL16.A

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
SOLAR ANALYSIS

DRAWING DETAILS
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PL17.A. SOUTH EAST PERSPECTIVE VIEW

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PL18.A. EAST PERSPECTIVE VIEW

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PL19.A. NORTH EAST PERSPECTIVE VIEW

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PL20.A. NORTH WEST PERSPECTIVE VIEW

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PL21.A. SOUTH WEST PERSPECTIVE VIEW

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PL22.A. SOUTH PERSPECTIVE VIEW

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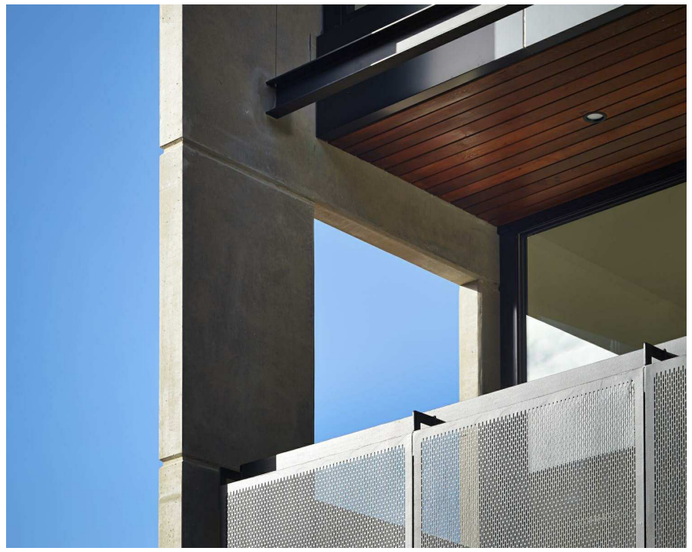

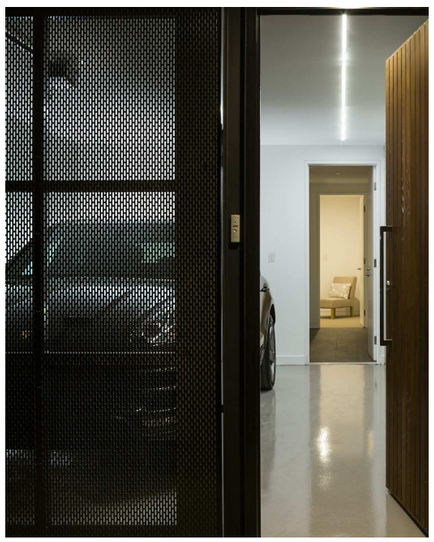

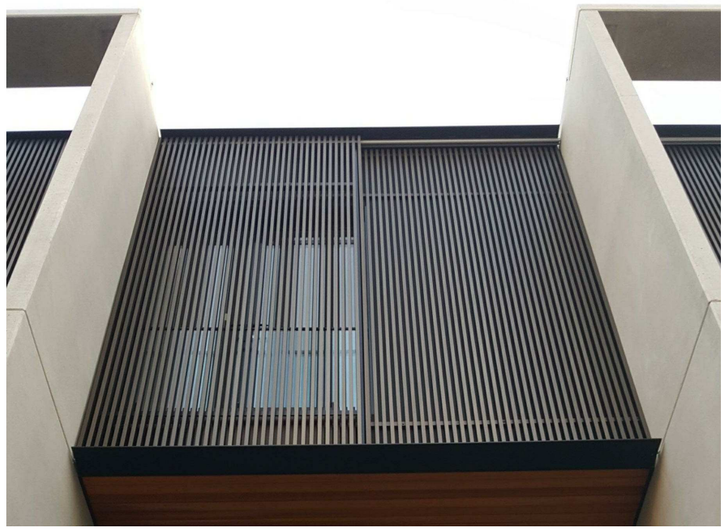

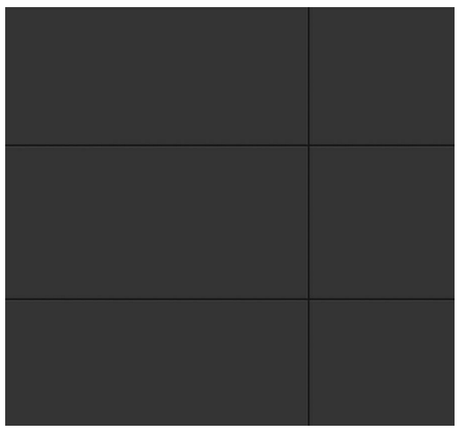

PL23.A. MATERIALS & FINISHES MOOD BOARD

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PLANNING REPORT

PROPOSED MIXED USE DEVELOPMENT
244 - 248 CHURCHILL ROAD, PROSPECT

FOR GAMMA ILLUMINATION PTY LTD

PREPARED BY

MASTERPLAN
TOWN + COUNTRY PLANNERS

IMAGE BY PROSKE ARCHITECTS

PLANNING REPORT

Proposed Mix Use Development

at 244-248 Churchill Road, Prospect
for Gamma Illumination Pty Ltd

Prepared by
MasterPlan SA Pty Ltd
ABN 30 007 755 277, ISO 9001:2015 Certified
33 Carrington Street, Adelaide SA 5000
Telephone: 8193 5600, masterplan.com.au

October 2017

Contents

1.0 INTRODUCTION **1**

2.0 RELEVANT PLANNING AUTHORITY **1**

3.0 DEVELOPMENT SITE **1**

4.0 LOCALITY **3**

5.0 ZONING **5**

6.0 PROPOSAL **5**

6.1 Junction Australia 6

6.2 Development Details 6

6.3 Waste Storage 7

6.4 External Colours and Finishes 7

6.5 Ground Floor Tenancies 7

6.6 Traffic, Parking and Access 8

6.7 Streetscape Improvements 8

6.8 Accommodation Numbers and Site Density 9

6.9 Private Open Space 9

7.0 RELEVANT PLANNING ISSUES FOR ASSESSMENT **10**

7.1 An Appropriate Land Use Type 11

7.2 Consistent with Desired Character 11

7.3 Building Height 15

7.4 Parking, Turning, Loading and Unloading 16

7.5 Privacy, Private Open Space, Safety and Security 17

7.6 Churchill Road and Gurr Street Streetscape 18

7.7 Boundary Setbacks 19

7.8 Affordable Housing 20

8.0 CONCLUSIONS **21**

1.0 INTRODUCTION

This Planning Report has been prepared in relation to the accompanying development application by Gamma Illumination Pty Ltd to develop three contiguous allotments at the corner of Churchill Road and Gurr Street, Prospect for a five storey, mixed use building comprising:

- one, two and three bedroom apartments;
- social and community housing for clients of Junction Australia; and
- two commercial tenancies at ground level.

The proposal is depicted on the accompanying set of drawings prepared by Proske Architects and Outerspace Landscape Architects. Supporting reports and correspondence have been prepared by:

- Cirqa Pty Ltd (parking, access and traffic);
- Rawtec Pty Ltd (waste management);
- PT Design (stormwater); and
- Junction Australia.

2.0 RELEVANT PLANNING AUTHORITY

Clause 4C of Schedule 10 of the *Development Regulations 2008* (Decisions by State Planning Commission) states that development that involves the erection or construction of buildings exceeding four storeys in height in the City of Prospect (among other inner metropolitan Councils) must be determined by the State Planning Commission.

As the proposed development will be five storeys high, the relevant planning authority is the State Planning Commission.

3.0 DEVELOPMENT SITE

The development site comprises three contiguous allotments:

- Allotment 76 Churchill Road is a rectangular shaped allotment with a frontage to Churchill Road of 15.24 metres and a depth of 46.63 metres. This allotment is formally described in CT 5095/823;
- Allotment 11 at the corner of Churchill Road and Gurr Street is an almost square shaped allotment with a 30.48 metre frontage to Churchill Road and 31.05 metre frontage to Gurr Street. This allotment is formally described in CT 5795/980; and

- Allotment 10 Gurr Street is a rectangular shaped allotment with a frontage to Gurr Street of 10 metres and a depth of 30.48 metres. This allotment is formally described in CT 5795/979.

Current search copies of these Certificates of Title are at **Attachment A**.

No easements or similar restrictions are registered over the allotments.

Allotments 10 and 11 are owned by Junction & Women's Housing Ltd, the registered community housing provider of Junction Australia – see Section 6.1 below. The single storey dwellings presently located on these allotments are occupied on a short-term basis by clients of Junction Australia.

Allotment 76 is occupied by a small workshop building, previously trading as Northern Plumbing Maintenance of 248 Churchill Road Prospect. The building is now vacant following its purchase by Gamma Illumination Pty Ltd.

The development site has an area of 1,957.19 square metres. Its combined frontage to Churchill Road is 45.72 metres and to Gurr Street the combined frontage is 41.05 metres.

There are two driveway crossovers to Churchill Road for the former commercial workshop, and one crossover to the northern-most duplex owned by Junction Australia. A further two driveway crossovers are available to the site from Gurr Street.

There are some trees of a domestic nature on the residential site. None of these trees are *significant* or *regulated* trees within the meaning of those terms in Section 4 of the *Development Act 1993*.

A row of Queensland Box street trees is situated on the northern side of Gurr Street adjacent to the site, and one street tree is located on Churchill Road. None of these trees are significant or regulated.

Gurr Street frontage - street trees

Churchill Road frontage - street tree

4.0 LOCALITY

The locality comprises mainly residential development in the form of detached dwellings, semi-detached dwellings and residential flat dwellings.

A local shopping centre is located on the eastern side of Churchill Road at the corner of Alexandra Street. This centre is anchored by a medical facility and is supported with consulting rooms, a delicatessen and a butcher. A Tradelink hardware store is located to the south of this centre on Churchill Road, on the opposite side of Alexandra Street.

To the north of the site at 250 Churchill Road Prospect is a large-scale urban redevelopment project. Stage 1 of this project has received land division development approval, and civil works are now underway to construct the new public roads and install associated infrastructure. This project ('*Prospect 1838*') will accommodate townhouses, apartments and commercial sites for medical, retail and child care centre purposes.

Civil works on vacant site north of subject land

Civil works on vacant site north of subject land

An indicative concept for *Prospect 1838* is at **Attachment B**[1].

Bus stops are located at regular intervals along both sides of Churchill Road (Stops 12 and 13). These bus stops are less than 100 metres north and south of the subject land.

A passenger train service is located to the west of the site. Islington Railway Station is located to the north west of the site near Regency Road. The railway station and can be accessed via Gurr Street, Devonport Terrace and a pedestrian path, a walking distance of approximately 400 metres via this route.

Churchill Road south of Gurr Street has recently been improved with substantial streetscape works consisting of new footpaths, garden beds, street trees, indented parking bays and pedestrian refuges in the median strips.

Streetscape planting and paving on Churchill Road, west side

[1] Note: MasterPlan has provided and continues to provide town planning advice for the proponents responsible for delivering *Prospect 1838*.

View of Churchill Road streetscape works looking south from Gurr Street

5.0 ZONING

The development site together with properties on both sides of Churchill Road are in the Urban Corridor Zone, and more particularly in the Boulevard Policy Area of that Zone.

The Zone and Policy Area is intended for "*a range of compatible non-residential and medium and high density residential land uses oriented towards a high frequency public transport corridor*" (Zone Objective 1), with such development "*framing the street, industry mixed use buildings that contain shops, offices and commercial development at lower floors with residential uses above*" (Policy Area Objective 1).

Zone Principle 11 advises that buildings in this part of the Zone should be four storeys and up to 15 metres high. This height excludes any roof top mechanical plant, equipment or roof top garden.

Building height reductions are called for "*at the interface with residential development outside the zone*" (Zone Principle 12). It will be noted from the Zones Map Pr/3 that the development site is surrounded in all directions by the Urban Corridor Zone. Zone Principle 12 therefore does not apply to the development site.

6.0 PROPOSAL

It is proposed to demolish Junction Australia's community and social housing fronting Churchill Road and Gurr Street, the vacant workshop and all other improvements on the site, and to construct a five storey, mixed use building with basement and ground level parking. The proposal is shown on the accompanying set of drawings prepared by Proske Architects. The development is being undertaken by the applicant Gamma Illumination Pty Ltd with the consent and agreement of Junction Australia.

6.1 Junction Australia

Junction Australia was incorporated on 1 August 1979. In 2013, Junction Australia's housing division (Junction Housing) merged with the Women's Housing Association Inc to become Junction & Women's Housing Ltd. As Junction Australia's registered community housing provider, Junction & Women's Housing Ltd applies commercial principles to a social mission which is focussed on the provision of affordable housing for lower income South Australians.

Today, Junction Australia offers more than 30 services in 33 local government areas across the State. It is a leading provider of integrated affordable housing and community services and has over 1,700 homes and more than $370 million of assets under management.

Junction Australia has entered into an agreement with the applicant Gamma Illumination Pty Ltd to demolish existing community and social housing on the site and deliver, as part of the overall development, eight apartment style dwellings comprised of two-bedroom social and affordable apartments facing Gurr Street.

Junction Australia will take possession of the eight social and affordable apartments on completion of the development.

A letter of support from Junction Australia is at **Attachment C**.

6.2 Development Details

Relevant details of the proposal are summarised in Table 1 below.

Table 1: Development Details Summary	
Building Levels	Ground + 4
Building Height from Ground Level	17 metres
Private Apartments - 15, 1 bedroom - 21, 2 bedrooms - 11, 3 bedrooms	47
Junction Australia Apartments - 8, 2 bedrooms	8
Off-Street Parking - Private Apartments (56 spaces) - Junction Australia (8 spaces) - Retail (7 spaces)	81 spaces
Bicycle Parking	24 spaces
Non-Residential Uses - Tenancy 1 (148 m^2) - Tenancy 2 (107 m^2)	255 m^2

6.3 Waste Storage

Provision will be made for the secure storage of waste and recyclables in two dedicated rooms at ground level – one room for Junction Australia and one room shared by the apartments and commercial tenancies. It is proposed that the bins will be collected by private contractors, using rear lift waste and recycling vehicles. The ground level has been designed for 8.8 metre MRV vehicles (AS 2890.2-2002) in accordance with recommendations by Rawtec Pty Ltd.

A detailed description of the waste management system to be used has been prepared by Rawtec Pty Ltd at **Attachment D**.

6.4 External Colours and Finishes

External materials of construction will be:

- ground level concrete panels and main apartment entry portico: acid etched finish in 'Portland Grey';
- ground level external car park ventilated screens: perforated mesh;
- boxed forms: Dulux 'Casper White Quarter' or similar;
- vertical grooved cladding: fibre cement Dulux 'Namadji' or similar (charcoal);
- timber soffit balcony linings: marine grade plywood, clear coated; and
- upper level external cladding and roofing: 'Maxline' ribbed metal cladding in Colorbond 'Stealth' (charcoal).

6.5 Ground Floor Tenancies

The ground floor tenancies will run the full length of the building's Churchill Road frontage, with Tenancy 2 wrapping around the street corner. Both tenancies will feature 3.7 metre floor to ceiling heights, double glazed entrance doors and additional shop-front windows to Churchill Road.

The combined floor area of Tenancies 1 and 2 is 255 square metres.

The tenancies can be accessed directly from Churchill Road or from the rear car park via the public foyer or the residential foyer.

End users for the commercial tenancies have not been secured but one of the tenancies could be a small café offering services to passing motorists and cyclists, surrounding residents and future occupants of the building.

6.6 Traffic, Parking and Access

All vehicle access will be from Gurr Street. Access into the building by Junction Australia's clients must however be secure, in accordance with that agency's requirements and social obligations to its clients. This will necessitate card-activated entry for vehicles entering into the garage from Gurr Street and via pedestrians entering from the Gurr Street entry foyer.

The main driveway entrance from Gurr Street will permit unobstructed access to seven parking spaces for retail and visitor use, and beyond that, access to secure (card-activated) parking for residents at ground and basement level.

The three redundant driveway crossovers to Churchill Road will be closed and reinstated.

The Streetscape Plan prepared by Outerspace Landscape Architects makes provision for three indented parking spaces in Churchill Road in front of the retail tenancies. These spaces have been designed in consultation with the City of Prospect. The design of those spaces, and the paving materials selected, will match the streetscape works recently undertaken along both sides of Churchill Road to the south of Gurr Street.

Further details of the proposal's parking, access and traffic impacts is detailed in the Report prepared by Cirqa Pty Ltd at **Attachment E**.

6.7 Stormwater Management

A Stormwater Management Plan (SMP) for the site has been prepared by PT Design at **Attachment F**. The SMP provides for on-site detention in 3 above ground storage tanks, each of 5,000 litres capacity, to hold the estimated 12.6kL of stormwater from a 1 in 20 year storm event. The detention tanks will be linked by a levelling pipe which gravity drains to the side entry pit in the south-east corner of the site.

No treatment of stormwater is required because most of the site will be covered in roof.

The drainage layout for the site is illustrated on Drawings C01 and C02 appended to PT Design's SMP.

6.8 Streetscape Improvements

New street tree planting along Churchill Road and Gurr Street is proposed, and is detailed on the Streetscape Plan prepared by Outerspace Landscape Architects at **Attachment G**. Along Churchill Road, it is proposed to plant two Plane trees and two Tuckeroo trees. Along Gurr Street it is proposed to plant four 'Golden Rain' trees. Low sedge planting will be established in planter beds at the base of the new street trees.

The Streetscape Plan also provided for three indented kerbside parking spaces to accommodate short term parking for the adjacent commercial tenancies.

6.9 Accommodation Numbers and Site Density

There will be 55 dwellings, comprised of 47 apartments plus 8 apartments for Junction Australia's clients. With a total site area of 1,957 square metres, the proposal will deliver a residential site density of 281 dwellings/hectare.

6.10 Private Open Space

Each apartment/dwelling unit will have private open space in the form of a balcony extending from the living room.

6.10.1 Junction Australia Apartments

The balconies for Junction Australia's apartments will be 15 square metres for all eight two-bedroom apartments.

6.10.2 Private Apartments

All other apartments will have ground level courtyards at Level 1 ranging from 29 square metres to 39 square metres for the north facing apartments and 35 square metres to 47 square metres for the internal south facing apartments. The apartments facing Churchill Road and Gurr Street have balconies ranging from 11 square metres to 19 square metres.

At the upper levels, the north and south facing apartment balconies will be between 9.0 square metres and 11 square metres in area. The apartment balconies facing Churchill Road will be from 13 square metres to 18 square metres in area. The one bedroom apartment facing Gurr Street at each level will have an 11 square metre balcony.

Balconies will be 1200mm high with vertical steel paint finished dark grey or brown. Courtyard screen enclosures will be 1800mm high.

6.10.3 Roof Top Garden

At Level 4, a roof top garden in the form of a Community Terrace will be provided. The Community Terrace will be equipped with a table and chairs and a barbecue for shared use by all residents. The Community Terrace has an area of 74 square metres, and can be conveniently accessed from the lifts or the central stairs.

6.11 Overshadowing

The proposal is located on the north-western corner of the Junction formed by Churchill Road and Gurr Street. As such shadows from the new building will primarily fall over those two roads.

The Solar Analysis Diagrams prepared by Proske Architects (Drawing PL14.A) demonstrate that on the winter solstice when shadows are at their most extreme, there will be some overshadowing of adjacent residential properties at certain times of the day. However, those surrounding properties will receive at least three hours of sunlight on June 21.

Council-wide Principle 139 is particularly relevant as it applies to the Urban Corridor Zone. It requires the design and location of buildings to enable direct winter sunlight into adjacent dwellings' private open space, and minimal overshadowing of windows of habitable rooms, upper level private balconies that provide the primary open space area for a dwelling and its solar collectors. This principle does not specify the minimum amount of sunlight to be provided to these areas at the winter solstice, however, Council-wide Principle 78 and Design Technique 78.1 requires not less than two consecutive hours of sunlight to be received to adjoining properties' ground level private open space. Significantly, this standard will be met even though Principle 78 and the associated Design Technique is not strictly relevant.

7.0 RELEVANT PLANNING ISSUES FOR ASSESSMENT

The issues considered to be most relevant to an assessment of the proposal's planning merits, having regard to the nature of the development and its surroundings, and the relevant provisions of the Development Plan, are:

(i) is the proposed development an appropriate land use for the Urban Corridor Zone and the Boulevard Policy Area of that Zone?

(ii) will the proposed development be consistent with the desired character sought for the Zone and Policy Area?

(iii) is the building's height reasonable and appropriate?

(iv) has adequate and appropriate provision been made for the parking, turning, loading and unloading of all expected vehicle types associated with the proposed development?

(v) what impact is the proposed development likely to have on the amenity of surrounding owners and occupiers of land, particularly in relation to overshadowing and overlooking?

(vi) will occupants of the proposed development be provided with appropriate levels of amenity in relation to privacy, private open space, safety and security?

(vii) will the proposed development enhance the Churchill Road and Gurr Street streetscape?

(viii) is the proposed development appropriately setback from all site boundaries?

(ix) does the proposed development make appropriate and adequate provision for affordable housing?

7.1 An Appropriate Land Use Type

The proposal is a mixed-use development containing residential apartments, special needs housing and ground floor commercial tenancies.

The Urban Corridor Zone at Principle 1 "*envisages*" that the zone will accommodate affordable housing, consulting rooms, residential flat buildings, shops, and supported accommodation, among other kinds of development. The proposal will either incorporate (or has been designed to accommodate in the case of the two commercial tenancies) the forms of development listed in Principle 1.

The 8 apartments set aside for occupation by clients of Junction Australia are a form of supported accommodation and affordable housing. While the term "supported accommodation" is not defined in Schedule 1 of the *Development Regulations 2008*, nor is it described in the Development Plan, the Port Adelaide Enfield Development Plan describes supported accommodation to include "special accommodation houses".[2]

The proposal is furthermore consistent with the land use types envisaged in the Boulevard Policy Area, namely "*medium and high-rise development framing the street, including mixed use buildings that contain shops, offices and commercial development at lower floors with residential land uses above*" (Policy Area Objective 1). This objective is given further expression by the associated Desired Character statement which states:

> *"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."*

In all relevant respects, the proposed development is an appropriate land use type for the Zone and Policy Area.

7.2 Consistent with Desired Character

The Desired Character for the Urban Corridor Zone states:

> **DESIRED CHARACTER**
>
> **The Zone will enable the development of a mixed use urban environment that contributes to the economic and community vitality of the City by increasing the density and diversity of housing, businesses and other services offered to residents and the wider community.**
>
> **Residential land uses within the Zone will be developed with a diversity of housing (eg row dwellings, residential flat buildings and multi-storey buildings) and sizes (eg studios and one to three or more**

[2] General Section: Supported Accommodation and Housing for Seniors, Principle 1 [Port Adelaide Enfield Council Development Plan, Consolidated 26 September 2017]

bedroom dwellings) that incorporate affordable housing opportunities for families, students and other household types in areas with frequent public transport provision.

As one of the key Zones in the City where there will be transformation in built form, new buildings and associated landscaping and open space areas will be recognised for their design excellence by demonstrating good design principles, including:

(a) **Contextual and Desired Character – development that responds to its place, recognises and carefully considers surrounding built form, linkages and landscaping, and positively contributes to the Desired Character.**

(b) **Responsive and Durable – development that is fit for purpose, adaptable and incorporates long lasting materials.**

(c) **Inclusive – development that integrates the public and private realms through street activation, enhancing quality views and passive surveillance into and out of sites.**

The balanced consideration of qualitative and quantitative Development Plan provisions is fundamental to achieving design excellence.

Future development in the Zone will comprise an evolving transformation of land uses, built form and scale to accommodate urban growth along transit corridors and accord with the following key elements/attributes:

(a) **The use of a predominant 2 to 4 storey building scale that will create a linear corridor that frames the main roads.**

(b) **The establishment of greatest height, mass and intensity of development 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.**

(c) **The use of designs that consider the local topography that slopes from east to west, such as raised ground floor levels on the east side of roads, lowered ground floor levels and/or car parking underneath buildings on the west side of roads, and stepping the building form across the site on properties facing north and south.**

(d) **The use of building articulation and fenestration to all visible sides of buildings and supported by integrated landscaping to enhance the built form, contribute to a pleasant pedestrian environment and provide an attractive transition between the public and private realms.**

(e) **The use of active frontages at ground level to contribute to the liveliness, vitality and security of the public realm.**

(f) **The use and combination of natural and durable materials and finishes (self-finished or pre-finished) that respond to the predominant attributes of the area, such as brick, stone and rendered finishes and architectural elements addressing entrances, windows and eaves. Contemporary buildings and expressions are envisaged that complement the solid and lasting styles of the traditional built form of the area.**

(g) **Appropriate site design, building separation, orientation and transition of building heights to address the potential for overlooking, overshadowing and noise impacts.**

(h) **The use of consolidated parking areas (where possible), screened and located away from public spaces or underneath buildings and minimise access ways (number and frontage widths) and sited to retain public realm benefits.** [our underlining]

The Desired Character for the Boulevard Policy Area states:

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.

Areas adjacent Churchill Road (as described below) are potentially contaminated because of previous activities. Due to these circumstances, development is expected to occur on a precautionary basis where a site contamination audit verifies that a site or sites are suitable and safe for the intended use, particularly where it involves sensitive uses like residential development. [our underlining]

The proposal is consistent with the Desired Character sought for the Zone and Policy Area, in that it will:

- assist in creating a mixed use urban environment;
- significantly increase housing density and diversity, including the provision of affordable housing for Junction Australia's clients;
- offer services to residents and the wider community;
- provide a diversity of housing by the provision of one, two and three bedroom apartments as well as special needs housing for Junction Australia's clients all within convenient walking distance of bus and train services;

- transform the built form of a prominent corner site on Churchill Road;
- exhibit a contemporary, high quality architectural design;
- be in context with its surroundings, especially the urban renewal project immediately to the north known as *Prospect 1847*, where civil site works have commenced;
- assist in activating the Churchill Road public realm with ground floor commercial tenancies facing directly onto this road, complemented by new paving, landscaping and indented parking in the adjacent public realm to match the streetscape improvements undertaken south of Gurr Street along Churchill Road;
- deliver a medium density form of development onto a large corner site, with small scale commercial tenancies at ground level;
- be undertaken on three contiguous allotments with a combined site area of 1,957 square metres;
- have minimal setbacks to both road frontages to respect and acknowledge the site's prominent corner location and a desire to activate, refresh and add interest to the Churchill Road frontage and streetscape; and
- create interesting and articulated facades to all sides of the building, featuring recessed and cantilevered balconies, a prominent and visible building entrance onto Churchill Road, and durable external materials and finishes.

The Policy Area's Desired Character statement refers to potentially contaminated land at the corner of Regency Road and Churchill Road. This land (shown on Figure UrC/1 of the Development Plan) is located directly to the north of the development site and which is described above as 'Prospect 1847', but is formally described as 250 Churchill Road Prospect. Parts of this adjacent site were found to have been previously contaminated, but the site has since been fully remediated and is now fit for purpose, as is evident by the civil works now underway to create a master planned residential estate of medium to high density housing.

250 Churchill Road Prospect was furthermore the subject of a Site Audit Report[3]. The Site Audit Report concluded that:

> *"The final condition of the southern two-thirds of the site …. includes surface soil comprised of natural soil excavated from the SMA [soil management area] and underlying in site natural soils. The contamination status of these soils complies with the requirements for unrestricted residential and open space land use"* [our underlining]

[3] Site Audit Report, 250 Churchill Road Prospect for Churchill Road Trust (GHD, June 2009).

In other words, the majority of 250 Churchill Road and in particular the southern two thirds of that site closest to the development site was *not* contaminated, and was indeed found suitable for residential and open space purposes by the Site Audit Report.

As the substantial majority of the property to the north of the development site was found to be suitable for "unrestricted residential and open space land use", it logically follows that the development site would be in a similar if not more favourable condition, given that it is located further south again, and its historic use for residential and small-scale workshop purposes.

It can be concluded that the proposed development is consistent with the desired character sought for the Urban Corridor Zone, and the Boulevard Policy Area of that Zone.

7.3 Building Height

The building comprises five storeys and a top-of-parapet height of 17 metres. The Development Plan specifies at Zone Principle 11 that building heights, exclusive of rooftop mechanical plant, equipment or roof top gardens, should be *consistent* with the parameters which specify a maximum building height of four storeys and up to 15 metres. There are sound planning reasons to justify a what is a minor departure from the quantitative parameters listed in Zone Principle 11, namely:

- the site is large, comprising the amalgamation of three contiguous allotments with a total site area of 1,957 square metres. Elsewhere in the Development Plan, encouragement is given to the "*amalgamation of sites to provide opportunities to better accommodate envisaged development, design, flexibility, diverse building types and dwelling sizes*" (Urban Corridor Zone Objective 5);
- the site is a Designated Area adjacent to Churchill Road and a designated Strategic Transport Route shown on Map Pr/1 (Overlay 4) of the Development Plan;
- the proposal has been designed to an exceptionally high architectural standard to complement and enhance its corner position and contextual setting;
- the site is immediately south of *Prospect 1847* also in the Boulevard Policy Area and currently being developed for medium to high density housing in accordance with the Churchill Road Concept Plan Figure UrC/1; and
- there is logic in adopting Gurr Street as the southern boundary of the Churchill Road Concept Plan, where the 15 metres wide road reserve will form an effective and functional point of separation between the proposal and lower scale residential development further south.

The proposal is in any event only 2.0 metres higher than the 15 metres building height limit specified in Principle 11. The increased building height represented by the building's highest 2.0 metres will not 'read' as being excessive when viewed in context with surrounding development, or the desired character sought for the Zone and Policy Area. Indeed the slightly higher built form in this location will 'book-end' the Churchill Road Policy Area.

7.4 Parking, Turning, Loading and Unloading

The proposal has been designed in accordance with recommendations made by Cirqa Pty Ltd and Rawtec Pty Ltd, whose reports are at Attachment D and Attachment E, respectively.

Cirqa notes that the proposed parking spaces generally comply with all relevant Australian Standards, that all vehicle ingress and egress will be via Gurr Street and that pedestrian and bicycle access is provided from both Churchill Road and Gurr Street. Cirqa also notes that commercial vehicles (principally refuse vehicles) can enter and exit the building in a forward direction via Gurr Street.

Cirqa notes that the proposal provides 81 parking spaces whereas the Development Plan requires 80 spaces, and that 24 bicycle parking spaces will be provided whereas the Development Plan requires 22 spaces.

Cirqa also notes that the proposal will generate an estimated 52 peak hour trips in the morning and 41 peak hour trips in the afternoon. It is satisfied based on the results of SIDRA modelling that these volumes "would be readily accommodated on the adjacent road network and at the Churchill Road/Gurr Street/Albert Street intersection with minimal impact on queues and delays".

Rawtec Pty Ltd's Waste Management Plan (WMP) makes recommendations with respect to the storage of waste, its transfer to the building's common disposal area, the aggregation and storage of the waste and its collection. The WMP has been prepared taking account of the residential and commercial components of the proposal. The WMP assumes that waste will be collected by a commercial waste contractor involving six collection vehicle movements per week.

The ground floor layout where waste bins will be stored awaiting collection has been designed in consultation with Cirqa.

In all relevant respects, the proposal will satisfy the Development Plan's requirements with respect to the parking, turning, loading and unloading of vehicles. In particular the proposal:

- locates vehicle parking at ground level and basement level but all parking areas have been designed so as not to be visible from public land along the primary road frontage (Zone Principle 6);
- will promote pedestrian activity along the Churchill Road frontage, especially in association with the commercial tenancies and high quality landscaping and indented parking along this frontage (Zone Principle 7);

- no access points will be provided to the site from Churchill Road (Zone Principle 9);
- the two vehicle access driveways to Gurr Street are located to encourage vehicles to enter and leave the site via Churchill Road, but the driveway entrances are set back an adequate distance from Churchill Road (Zone Principle 10);
- will provide three indented parking spaces on Churchill Road in front of the site for short-term visitor/customer parking (Zone Principle 10);
- is provided with off-street vehicle parking in accordance with the quantitative requirements of Table Pr/6 (Zone Principle 18);
- is consistent with the Strategic Transport Routes Overlay which requires development to not impede traffic flow or create hazardous conditions for pedestrians, cyclists or drivers on Churchill Road (Strategic Transport Routes Overlay, Objective 1); and
- will be consistent with the 'Waste' provisions of the Council-wide section of the Development Plan, in particular Principles 273, 276 and 277.

7.5 Privacy, Private Open Space, Safety and Security

The Development Plan calls for dwellings in the Urban Corridor Zone to be provided with balconies that are integrated with the overall form and detail of the building (Council-wide Principle 136). The amount of private open space for dwelling is set out in the Table to Council-wide Principle 153, namely:

- one-bedroom dwelling: 8.0 square metres;
- two-bedroom dwelling: 11 square metres; and
- three-bedroom dwelling: 15 square metres.

The proposal allocates courtyards or balconies to almost every dwelling in excess of these requirements.

As well as providing courtyards and balconies to each dwelling, a roof top community terrace of 74 square metres will be established at a Level 4 facing Churchill Road. This common facility will be for the benefit of all residents. The community terrace will be furnished with table and chairs, and fitted with a refrigerator, sink and barbeque.

Balconies will be fitted with steel painted balustrades to a height of 1200mm metres. The Urban Corridor Zone and Policy Area is for medium to high density housing and where "*there will be transformation in built form*" (Desired Character Statement, Urban Corridor Zone). In this Zone there will also be some a degree of overlooking, which is anticipated having regard to the Plan's desire for "*balanced consideration of qualitative and quantitative Development Plan provisions fundamental to achieving design excellence*" (Desired Character Statement, Urban Corridor Zone).

This approach is reinforced by Council-wide Principle 30 (Privacy) which acknowledges that developments of three of more storeys in the Urban Corridor Zone will not be subject to the Principle's requirement "*to prevent overlooking to adjacent useable private open spaces or adjoining windows….*". This approach is furthermore reinforced by the prefaced exclusion in Council-wide Principle 280 which states:

> **280** **Except in the Urban Corridor Zone, development should make use of high level window sills, opaque glazing, window screens, fin walls, planter boxes and vegetation screens so as not to materially impair the privacy of abutting residential properties.** [our underlining]

While a more relaxed approach applies with respect to overlooking and privacy in the Urban Corridor Zone, the proposal has nevertheless been carefully designed to minimise overlooking into the private open space and habitable room windows of other dwellings, and dwellings on adjacent land, whether existing or proposed.

Residents' safety and security has been taken into account by various means including:

- orienting as many dwellings as possible to face Churchill Road or Gurr Street to maximise visual surveillance of the adjacent public realm (Council-wide Principles 26 and 99);
- providing safe, secure and legible points of entry into the building from both adjacent roads;
- providing a secure entry into the dedicated car park for Junction Australia clients via card-activated entrance to the car park and entry foyer;
- avoiding landscaping which would otherwise screen windows and doors (Council-wide Principle 105);
- providing lighting above all building entrances (Council-wide Principles 106 and 107); and
- ensuring the roof top community terrace can only be accessed internally by residents using the stairs or lifts, and not directly from the street (Council-wide Principle 257).

In all respects, we are satisfied that all occupants of the proposed development will be provided with an appropriate degree of amenity in relation to privacy, private open space, safety and security.

7.6 Churchill Road and Gurr Street Streetscape

Urban Corridor Zone Objective 2 calls for the development of "*Integrated, mixed use, medium and high density buildings with ground floor uses that create vibrant and visually appealing streetscapes incorporating high levels of amenity*". Objective 2 for the Boulevard Policy Area calls for a "*streetscape edge that is setback from the street boundary to allow for landscaping and framed by tall, articulated building facades*".

Council-wide Principle 165(e) (Street Interface) requires development facing the street to be designed to provide attractive and pedestrian friendly street frontages by "*ensuring ground, semi-basement and above ground parking do not detract from the streetscape*". This requirement is expressed in similar terms at Council-wide Principle 245, which also calls for under-croft and below ground vehicle garaging to only occur where envisaged in the Zone and Policy Area, and where "*the overall streetscape character of the locality is not adversely impaired (e.g. visual impact, building bulk, front setbacks relative to adjacent development) ….*"

The proposal has zero setbacks to both road frontages at ground level to achieve appropriate interaction with and activation of the public realm, particularly along Churchill Road for the ground level commercial tenancies. To achieve this, it is proposed to pave and landscape both street frontages in accordance with the landscape design prepared by Outerspace Landscape Architects at Attachment F. This design will significantly enhance the streetscape character of both road frontages on this corner. Zero setbacks from both street frontages are also appropriate having regard to the likely form of development to be built to the immediate north of the site as part of the *Prospect 1847* project, where medium to high density housing is encouraged.

Fundamentally, the intention to substantially enhance both the Churchill Road and Gurr Street streetscapes with new paving, street trees, underplanting and indented visitor parking will create a more vibrant streetscape and achieve a much high level of amenity, consistent with Urban Corridor Zone Objective 2.

The intent of Policy Area 2 will also be achieved by the building itself framing the edge of this corner site.

7.7 Boundary Setbacks

Zone Principle 14 encourages buildings to be setback 3.0 metres from the primary street frontage (Churchill Road). Principle 15 calls for a 2.0 metre setback from the secondary road frontage (Gurr Street) and Zone Principle 16 calls for a 3.0 metre setback from a rear allotment boundary. The Table to Zone Principle 16 furthermore specifies that no minimum setback distance applies to side boundaries "*where not on a street or different zone boundary*", for buildings "*within 18 metres from the front property boundary*".

As noted above, the building has been deliberately positioned onto both street frontages in recognition of the site's prominent corner position, the desire for the commercial tenancies to have direct frontage to and access from the Churchill Road footpath, and the intention to significantly enhance and activate the Churchill Road and Gurr Street public realms. The zero setback to Gurr Street is also appropriate to provide the necessary level of security and safety for Junction Australia's clients, but noting that those apartments are effectively setback 2.0 metres from the street frontage.

Being a corner site, and given the mixed-use nature of the proposed development, it is not easy to distinguish between the site's rear and side boundaries. For the purposes of this Report, the northern boundary is assumed to be the rear boundary, and the western boundary the side boundary.

The Rear Boundary: it will be noted from the Level 01 Floor Plan that the north facing apartments will be setback at least 3.0 metres from the northern boundary, increasing to 5.6 metres adjacent to the living room of each apartment.

The Side Boundary: the building will be setback 4.0 metres from the western side boundary, for almost 20 metres from Gurr Street. From this point onwards (ie north to the rear boundary) the building will be sited on the (staggered) side boundary shared with residential development to the west. The Table to Zone Principle 16 advises that side boundary setbacks more than 18 metres from the front property boundary should be 2.0 metres at first level and above (ie above ground level). While this setback distance is not met, the discrepancy is not significant given that it occurs at the rear half of the side boundary, which as noted above is staggered. It is also relevant that the rear yard of the adjacent property is taken up with a double garage and what appears to be under-used land – see image below.

Image: proposed development in relation to adjacent property.
Areas shaded blue are courtyards, balconies or unbuilt upon.

It is concluded that the proposal - while not conforming to all of the setback distances specified in the Development Plan - is nevertheless appropriately setback from the site's property boundaries including both road frontages.

7.8 Affordable Housing

The Zone's Desired Character Statement calls for a diversity of housing types "*that incorporates affordable housing opportunities for families, students and other household types in areas with frequent public transport provision*". Zone Principle 1 reinforces this intention by listing "*Affordable Housing*" as one of a number of envisaged forms of development in the zone.

It is also noted that the development site is part of a much larger "*Designated Area within which Affordable Housing applies*" (Affordable Housing Map Pr/1 (Overlay 3)). Associated Affordable Housing Overlay Objective 1 calls for affordable housing to be "*integrated into residential and mixed-use development*", while Overlay Principle 1 encourages development "*comprising 20 or more dwellings* [to] *include a minimum of 15 percent affordable housing*".

The proposal is a mixed-use development which includes the development of eight two-bedroom apartments for Junction Australia's clients. While they are a form of supported accommodation in a strict land use sense, it is entirely appropriate and reasonable that they be regarded as affordable housing.

As the development will accommodate 47 other apartments, Junction Australia's eight affordable houses represents 14.5 percent of the total number of dwellings in the proposed development (55).

Although just less than the 15 percent minimum specified in the Development Plan, the provision of eight apartments for Junction Australia's clients satisfies the Development Plan's overall requirement that affordable housing be integrated into residential and mixed-use developments.

8.0 CONCLUSIONS

It is concluded that the proposal by Gamma Illumination Pty Ltd to demolish existing buildings and construct a mixed-use building containing two commercial tenancies at ground level, eight apartments for occupation by Junction Australia's clients, and 47 other apartments, with associated off-street parking, landscaping and services, is an appropriate and envisaged form of development for the Urban Corridor Zone, and the Boulevard Policy Area of that zone. More particularly, the proposal will:

(i) deliver 55 housing units containing a mix of special needs and private housing;

(ii) include a mix of single bedroom, two-bedroom and three-bedroom housing options;

(iii) be provided with off-street parking for residents, visitors and customers of the commercial tenancies at a rate which exceeds the Development Plan's requirements;

(iv) be appropriately provided with dedicated facilities for the storage and collection of waste and recyclable materials;

(v) be provided with private balconies in accordance with the Development Plan's quantitative requirements;

(vi) not significantly overshadow adjacent residential properties' private open space or habitable room windows at the winter solstice;

(vii) activate and enhance the Churchill Road and Gurr Street streetscapes;

(viii) be appropriately setback from both street frontages and the side and rear boundaries;

(ix) be of an appropriate building height having particular regard to its corner position and urban context;

(x) display design excellence;

(xi) deliver affordable housing at a rate generally consistent with the Development Plan's requirements;

(xii) complement the urban redevelopment project occurring directly to the north of the development site;

(xiii) be within convenient walking distance of medical services on the opposite side of Churchill Road; and

(xiv) be within convenient walking distance of bus stops on Churchill Road, and Islington Railway Station near Regency Road.

For all these reasons, the proposed development is deserving of Development Plan Consent.

Graham Burns FPIA
B/A in Planning

27 October 2017

ATTACHMENT A

Certificates of Title

Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search (CT 5795/979)
Date/Time	29/09/2017 03:19PM
Customer Reference	50175
Order ID	20170929008893
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 5795 Folio 979

Parent Title(s) CT 5402/885

Creating Dealing(s) RTU 8857251

Title Issued 04/08/2000 **Edition** 3 **Edition Issued** 09/01/2015

Estate Type

FEE SIMPLE

Registered Proprietor

JUNCTION AND WOMEN'S HOUSING LTD. (ACN: 160 344 712)
OF 34 BEACH ROAD CHRISTIES BEACH SA 5165

Description of Land

ALLOTMENT 10 DEPOSITED PLAN 54081
IN THE AREA NAMED PROSPECT
HUNDRED OF YATALA

Easements

NIL

Schedule of Dealings

Dealing Number	Description
10881561	CHARGE UNDER SOUTH AUSTRALIAN CO-OPERATIVE AND COMMUNITY HOUSING ACT 1991 PURSUANT TO SECTION 65(1)

Notations

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

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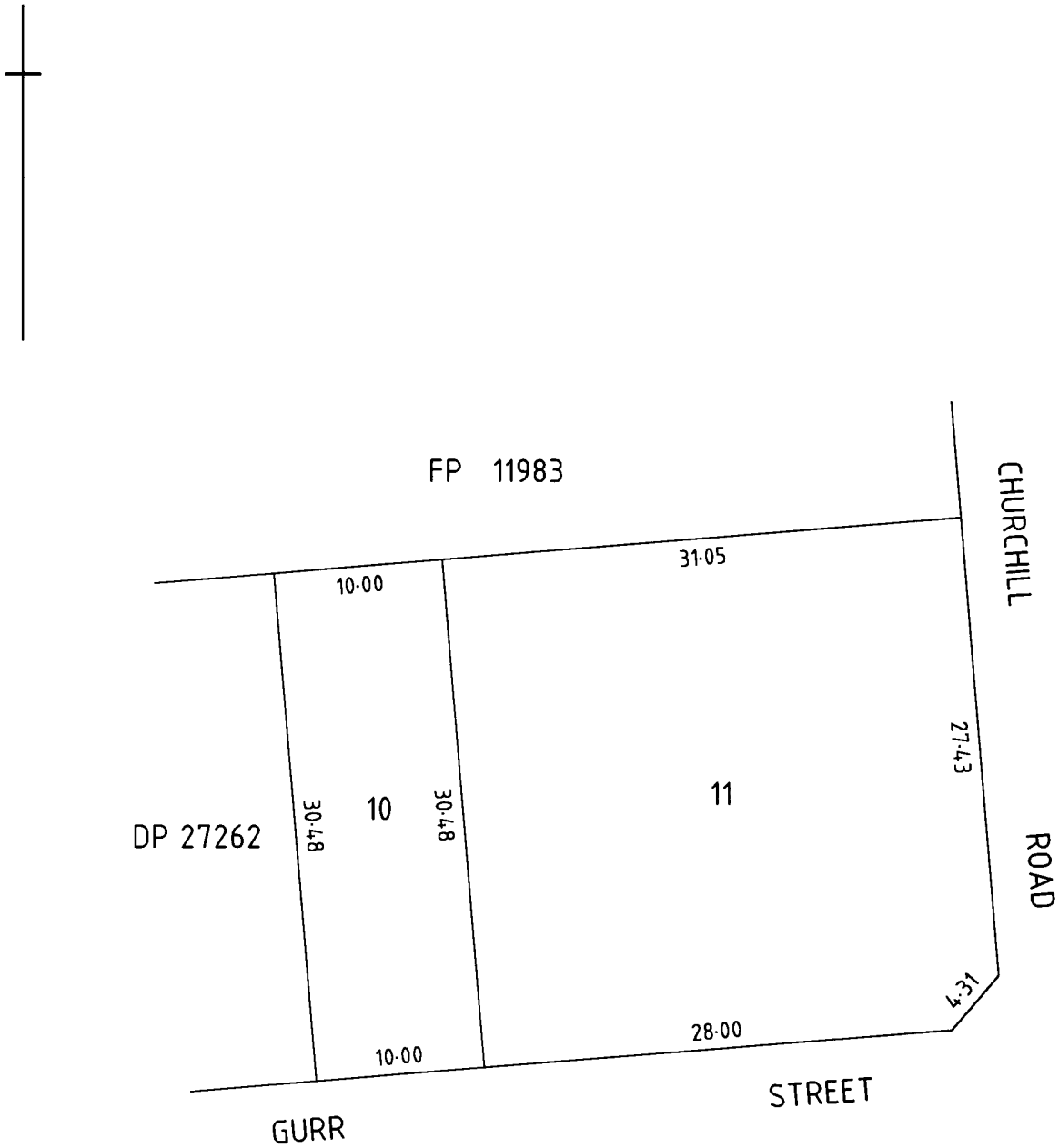

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Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search (CT 5795/980)
Date/Time	29/09/2017 03:18PM
Customer Reference	50175
Order ID	20170929008868
Cost	$28.25

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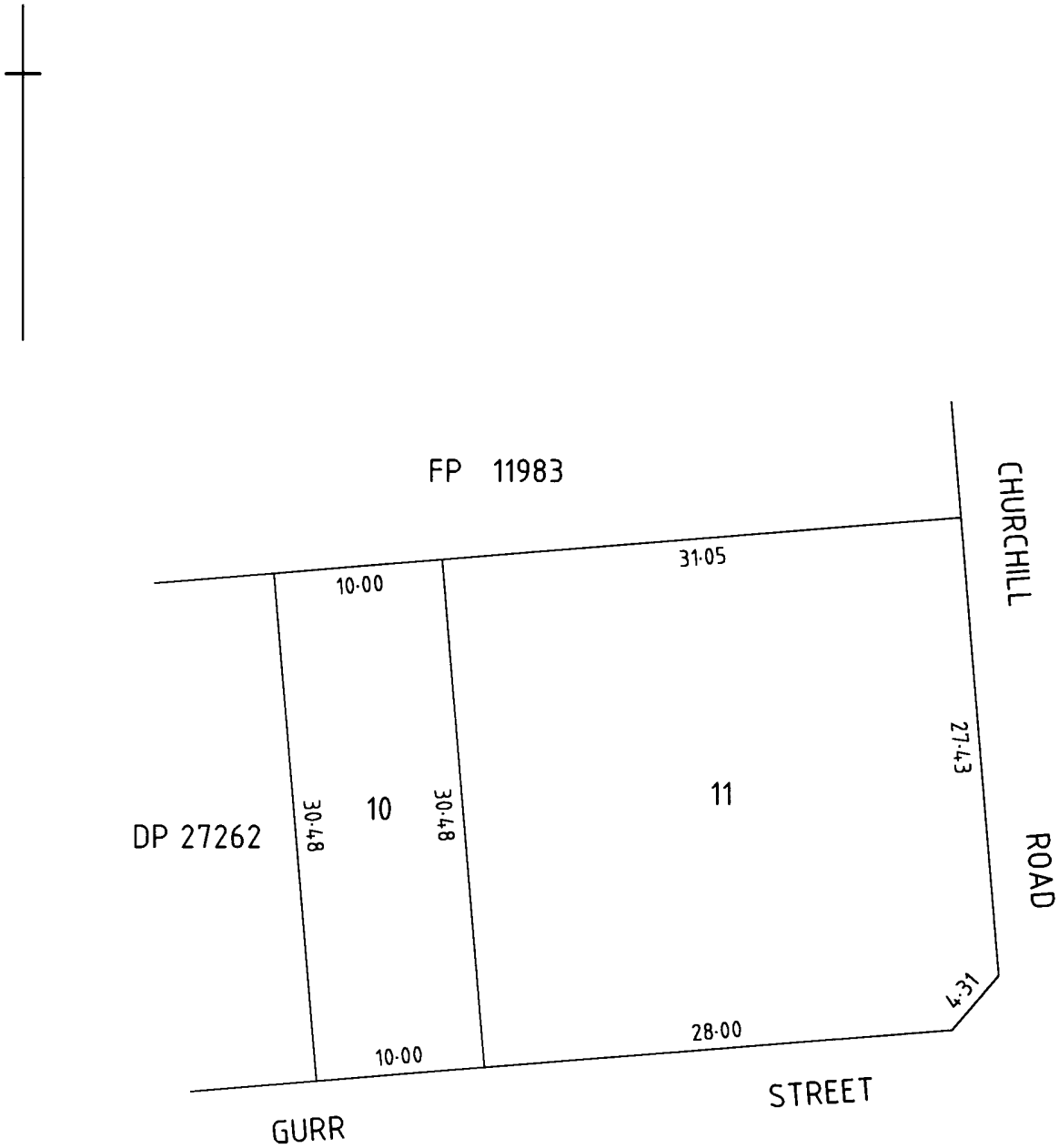
Order ID	20170929008868
Cost	$28.25



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Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search (CT 5095/823)
Date/Time	29/09/2017 03:15PM
Customer Reference	50175
Order ID	20170929008819
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 5095 Folio 823

Parent Title(s) CT 1555/186

Creating Dealing(s) CONVERTED TITLE

Title Issued 06/11/1992 **Edition** 5 **Edition Issued** 09/02/2017

Estate Type

FEE SIMPLE

Registered Proprietor

GAMMA ILLUMINATION PTY. LTD. (ACN: 003 081 534)
OF 42-46 SCRIVENER STREET WARWICK FARM NSW 2170

Description of Land

ALLOTMENT 76 DEPOSITED PLAN 4474
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

COMPARE ADDRESS FOR SERVICE OF NOTICE WITH 7988913
APPROVED F11983

Administrative Interests NIL

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Product	Register Search (CT 5095/823)
Date/Time	29/09/2017 03:15PM
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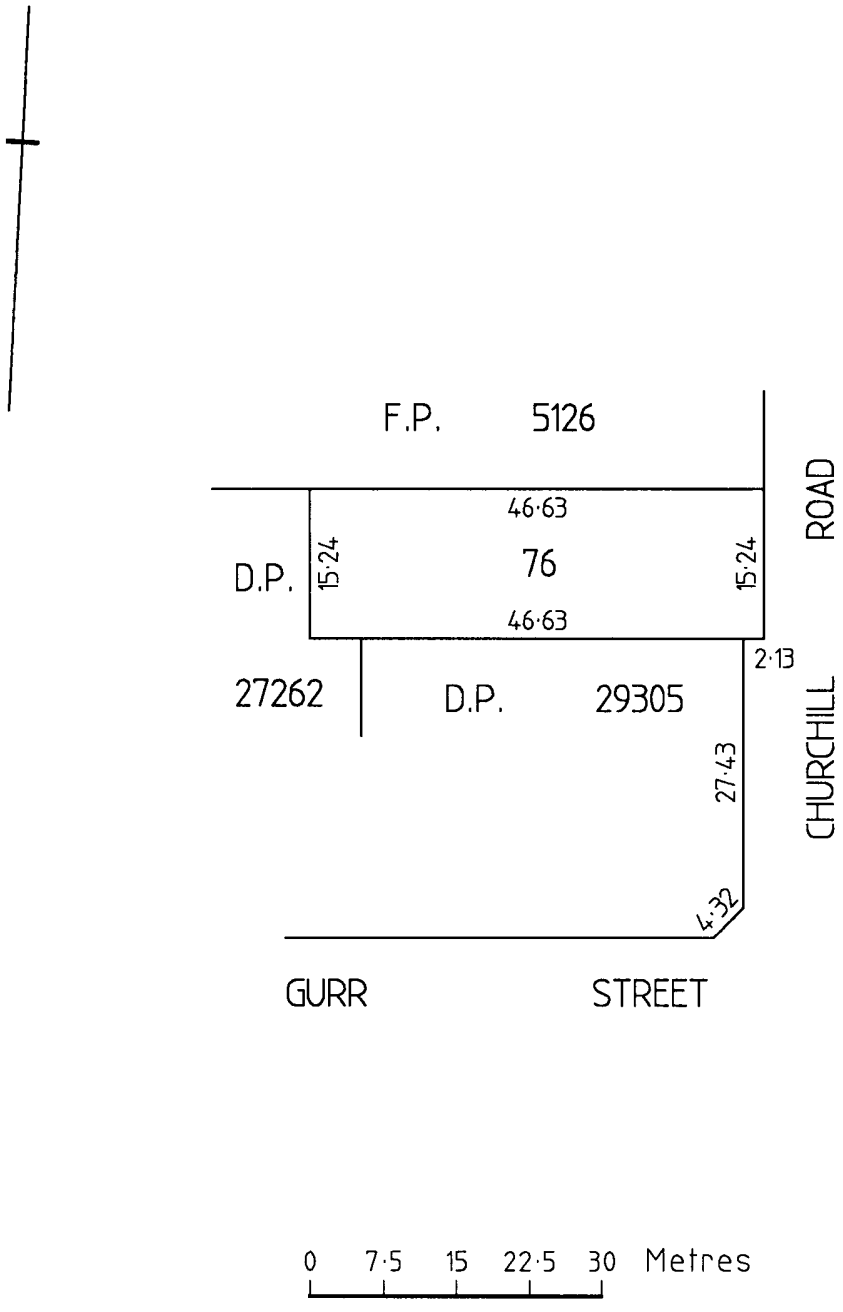

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ATTACHMENT B

Indicative Concept for *Prospect 1838*

REGENCY ROAD

ISLINGTON RAILWAY STATION

SHARED USE PATH

5
19403.20

4
4882.77

3
4276.25

2
7382.11

CHURCHILL ROAD

SHARED USE PATH

LAND DIVISION
DA (050/338/16)

GURR STREET

RESERVE IMAGES (INDICATIVE)

Existing Pedestrian Flow Paths

Proposed Pedestrian Flow Paths

Pedestrian Flow Diagram

INDICATIVE SITE MASTER PLAN

250 Churchill Road
PROSPECT

for Pierce Group of Companies

1:1000 @ A2
0 20m

33 CARRINGTON STREET
ADELAIDE SA 5000
Tel: 08 8193 5600
Fax: 08 8221 6000

MASTERPLAN.COM.AU
PLAN@MASTERPLAN.COM.AU

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MASTERPLAN
TOWN + COUNTRY PLANNERS

ATTACHMENT C

Letter of Support from Junction Australia

26th September 2017

Junction AUSTRALIA

Mr Michael Calabro
GAMMA ILLUMINATION PTY LTD
42-46 Scrivener Street
Warwick Farm NSW 2170

Dear Michael

I refer to the email from Mark Beesley of Proske Architects, received on the 19th of September 2017.

Junction Australia are happy with the design intent outlined within the site plans, 3D perspectives and external materials selection.

We look forward to further engagement to ensure that the housing outcomes for Junction Australia meet the requirements as outlined in our Project Plan and Land Development Guidelines, to meet the needs of tenants who may be living with disability and/or require safe and secure housing to age in place, amongst other tenant demographic groups.

Please advise Proske Architects to continue with the design.

Yours sincerely

Velizar Sedev
Development Officer
Housing & Urban Development

168 Greenhill Road, Parkside SA 5063
T (08) 8210 7000
E: housing@junctionaustralia.org.au

Junction Australia's registered community housing provider is Junction and Women's Housing Ltd
ABN 50 160 344 712

ATTACHMENT D

Waste Management System Report (Rawtec Pty Ltd)

Gamma Illumination

244-248 Churchill Road, Prospect

Waste Management Plan

October 2017

Prepared by Rawtec Pty Ltd

ABN 59 127 176 569
PO Box 1159,
Glenelg South SA 5045
Ph: +61 8 8294 5571
www.rawtec.com.au

- IMPORTANT NOTES-

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Document verification

Date	Version	Title	Prepared by	Approved by
6/10/17	V1	244-248 Churchill Road, Prospect Waste Management Plan Draft	Matthew Allan	Mark Rawson
10/10/17	V2	244-248 Churchill Road, Prospect Waste Management Plan	Matthew Allan	Mark Rawson

Contents

1. Introduction 4

2. Description of the Development 6

3. Outcomes from the Analysis on Waste and Recycling Requirements at the Development 8

4. Proposed Waste Management System (WMS) 11

5. Collection Vehicle Requirements 13

Appendix 1: Policy, Design and Operational Waste Management Requirements 14

Appendix 2: Methodology for Estimating Waste & Recycling Volumes and Sizing Storage Areas. 15

Appendix 3: Additional Waste Management Design Advice 16

1. Introduction

1.1. About this WMP and the proposed development

This document provides a waste management plan (WMP), for the proposed development identified in Table 1 below. This WMP will be included with building plans for the development lodged with the State Planning Commission (SPC) to obtain Development Approval. The WMP outlines the proposed waste management system (WMS) for the development at high-level, which demonstrate that successful management of waste can be achieved at the site.

Table 1: Proposed development's details

Site Location	244-248 Churchill Road, Prospect, SA, 5082
Development Project	Mixed Use Development, 244-248 Churchill Road, Prospect
Client	Gamma Illumination
Planner	MasterPlan Town and Country Planners
Project Architect	Proske Architects

1.2. Purpose and scope of WMP

This WMP has been developed for the planning stage of this development. It provides a preliminary design for the WMS for this site and is intended to demonstrate that successful management of waste can be achieved at the site.

The WMP has been prepared with the policy and requirements for waste management (identified in Appendix 1), as well as in conjunction with the Planner, Project Architects and Traffic Consultant, who have indicated the intended site uses of the development, occupancy data, and requirements for how waste should be managed. If future land uses and waste management arrangements for the development are altered, the WMP may need to be updated.

The suggested arrangements in this WMP are preliminary and reflect one possible configuration for the waste management system at this site. These arrangements could evolve and be refined (during detailed building design) before the construction takes place. This may affect the WMP for the site, which should be updated accordingly.

1.3. Required supporting documentation and design details

The following information is required to support this WMP and will be included in the overall development application submission:

1. Building plans confirming:
    - The size and layout of the waste rooms.
    - Transfer pathways for safe and efficient movement of bins/waste between waste rooms and locations for collection.
2. Traffic Consultant report to confirm parking, loading, unloading and manoeuvring for collection vehicles servicing the development in the loading zone.

1.4. What this WMP contains

Table 2 below outlines what is contained in the waste management plan (WMP).

Table 2: What this WMP contains

Section 2 – Description of Development	Provides details of the development relevant to the WMP preparation and indicates the waste and recycling collection services proposed for the development.
Section 3 – Outcomes from the Analysis on Waste and Recycling Requirements at the Development	Provides estimates of the waste and recycling volumes likely to be generated at the site which will require storage, collection and disposal. This included the recommended size and layout of the development waste and recycling storage locations.
Section 4 – Proposed Waste Management System (WMS)	Provides an overview of the proposed WMS for the development, including the main elements and important design requirements, and how these systems should operate. The WMS outlines how waste would be stored, transferred and collected at the site.
Section 5 – Collection Vehicle Requirements	Includes relevant information on collection requirements, including number of collections per week and provision for access and maneuverability for waste collection vehicles.
Appendix 1: Policy, Design and Operational Waste Management Requirements for the Development	This Appendix identifies the policy, design, and/or operational requirements for waste management that have been used in relation to the development of the WMP.
Appendix 2: Methodology for Estimating Waste & Recycling Volumes and Sizing Storage Areas	This Appendix sets out the design approach and assumptions that have been used in the estimation of waste and recycling volumes contained in this plan.
Appendix 3 – Additional Waste Management Design Advice	This Appendix provides better practice design advice and other waste management design considerations for the development, based on the South Australia Better Practice Waste Management Guide for Residential and Mixed-Use Developments.

2. Description of the Development

2.1. Land uses and occupancy data

Proske Architects has provided Rawtec with a description of the development and plans showing the proposed layout of the site, buildings and land uses. A breakdown of the land use and tenancy assumptions used for estimating waste and recycling volumes for the development can be found in Table 3 below.

Table 3: Land use and occupancy overview

Floor	*Tenancy according to plans*	*Waste & Recycling Generating Rate Land Use*[1]	Est. Size/ Number	m^2/ Bedrooms
Ground	Tenancy 01	Retail	148	m^2
Ground	Tenancy 02	Café/ restaurant	107	m^2
Total floor space (commercial)			**255**	**m^2**
1 - 4	Junction apartments	Serviced apartments	16	BRs
1 - 4	1 Bed apartments	Residential high density	15	BRs
1 - 4	2 Bed apartments	Residential high density	42	BRs
1 – 4	3 Bed apartments	Residential high density	33	BRs
Total bedrooms (Junction and residential)			**106**	**BRs**

[1] Waste and recycling generation rate land use categories are based on the SA Better Practice Guide – Waste Management in Residential or Mixed Use Developments (Green Industries SA, 2014).

2.2. Site waste management requirements

The following waste management and operational arrangements were identified as preferred for the site by the Client, Planner and Project Architect (Table 4 below). These arrangements have been considered when developing the design of the proposed waste management system and the information contained in the Waste Management Plan.

Table 4: Site waste management requirements

Area	Description
Waste Storage	• Waste for commercial tenancies and residents is to be stored in a bin storage room on the ground floor. • Waste for Junction residents is to be stored in a smaller bin room on the ground floor.
Movement of waste throughout the building	• Residents would move waste from residential tenancies and carry it to the waste room on the ground floor. • Staff/cleaners would move waste from commercial tenancies or Junction rooms to the bins in the bin storage room.
Collection point(s)	• The collection point for all waste is on-site in the ground floor car park.
Collection agency	• The Waste Management Plan has assumed commercial collection of all bins with bin sizes up to 660L. • Council may be able to collect the residential bins from the site when the site is developed. However, this would need to be confirmed at a later date, as Council is currently in the process of updating its strategy and approach to managing multi-use development sites. As such, the WMP has been designed assuming that collection would be conducted by a commercial entity.

2.3. Recommended waste and recycling services

Table 5 overleaf outlines the recommended waste and recycling services that should be collected from the development as outlined in the *SA Better Practice Guide – Waste Management in Residential or Mixed-Use Developments* (Green Industries SA, 2014).

It is understood that E-waste (batteries and printer cartridges, lighting etc.) streams would either be temporarily stored within tenancies or within the hard waste cage in the bin storage room on the ground floor, before being dropped off at an appropriate external location (e.g. local recycling depot or office supply store) or collected by an appropriate collection company. Some items may be managed through an external collection contractor (e.g. for carpark lighting replacement).

Hard waste would be temporarily stored within a 8.5m^2 caged area in the waste room (see Figure 1), and be managed by building services via a commercial collection service, with the potential for Council collection at a later date.

3. Outcomes from the Analysis on Waste and Recycling Requirements at the Development

3.1. Estimated waste and recycling volumes by land use

Table 5 details the estimated waste and recycling volumes by land use for the development. Note that this includes the recommended waste and recycling services that should be collected from the development as outlined in the *SA Better Practice Guide – Waste Management in Residential or Mixed-Use Developments* (Green Industries SA, 2014).

Table 5: Proposed waste and recycling streams servicing the development on identified land uses and estimated waste and recycling volumes by land use

Estimated Waste Generation Volumes (Litres Per Week) by Land Use & Waste Stream (All Land Uses)						
Land Use Type		**Commercial**	**Residential**	**Commercial**	**Commercial**	**Totals (Litres Per Week)**
Development Land Use		***Junction Apartments***	***Residential apartments***	***Tenancy 01***	***Tenancy 02***	
WRGR Classification		*Serviced Apartments*	*Residential (High Density)*	*Retail (Greater than 100m2)*	*Café/Restaurant*	
Waste Stream	**General Waste**	500	2,700	600	2,200	**6,000**
	Co-mingled Recycling	300	2,300	200	1,500	**4,300**
	Organics (Food) Recycling	200	900	30	3,000	**4,100**
	Cardboard Recycling	NE	NE	500	NE	**500**
	Paper Recycling	NE	NE	NE	NE	**0**
	Glass Recycling	NE	NE	NE	NE	**0**
	Plastic Recycling	NE	NE	NE	NE	**0**
	Confidential Paper Recycling	NE	NE	NE	NE	**0**
	Hard Waste	100	600	NE	NE	**700**
	E-waste	20	100	NE	NE	**100**
Total Site Volume (Litres per Week)		**1,100**	**6,600**	**1,300**	**6,700**	**15,700**

**Note: Totals have been rounded to better reflect estimates and may not equate*

NE = Not Estimated as Not Required

3.2. Waste and recycling stream volumes, bin sizes and collection details by commercial/residential tenancies

Table 6 below includes relevant waste information relating to the commercial/ residential tenancies in the building (not including Junction apartments). This includes estimates for the total waste and recycling volumes generated, nominated bin sizes for each waste stream, proposed collection, number of bins required, proposed waste collection service provider, and the location where bins are presented for collection.

Table 6: Estimates of waste and recycling volumes (litres/week) for commercial and residential tenancies, with proposed services and collection frequency

Waste stream	Estimated Waste Volume (Litres Per Week)*	Proposed Services				
		Bin Size (Litres) **	Collection Frequency	Est. no. of bins required	Proposed waste collection service provider	Proposed location where bins/ waste is presented for collection
General Waste	5,500	660L	2 x per wk	5	Commercial contractor (all tenancies to use same contractor)	Presentation within the bin storage room on the ground floor
Co-mingled Recycling	3,900	660L	1 x per wk	6		
Organics (Food) Recycling	3,900	660L	2 x per wk	3		
Cardboard Recycling	500	660L	1 x per wk	1		
Hard waste	600	NA				
E-Waste	100	NA				
Totals	**14,600**		**6 x per wk**	**15 bins**	-	-

**Note: Totals have been rounded to better reflect estimation of the volumes and may not equate*
*** Note: 660L bins have been used as this is more likely to align with Council's collection strategy*

3.3. Waste and recycling stream volumes, bin sizes and collection details by Junction tenancies

Table 7 below includes relevant waste information relating to the Junction tenancies in the building. Note that these bins would be collected at the same time as the bins for the commercial and residential bins above.

Table 7: Estimates of waste and recycling volumes (litres/week) for Junction tenancies, with proposed services and collection frequency

Waste stream	Estimated Waste Volume (Litres Per Week)*	Proposed Services				
		Bin Size Litres	Collection Frequency	Est. no. of bins required	Proposed waste collection service provider	Proposed location where bins/ waste is presented for collection
General Waste	500	660L	1 x per wk	1	Commercial contractor	Presentation within the bin storage room on the ground floor
Co-mingled Recycling	300	660L	1 x per wk	1		
Organics (Food) Recycling	200	660L	1 x per wk	1		
Hard waste	100	NA				
E-Waste	20	NA				
Totals	**1,100**		**3 x per wk****	**3 bins**	-	-

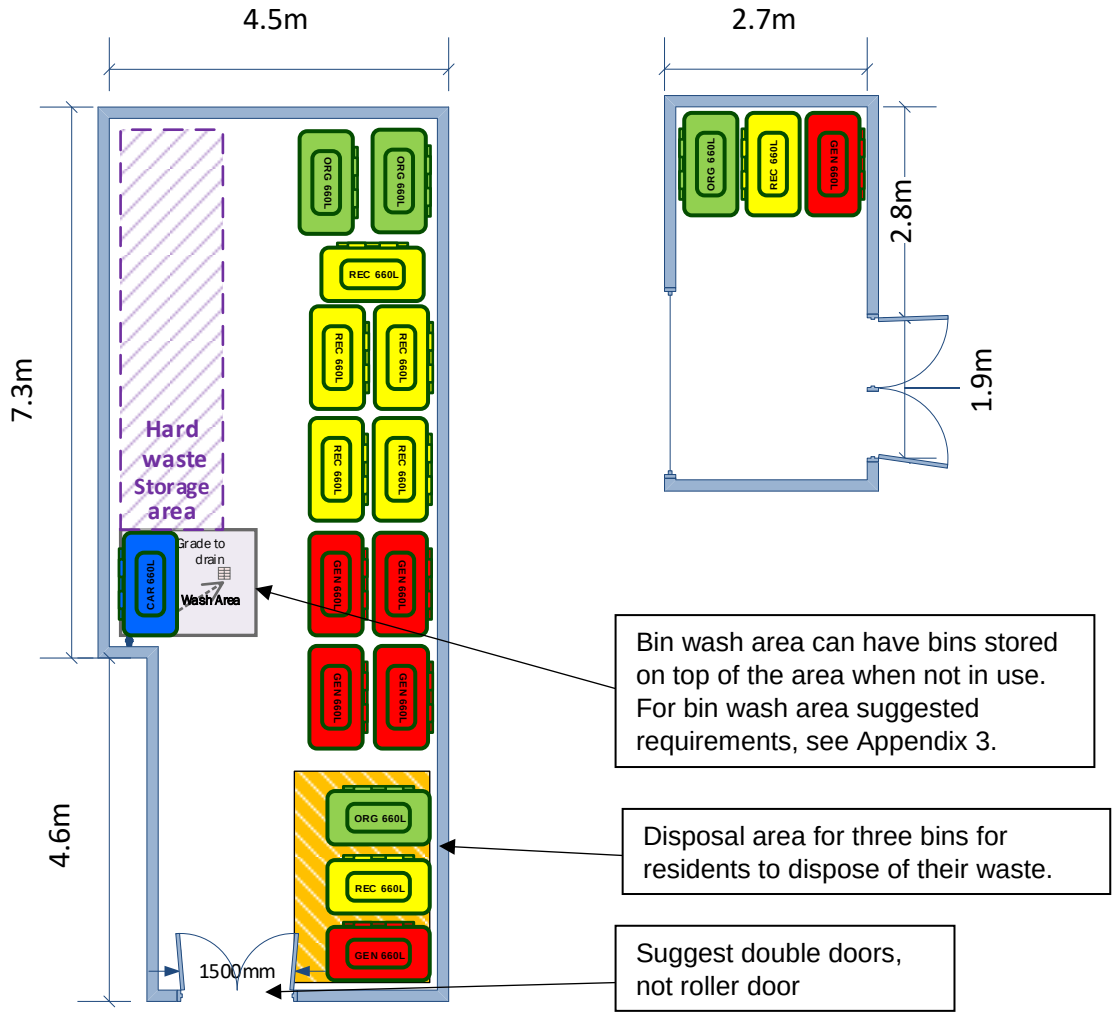
**Note: Totals have been rounded to better reflect estimation of the volumes and may not equate*
*** Note: the collections per week would be included with the collections in Table 6 (therefore total collections for the site is 6 per week)*

3.4. Recommended waste storage areas

An indicative drawing of the development's bin storage rooms on the ground floor containing the required number of bins, which includes one example of bin configuration, can be found in Figure 1 below.

Figure 1:Preliminary drawing showing the estimated size and potential layout of the development's bin storage areas and required no. bins

Residential and commercial waste room **Junction waste room**



LEGEND **GEN = General Waste** **REC = Comingled Recycling** **ORG = Organics** **CAR = Cardboard and paper**	**Note:** These bin sizes are for **illustration purpose only** and are based on the standard MASTEC Australia bin sizes (http://www.mastec.com.au). Bin sizes and shapes may differ depending on manufacturer, collection contractor or local waste authority. Please allow extra room (e.g. >10%) for differences in bin sizes, bin access, opening and closing and manoeuvring etc.

4. Proposed Waste Management System (WMS)

4.1. Overview of the WMS

To effectively manage the waste generated at the site, an appropriate Waste Management System (WMS) is required. The WMS consists of:

3. User storage of waste
4. Waste transfer to common disposal area
5. Aggregation and storage of this waste
6. Waste/bin collection.

The tables below provide an outline of the waste management system for each land use. This is based on the waste management steps recommended in the *South Australian Better Practice Guide – Waste Management in Residential or Mixed-Use Developments* (Green Industries SA, 2014), summarised in Appendix 3.

4.2. WMS for residential tenancies

	WMS step	WMS Notes
Storage, transfer pathways and collection details for: • General waste • Co-mingled recycling • Organics (food) recycling	**1 – User disposal and storage**	• Each apartment would have its own bin station to store waste and recyclables (e.g. 10-80L bins). Kitchen caddies and compostable bags for food organics are provided by Council.
	2 – Transfer pathway to common disposal area	• Residents would manage waste and recyclables within their unit, and transfer the waste to the bin storage room on the ground floor when required. • This would be via Lift 02 or 03, or the adjacent stairwell. Note that the maximum distance any resident would need to travel from front door to the bin room is above the recommended 30 metres in the SA Better Practice Guide to Waste Management at Multi Unit Dwellings (see Appendix 3). However, the waste room is only 15 metres from the lifts which are used to enter and exit the building. • As the waste room is accessible via the carpark, it is recommended that pedestrian lines be painted along this pathway. This would be in the carpark adjacent the Tenancy 01 wall between the Residential Foyer and Residential Waste room. • See Appendix 3 for recommendations on transfer pathways (width, slope etc).
	3 – Aggregation and storage	• Waste and recyclables would be aggregated and stored within the larger bins in the ground floor bin storage room.
	4 – Waste Collection	• Waste and recycling bins would be collected (and returned) from the bin storage room while the collection vehicle is parked in the carpark (see Section 5 for details on collection vehicle access requirements).

4.3. WMS for commercial tenancies (Tenancy 01 and 02)

	WMS step	WMS Notes
Storage, transfer pathways and collection details for: • General waste • Co-mingled recycling • Organics (food) recycling • Cardboard recycling	**1 – User disposal and storage**	• Each tenancy would have its own bin station to store waste and recyclables (e.g. 60-120L bins). • Larger cardboard items can be taken directly to the waste room.
	2 – Transfer pathway to common disposal area	• Staff/cleaners would manage waste and recyclables within each tenancy, and transfer material from the tenancies to the bin storage room via the public foyer and carpark when required. • See Section 4.2 and Appendix 3 for recommendations on transfer pathways from storage to collection point.
	3 – Aggregation and storage	• Waste and recyclables would be aggregated and stored within the larger bins in the ground floor bin storage room.
	4 – Waste Collection	• Waste and recycling bins would be collected (and returned) from the bin storage room while the collection vehicle is parked in the carpark (see Section 5 for details on collection vehicle access requirements).

4.4. WMS for Junction tenancies

	WMS step	WMS Notes
Storage, transfer pathways and collection details for: • General waste • Co-mingled recycling • Organics (food) recycling	**1 – User disposal and storage**	• Each apartment would have its own bin station to store waste and recyclables (e.g. 10-80L bins). Kitchen caddies and compostable bags for food organics are provided by Council.
	2 – Transfer pathway to common disposal area	• Staff/cleaners would manage waste and recyclables within each tenancy, and transfer material from the tenancies to the bin storage room via Lift 01 or Stair 01. • See Appendix 3 for recommendations on transfer pathways from storage to collection point.
	3 – Aggregation and storage	• Waste and recyclables would be aggregated and stored within the larger bins in the ground floor Junction bin storage room.
	4 – Waste Collection	• Waste and recycling bins would be collected (and returned) from the bin storage room while the collection vehicle is parked in the carpark (see Section 5 for details on collection vehicle access requirements).

5. Collection Vehicle Requirements

5.1. Collection vehicle requirements

The collection vehicles expected for waste collection at this development would generally be:

- Rear-lift trucks – for collection of routine waste, comingled recycling and food organics streams;
- Pan-tech or flat-bed trucks – for collection of at-call waste streams, if required.

Examples of the likely truck dimensions are provided in the below to assist in the Traffic Consultant in ensuring that the loading zone can accommodate the waste and recycling collection vehicles, and that vehicles can enter and exit the area safely. In addition to the truck length, the waste truck parking area will need to accommodate at least 2m behind collection vehicles for waste bin loading. Note that we understand the Traffic Consultant has confirmed that a truck with the dimensions below would be able to access the site (swept paths have been completed).

Collection vehicle dimensions and operating requirements vary between waste collection contractors. The client would be required to ensure that the collection vehicle used by the waste collection contractor servicing the development is able to accommodate for the loading zone and other requirements before collection can begin.

Table 8: Likely dimensions and turning circles of commercial waste collection vehicles that would be required to access the loading zone

Likely dimensions and turning circles of waste collection trucks		
	Rear-lift truck (to collect bins up to 1100L)	**Pan-tech/flat-bed* (to collect hard waste/E-waste)**
Dimensions	3.4m (h) x 2.5m (w) x 8.8m (l) plus 2m space at the rear to load bins	Up to 4.5m (h) x 2.5m (w) x 8.8m (l)
Vehicle height in operation	Likely to be height of vehicle but can be up to 4m	Up to 4.5m
Vehicle turning circle	18-25m	10m

**Note: Pantech/flatbed vehicle dimensions are based on Australian MRV standard specifications - AS 2890.2-2002*

5.2. Estimated number of waste vehicle movements per week

At this stage a commercial waste contractor would service the site. We have estimated that there would be approximately 6 collection vehicle movements per week at the site. This is based on the estimated waste and recycling volumes, number of bins and service frequency described above and assumes collection is undertaken by the same contractor for each land use. These estimated vehicle movements do not include an on-call of infrequent services such as hard waste/E-waste collection.

Appendix 1: Policy, Design and Operational Waste Management Requirements

This WMP has been prepared with the following policy, design, and/or operational requirements for waste management in mind:

- *The South Australian Environment Protection (Waste to Resources) Policy 2010 (W2REPP) (Government of South Australia, 2011):*
    - This Policy requires that waste is subject to resource recovery processes, which can include source separation, before disposal to landfill.
- *South Australian Better Practice Guide – Waste Management in Residential or Mixed-Use Developments (Green Industries SA (previously Zero Waste SA), 2014):*
    - Identifies need for areas to store waste and recyclable materials, appropriate to the size and type of development, screened from public, which minimises disturbance to residents and provides for service vehicle access.
    - Provides guidance on design of waste management systems for medium to high density residential and mixed use developments.

Appendix 2: Methodology for Estimating Waste & Recycling Volumes and Sizing Storage Areas

The estimation of waste and recycling volumes contained in this waste management plan, is based on:

- The proposed land use data;
- Client and regulatory expected services for different land uses in the development; and
- Waste generation metrics found in:
    - The South Australian Better Guide Practice Guide – Waste Management in Residential or Mixed Use Developments (Green Industries SA (previously Zero Waste SA), 2014)
    - Waste and recycling metrics developed by Rawtec, which are based on industry knowledge and experience.

Appendix 3: Additional Waste Management Design Advice

The below table provides design advice and other considerations based on the *South Australia Better Practice Waste Management Guide for Residential and Mixed-Use Developments*. For further recommendations and information from this guide, please visit the Green Industries SA website.

Area	Recommendation/ Consideration
Access distance from resident properties to bin disposal point	• Better practice recommends this distance be no greater than 30 metres. This reduces the likelihood of spillage and increases convenience for residents.
Disposal points for residents	• The SA Better Practice Guide indicates that organics (food and/or garden) is a required or expected service for residents in South Australia. • It is also recommended that disposal points for all three streams (general waste, comingled recycling and food organics) be at the same point for residents. • This reduces transport distances for residents and the potential for food waste to leak out in lifts while moving the food organics throughout the building. An alternative option is to provide residents with a food organics bin on the ground floor that is easy to access.
Bin transfer routes	• The Better Practice Guide recommends transfer routes be free of obstructions and steps, at least 1.25m wide and a slope of no more than 1:10 • These should also not pass through living areas or dwellings. • If the transfer route is through a carpark, pedestrian line markings in the carpark are recommended to increase safety.
Hard waste	• It is recommended that an aggregation point for hard waste be provided in a space that is easy to access for collection vehicles. • This is logistically easier than collection directly from apartments, where the building services manager, resident and collection contractor would all need to be present for the collection day and time. It also takes longer for the contractor to collect the waste and may therefore increase costs.

Bin washing	• It is recommended that a bin wash area be installed and that it:
	  • Is sloped to a drain leading to the sewer,
	  • Has an installed tap with mains supply and a hose nearby,
	  • Is at least 2m x 2m, and
	  • Is slip resistant to prevent slippage during washing.
	• Note that line marking and bunding is not required around the bin wash area, and bins can be stored on top of the bin wash area in the waste room. During washing, other bins can be placed outside the waste collection room while bins are washed in the waste room.
	• Please note that alternatively, it is possible for the bin wash area to be installed outside the waste room. It may also be possible for the waste contractor to be contracted to provide this service (either on-site or off-site).

ATTACHMENT E

Parking, Access and Traffic Impacts Report (Cirqa Pty Ltd)

Ref: 17108|TAW

Mr Graham Burns
MasterPlan
33 Carrington Street
ADELAIDE SA 5000

3 October 2017

Dear Graham,

PROPOSED MIXED-USE DEVELOPMENT
244-246 & 248 CHURCHILL ROAD, PROSPECT

I refer to the proposed mixed-use development at 244-246 Churchill Road, Prospect. As requested, I have undertaken a review of the traffic and parking aspects of the proposal. This letter summarises the assessment undertaken.

BACKGROUND

The subject site is located on the north-western corner of the Churchill Road / Gurr Street / Albert Street intersection, Prospect, and comprises 244-246 and 248 Churchill Road. The site is bound to the north by undeveloped land, Churchill Road to the east, Gurr Street to the south and residential dwellings 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 three residential dwellings (244-246 Churchill Road) and a commercial premise (248 Churchill Road). Vehicle access is provided to 224-244 Churchill Road via two crossovers on Gurr Street and one crossover on Churchill Road. A further two crossovers on Churchill Road provide vehicle access to 248 Churchill Road. Pedestrian access to both sites is provided via their respective frontages to Churchill Road and Gurr 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 lane operating Monday to Friday between 4:30 pm and 6:00 pm) and southbound (full-time bicycle lane) bicycle movements. Parking is permitted on-street on the western side of Churchill Road (outside of bicycle lane hours) and within the verge on the eastern side of Churchill Road (permitted via a roll-

over kerb). Sealed footpaths are provided on both sides of Churchill Road, accommodating both pedestrian and cyclist movements (unobstructed by verge parking on the eastern side of Churchill Road). Traffic data provided by 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.

Gurr Street is a local street under the care and control of the City of Prospect. Adjacent the site, Gurr Street contains an 8.0 m (approximate) wide two-way carriageway. Unrestricted on-street parking is permitted on both sides of Gurr Street. Sealed footpaths are provided on both sides of Gurr Street, accommodating both pedestrian and cyclist movements. Bicycle movements are also permitted on the Gurr Street carriageway under a standard shared arrangement. Traffic data collected by Austraffic indicates that Gurr Street has an AADT in the order of 150 vpd. Gurr Street is subject to a 50 km/h default urban speed limit.

Churchill Road and Gurr Street intersect at a priority controlled (Give Way) four-way intersection, with Churchill Road forming the priority. Albert Street forms the eastern approach to the intersection. All turning movements are permitted at the intersection, with right-turns from Churchill Road (both northern and southern approaches) 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.

PROPOSAL

The proposal comprises the demolition of the existing site infrastructure and the construction of a multi-storey mixed-use building on the subject site. Specifically, the proposed development will comprise the following components:

- 8x two-bedroom apartment dwellings (affordable housing product herein referred to as the Junction Apartments);
- 15x one-bedroom apartment dwellings;
- 21x two-bedroom apartment dwellings;
- 11x three-bedroom apartment dwellings; and
- 255 m^2 of commercial floor area (consisting of two tenancies).

Within the site, it is proposed that the Junction Apartments will primarily operate independently of the remaining components of the building. Specifically, the Junction Apartments will be serviced by an independent eight-space secure parking area (of which one space will be designated for people with disabilities), as well as a separate foyer / lift / stair well and waste room.

The remaining components of the proposed development (i.e. the remaining residential apartments and the two commercial tenancies) will be serviced by the primary parking area. The primary parking area will contain 73 parking spaces (one of which will be designated exclusively for use by people with disabilities), 24 bicycle parking spaces and a waste area.

Bicycle parking will be provided in the form of horizontal bicycle rails (capable of accommodating two bicycles per rail). Bicycle parking will comply with the requirements of the "*Australian / New Zealand Standard for Parking Facilities – Part 1: Bicycle parking*" (AS/NZS 2890.3:2015).

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

- resident parking spaces will be at least 2.4 m wide and 5.4 m long;
- regular parking spaces will be 2.6 m wide and 5.4 m long;
- disabled parking spaces will be 2.4 m wide and 5.4 m long with an adjacent shared space of the same dimension;
- aisles will be at least 5.8 m wide (in excess of 6.2 m wide adjacent regular parking spaces);

- 1.0 m end-of-aisle extensions will be provided beyond the last parking space in an aisle;

- columns will be located outside of the car clearance envelope;

- 0.3 m clearance will be provided (where applicable) to all objects greater than 0.15 m in height; and

- ramps (residential access only) will have a maximum gradient of no steeper than 1 in 4 m, with at least 2 m transition grades of 1 in 8 m.

Throughout the parking areas, a head-height of at least 2.2 m will be provided. However, the two spaces located beneath the basement access ramp will have a reduced head-height of approximately 2.06 m (for approximately 0.5 m at the front of the spaces). Whilst the head-height does not specifically meet the requirements of the Standard, a vehicle would typically enter the spaces in a forward direction. Taking into the consideration the typical profile of a private vehicle (with a lower bonnet section at the front of a vehicle), the reduced head height (at the front of the spaces only) is not considered to be an issue.

On the ground floor of the primary parking area, a secure panel-lift door will segregate parking spaces within the primary parking area. The panel-lift door will have an opening width of 6.1 m, as required by the Standard (AS/NZS 2890.1:2004) for minimum aisle widths (i.e. 5.5 m plus an additional 0.3 m clearance on both sides), with a clear height (once fully retracted) of 3.5 m.

Vehicle access to both parking areas will be provided via two-way crossovers (a separate two-way crossover for each parking area) on Gurr Street. No vehicle access is proposed to the site directly via Churchill Road. As such, the proposal will result in the closure (reinstatement of kerb) of three crossovers on Churchill Road. The 'status-quo' (two crossovers) will be retained on Gurr Street. All turning movements will be permitted at both crossovers. Pedestrian sightlines provisions have been accommodated at both access points in accordance with AS/NZS 2890.1:2004. Figure 2 illustrates the two site access points in relation to Churchill Road.

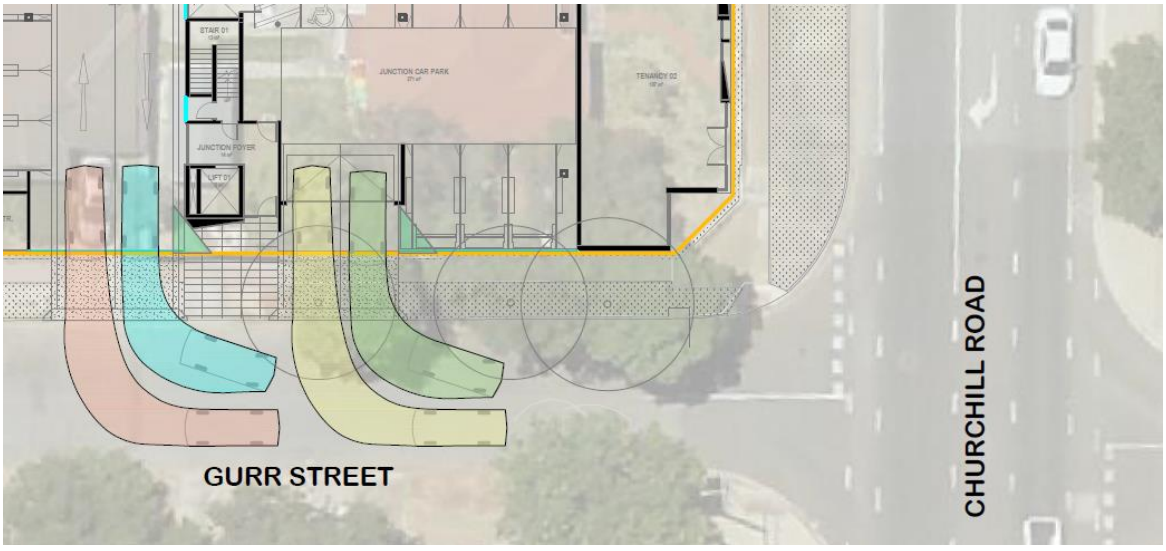


Figure 2 – The proposed access points in relation to Churchill Road.

Pedestrian and cyclist access to the site will be provided via the site's frontages to Churchill Road and Gurr Street. However, pedestrians and cyclists wishing to access the Junction Apartments will only be able to do so via Gurr Street.

Refuse collection is proposed to occur on-site within the primary parking area. The parking area has been designed to accommodate commercial vehicles up to 8.8 m in length. Such vehicles will be able to enter and exit the site in a forward direction. A head height of at least 3.5 m has been provided in all areas where commercial vehicle movements will occur. Figure 3 illustrates the turn path of an 8.8 m refuse collection vehicle accessing the subject site.

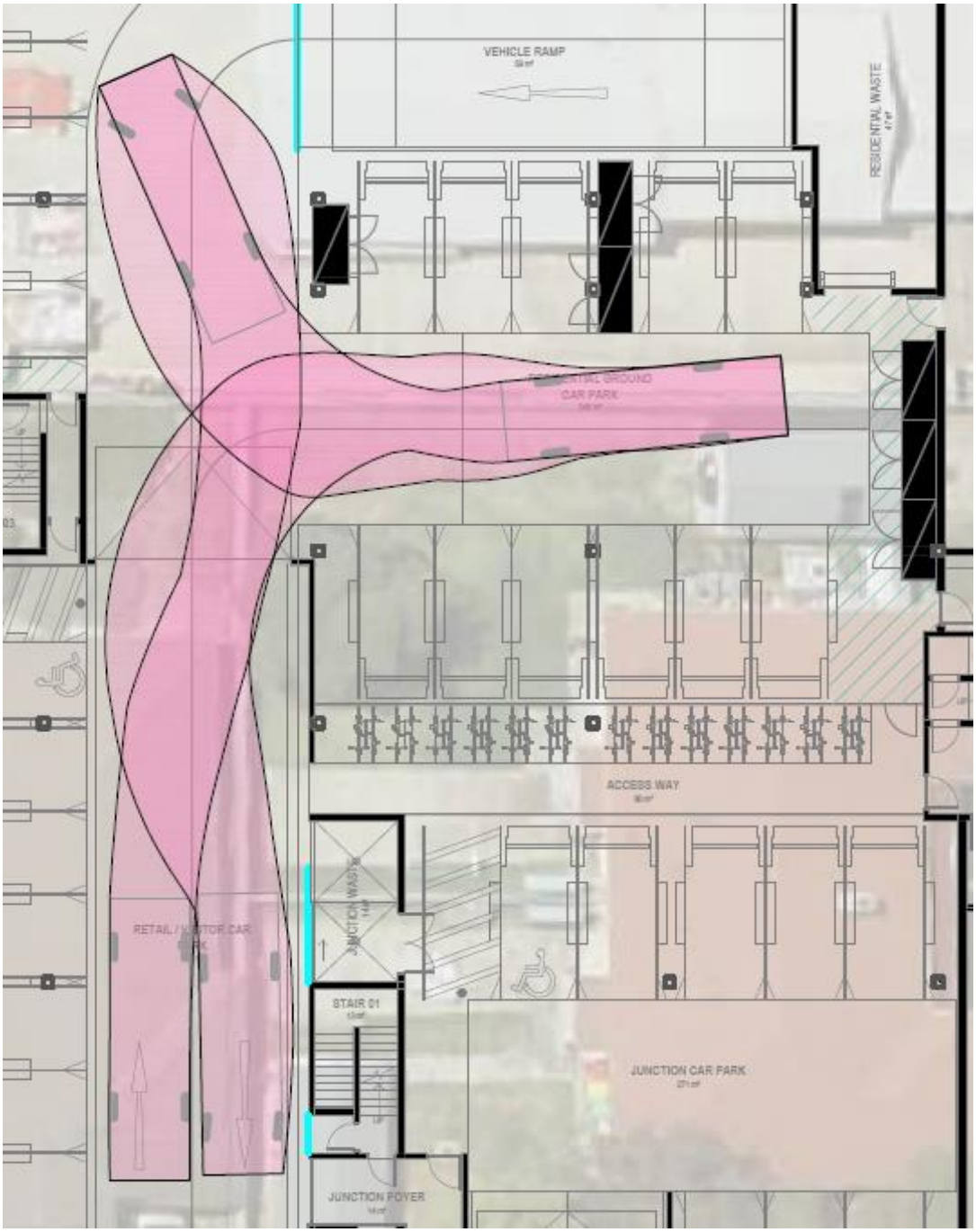


Figure 3 – An 8.8 m refuse collection vehicle accessing the subject site.

Along the site's frontage to Churchill Road, it is proposed to install three indented parking bays (capable of accommodating three vehicles). The indented parking bay would provide additional parking opportunities to passing trade on Churchill Road as well as a light vehicle loading (with appropriate parking restrictions). Such an arrangement would be subject to discussions with both Council and DPTI, however is it is understood (from initial discussions) that Council is supportive of the arrangement. Furthermore, similar to street upgrades (south of the site) have already been undertaken on Churchill Road. The attached concept plan (prepared by Outerspace Landscape Architects) illustrates the proposed indented parking along the site's Churchill Road frontage.

PARKING ASSESSMENT

The City of Prospect's Development Plan identifies the following vehicle parking requirements applicable to the subject development:

- Residential development in a multi-storey building - 1 space per studio, 1-bedroom or 2-bedroom dwelling (plus 0.25 visitor spaces per dwelling) plus 1.25 spaces per 3-or-more-bedroom dwelling (plus 0.25 visitor spaces per dwelling); and

- Non-residential development - 3 spaces per 100 square metres of gross leasable floor area.

Based upon the above requirements, the proposed development would have a theoretical vehicle parking requirement for 80 spaces to be provided on the subject site. Given that it is proposed to provide 81 parking spaces across the subject site, the vehicle parking requirements of Council's Development Plan are considered to be satisfied.

However, as mentioned above, parking spaces will be provided within two separate parking areas. Based upon the above rates, the 'Junction Apartments' will have a theoretical parking demand for eight resident spaces and two visitor spaces. Given that eight spaces are proposed within the 'Junction Apartment' parking area, the resident component (associated with the 'Junction Apartments') of Council's Development Plan is considered to be satisfied. The two spaces associated with the visitor parking demand will be accommodated within the unsecure parking area.

With regard to the remaining residential apartments, Council's Development Plan identifies a parking requirement for 50 residential parking spaces and 12 visitor parking spaces. Given that 66 spaces will be provided within the primary secure parking area, the requirements of residential requirements of Council's Development Plan have been met.

The 'non-residential' component will have a theoretical parking requirement for eight spaces. It should be noted that this will comprise both staff (employees) and visitors to the tenancies. Given that three spaces on the ground floor of the primary secure parking area will be designated as 'staff only' and five spaces within the unsecure 'remain', the 'non-residential' component of Council's Development Plan is considered to be satisfied.

In reality, the peak parking demands associated with the commercial tenancies and (residential) visitors will occur at different times (i.e. the peak parking demand associated with visitors will likely occur outside of regular business hours). As such, there will be an opportunity for shared parking within the unsecured parking area.

However, it should be reiterated that the above parking assessment does not rely on a shared parking arrangement, nor does it rely on the proposed indented parking along the site's Churchill Road frontage. The above parking assessment instead provides a 'worst case' scenario in the event that all of the site uses have a simultaneous peak parking demand.

With regard to bicycle parking, Council's Development Plan identifies the following parking requirements:

- Residential development in a multi-storey building – 1 space for every 4 dwellings for residents plus 1 space for every 10 dwellings for visitors; and

- Shop – 1 space for every 300 square metres of gross floor area for staff plus 1 space for every 600 square metres of gross floor area for visitors.

Based upon the above bicycle parking requirements, there is a requirement for 22 bicycle parking spaces to be provide within the proposed development. Given that it is proposed to provide 24 bicycle spaces within the subject site, the bicycle parking requirements identified in Council's Development Plan are considered to be satisfied.

TRAFFIC IMPACT ASSESSMENT

The NSW Roads and Maritime Services' "*Guide to Traffic Generating Developments*" (the RMS Guide) identifies a peak traffic generation of 0.53 trips per dwelling during the am peak hour and 0.32 trips per dwelling during the pm peak hour for dwellings classified as high-density residential dwellings.

The RMS Guide also identifies a peak hour (Thursday) traffic generation of 12.3 peak hour trips per 100 m^2 of gross leasable floor area for shopping centres with a total floor area between 0 and 10,000 m^2. However, such a rate is not considered to be appropriate for application to the subject proposal. This is due to the large-scale nature and variety of offerings of a shopping centre compared to that of the proposal. In reality, it would be expected that the retail component would generate in the order of 7.5 to 9.0 peak hour trips per 100 m^2 of floor area. Such rates have recently been adopted (and accepted) for small retail shops throughout metropolitan Adelaide. As such, a rate of 9.0 trips per 100 m^2 (for conservatism) has been adopted for this assessment.

Based upon the above traffic generation rates, it is forecast that the proposed development will generation in the order of 52 am and 41 pm peak hour trips. However, due to separate parking areas being provided for the various apartments, the site's traffic generation will be split between the site's two access points; specifically, 48 am and 38 pm peak hour trips via the site's western access and 4 am and 3 pm peak hour trips via the site's eastern access.

In order to determine the site's potential impact on the adjacent road network, traffic surveys have been undertaken at the Churchill Road / Gurr Street / Albert Street intersection. Data was collected for a 12-hour period by Austraffic on Wednesday 23 August 2017. The data identified that the am peak hour occurred between 7:15 and 8:15 am, whilst the pm peak hour occurred between 4:30 and 5:30 pm.

Using the data collected, CIRQA has undertaken SIDRA Intersection modelling of the Churchill Road / Gurr Street / Albert Street intersection to determine the existing operating conditions as well as any potential traffic impacts of the proposed development. To provide a conservative assessment, the modelling assumes all movements with be to/from this intersection. In reality, a proportion will be to/from the west (via Davenport Terrace and Pym Street).

The SIDRA modelling was calibrated using queues and delays observed on-site during the survey period. Table 1 illustrates the existing operating conditions of the Churchill Road / Gurr Street / Albert Street intersection during the am and pm peak periods.

Table 1 – Existing conditions of the Churchill Road / Gurr Street / Albert Street during the am (pm) peak periods.

Movement	Degree of Saturation (DoS)	Average Queue (m)	Average Delay (s)
Churchill Rd (N) – L	0.71 (0.72)	0.0 (0.0)	5.7 (5.7)
Churchill Rd (N) – T	0.71 (0.72)	0.0 (0.0)	0.2 (0.2)
Churchill Rd (N) – R	0.01 (0.02)	0.1 (0.4)	8.0 (12.1)
Albert St - L	0.10 (0.04)	2.3 (1.0)	21.1 (21.1)
Albert St - T	0.03 (0.19)	0.6 (3.8)	51.0 (91.0)
Albert St - R	0.03 (0.19)	0.6 (3.8)	52.4 (94.1)
Churchill Rd (S) – L	0.44 (0.69)	0.0 (0.0)	5.6 (5.7)
Churchill Rd (S) – T	0.44 (0.69)	0.0 (0.0)	0.1 (0.2)
Churchill Rd (S) – R	0.00 (0.03)	0.1 (0.7)	12.3 (13.0)
Gurr St - L	0.02 (0.08)	0.5 (1.7)	9.5 (20.6)
Gurr St - T	0.03 (0.05)	0.6 (0.9)	43.9 (70.0)
Gurr St - R	0.03 (0.05)	0.6 (0.9)	45.0 (70.0)

Forecast traffic volumes were then added to the calibrated SIDRA models in order to determine the theoretical impact of the proposed development on the Churchill Road / Gurr Street / Albert Street intersection. Table 2 illustrates the forecast operating conditions of the Churchill Road / Gurr Street / Albert Street intersection during the am and pm peak periods (i.e. inclusive of forecast traffic volumes generated by the proposed development).

Table 2 – Forecast operating conditions of the Churchill Road / Gurr Street / Albert Street during the am (pm) peak periods.

Movement	Degree of Saturation (DoS)	Average Queue (m)	Average Delay (s)
Churchill Rd (N) – L	0.71 (0.72)	0.0 (0.0)	5.7 (5.7)
Churchill Rd (N) – T	0.71 (0.72)	0.0 (0.0)	0.2 (0.2)
Churchill Rd (N) – R	0.01 (0.04)	0.3 (0.9)	8.2 (12.5)
Albert St - L	0.10 (0.04)	2.3 (1.0)	21.1 (21.1)
Albert St - T	0.05 (0.19)	1.0 (3.8)	51.7 (92.8)
Albert St - R	0.05 (0.19)	1.0 (3.8)	53.5 (95.8)
Churchill Rd (S) – L	0.44 (0.70)	0.0 (0.0)	5.6 (5.7)
Churchill Rd (S) – T	0.44 (0.70)	0.0 (0.0)	0.1 (0.2)
Churchill Rd (S) – R	0.00 (0.03)	0.1 (0.7)	12.3 (13.0)
Gurr St - L	0.05 (0.12)	1.4 (2.8)	9.7 (20.9)
Gurr St - T	0.22 (0.20)	4.6 (4.0)	49.7 (78.8)
Gurr St - R	0.22 (0.20)	4.6 (4.0)	51.7 (78.8)

The SIDRA results indicate that the intersection of Churchill Road, Gurr Street and Albert Street will operate in a similar manner to that of the existing intersection upon completion of the proposed development. Specifically, the SIDRA results indicate that delays could increase on Gurr Street (through and right-turn movements) by up to nine seconds during the am and pm peak periods. Similarly, average queues on Gurr Street may increase by 4.0 m during both peak periods. Such increases are considered to be minimal and would not significantly impact upon the operation of the Churchill Road / Gurr Street / Albert Street intersection. Importantly, the SIDRA modelling indicates that the proposed development will have negligible impact on the operation Churchill Road (and, in particular, on through-movements on the arterial road).

Based upon the above, the forecast traffic volumes generated by the proposed development will be readily accommodated on the adjacent road network with minimal impact on the operation of the Churchill Road / Gurr Street / Albert Street intersection.

SUMMARY

The proposal comprises the demolition of the existing buildings and the construction of a multi-storey mixed-use building. Specifically, the building will contain 55 apartment dwellings (in a combination of one, two and three-bedroom dwellings), 255 m^2 of commercial floor area, 81 vehicle parking spaces and 24 bicycle parking spaces. All parking areas will generally comply with the requirements of the relevant Australian Standards.

Vehicle access to the site will be provided via two crossovers on Gurr Street (all turning movements will be permitted at both access points). Pedestrian and cyclist access will be facilitated via both Churchill Road and Gurr Street.

Commercial vehicles movements (an 8.8 m MRV) will access the site via the site's western crossover. Such vehicles (refuse collection vehicles) will be able to enter and exit the site in a forward direction.

Council's Development Plan identifies a theoretical parking requirement for 80 spaces to be provided on-site. Given that 81 spaces will be provided throughout the site, the theoretical vehicle parking requirements of Council's Development Plan is considered to be satisfied. The Development Plan also requires that at least 22 bicycle parking spaces are provided on-site. A total of 24 spaces will be provided within the proposed development, therefore satisfying the bicycle parking requirement of Council's Development Plan.

With regard to traffic, the proposed development will generate in the order of 52 am and 41 pm peak hour trips. The SIDRA modelling undertaken that indicates that such volumes would be readily accommodated on the adjacent road network and at the Churchill Road / Gurr Street / Albert Street intersection with minimal impact on queues and delays.

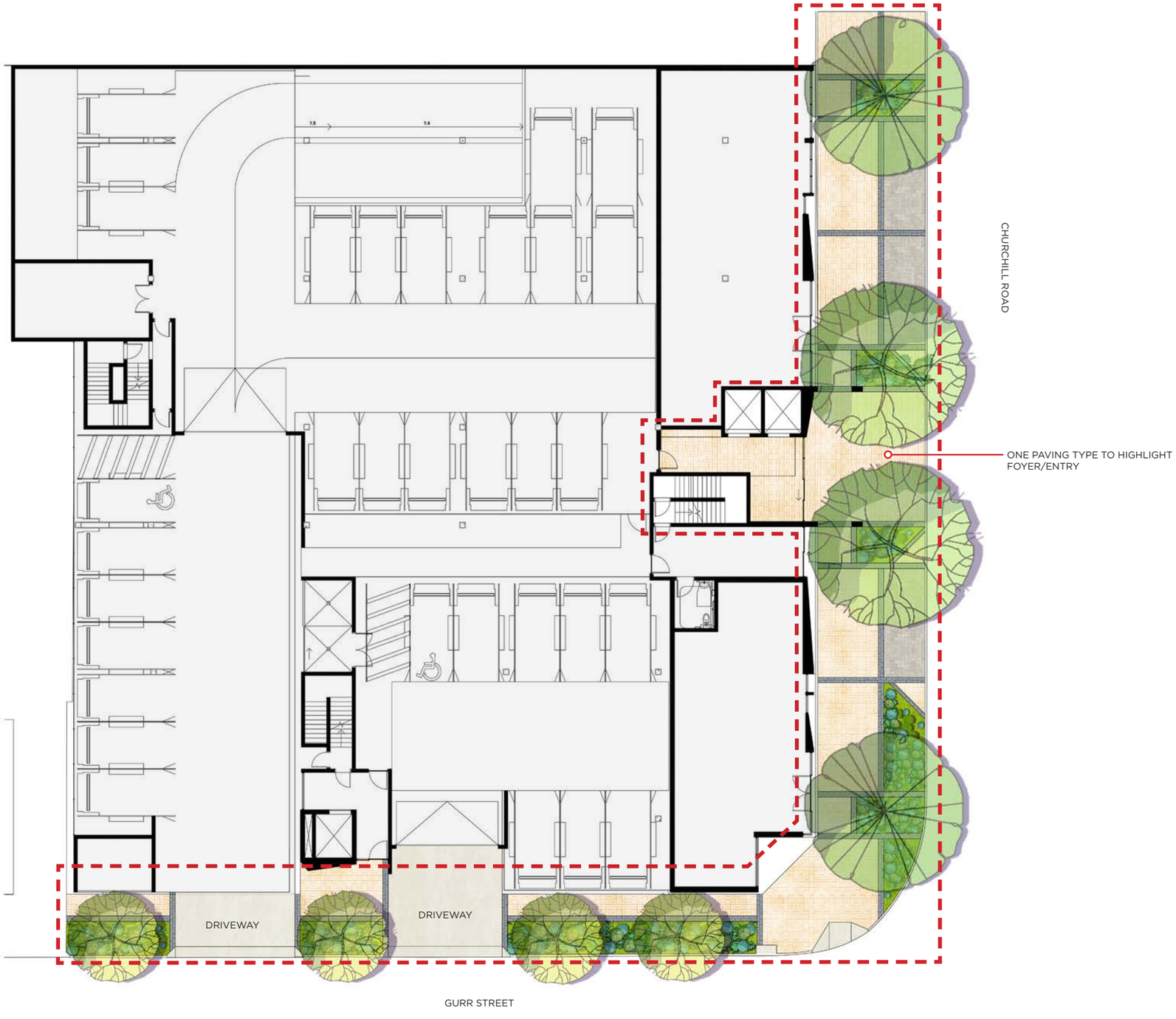
Please feel free to contact me on 0417 184 235 should you require any additional information.

Yours Sincerely,

THOMAS WILSON
Traffic & Transport Engineer, CIRQA Pty Ltd

Encl.

- Outerspace Landscape Architect's Churchill Road Streetscape Plan
- SIDRA Intersection modelling results



LEGEND

- PROPOSED PLANE TREE
- PROPOSED TUCKEROO
- PROPOSED 'GOLDEN RAIN' TREE
- LOW SEDGE PLANTING
- BRICK PAVING
- INTERLOCKING ESSE PAVERS
- PAVING BANDING
- CONCRETE
- EXTENT OF WORKS

OUTER SPACE®

PROJECT	244-246 CHURCHILL ROAD MIXED USE DEVELOPMENT
CLIENT	PROSKE ARCHITECTS
DRAWING	STREETSCAPE PLAN

0 2 5 10 15m

SCALE 1:250 @ A3

DATE: 27/09/17
DWG NO. OS603_SK02A

BY: RO
APPROVED BY: PW

INTERSECTION SUMMARY

Site: Churchill-Gurr - AM - Calib.

New Site
Giveway / Yield (Two-Way)

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	59.2	km/h	59.2	km/h
Travel Distance (Total)	2122.2	veh-km/h	2546.6	pers-km/h
Travel Time (Total)	35.8	veh-h/h	43.0	pers-h/h
Demand Flows (Total)	2206	veh/h	2648	pers/h
Percent Heavy Vehicles (Demand)	7.9	%		
Degree of Saturation	0.707			
Practical Spare Capacity	38.6	%		
Effective Intersection Capacity	3120	veh/h		
Control Delay (Total)	0.30	veh-h/h	0.36	pers-h/h
Control Delay (Average)	0.5	sec	0.5	sec
Control Delay (Worst Lane)	51.7	sec		
Control Delay (Worst Movement)	52.4	sec	52.4	sec
Geometric Delay (Average)	0.1	sec		
Stop-Line Delay (Average)	0.4	sec		
Idling Time (Average)	0.2	sec		
Intersection Level of Service (LOS)	NA			
98% Back of Queue - Vehicles (Worst Lane)	0.3	veh		
98% Back of Queue - Distance (Worst Lane)	2.3	m		
Queue Storage Ratio (Worst Lane)	0.00			
Total Effective Stops	36	veh/h	44	pers/h
Effective Stop Rate	0.02	per veh	0.02	per pers
Proportion Queued	0.01		0.01	
Performance Index	36.5		36.5	
Cost (Total)	782.66	$/h	782.66	$/h
Fuel Consumption (Total)	160.4	L/h		
Carbon Dioxide (Total)	385.5	kg/h		
Hydrocarbons (Total)	0.027	kg/h		
Carbon Monoxide (Total)	0.428	kg/h		
NOx (Total)	0.856	kg/h		

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1,059,031	veh/y	1,270,838	pers/y
Delay	146	veh-h/y	175	pers-h/y
Effective Stops	17,517	veh/y	21,021	pers/y
Travel Distance	1,018,633	veh-km/y	1,222,359	pers-km/y
Travel Time	17,202	veh-h/y	20,642	pers-h/y
Cost	375,676	$/y	375,676	$/y
Fuel Consumption	76,986	L/y		
Carbon Dioxide	185,064	kg/y		
Hydrocarbons	13	kg/y		
Carbon Monoxide	206	kg/y		
NOx	411	kg/y		

MOVEMENT SUMMARY

Site: Churchill-Gurr - AM - Calib.

New Site
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	98% Back of Queue Vehicles veh	98% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Churchill Rd (S)											
1	L2	1	2.5	0.438	5.6	LOS A	0.0	0.0	0.00	0.00	33.2
2	T1	827	8.0	0.438	0.1	LOS A	0.0	0.0	0.00	0.00	59.9
3	R2	1	2.5	0.002	12.3	LOS B	0.0	0.1	0.79	0.76	45.6
Approach		829	8.0	0.438	0.1	NA	0.0	0.1	0.00	0.00	59.8
East: Albert St (E)											
4	L2	20	2.5	0.099	21.1	LOS C	0.3	2.3	0.88	0.94	40.6
5	T1	1	2.5	0.031	51.0	LOS F	0.1	0.6	0.96	0.98	22.9
6	R2	1	2.5	0.031	52.4	LOS F	0.1	0.6	0.96	0.98	29.5
Approach		22	2.5	0.099	24.0	LOS C	0.3	2.3	0.89	0.95	39.0
North: Churchill Rd (N)											
7	L2	2	2.5	0.707	5.7	LOS A	0.0	0.0	0.00	0.00	57.8
8	T1	1336	8.0	0.707	0.2	LOS A	0.0	0.0	0.00	0.00	59.6
9	R2	4	2.5	0.005	8.0	LOS A	0.0	0.1	0.54	0.65	46.2
Approach		1342	8.0	0.707	0.2	NA	0.0	0.1	0.00	0.00	59.6
West: Gurr St (W)											
10	L2	11	2.5	0.019	9.5	LOS A	0.1	0.5	0.64	0.77	43.7
11	T1	1	2.5	0.027	43.9	LOS E	0.1	0.6	0.95	0.97	24.8
12	R2	1	2.5	0.027	45.0	LOS E	0.1	0.6	0.95	0.97	26.1
Approach		13	2.5	0.027	15.3	LOS C	0.1	0.6	0.69	0.80	38.7
All Vehicles		2206	7.9	0.707	0.5	NA	0.3	2.3	0.01	0.02	59.2

Level of Service (LOS) Method: Delay (HCM 2000).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

INTERSECTION SUMMARY

Site: Churchill-Gurr - PM - Calib.

New Site
Giveway / Yield (Two-Way)

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	58.8	km/h	58.8	km/h
Travel Distance (Total)	2613.0	veh-km/h	3135.6	pers-km/h
Travel Time (Total)	44.4	veh-h/h	53.3	pers-h/h
Demand Flows (Total)	2719	veh/h	3263	pers/h
Percent Heavy Vehicles (Demand)	7.9	%		
Degree of Saturation	0.718			
Practical Spare Capacity	36.5	%		
Effective Intersection Capacity	3788	veh/h		
Control Delay (Total)	0.62	veh-h/h	0.74	pers-h/h
Control Delay (Average)	0.8	sec	0.8	sec
Control Delay (Worst Lane)	93.7	sec		
Control Delay (Worst Movement)	94.1	sec	94.1	sec
Geometric Delay (Average)	0.1	sec		
Stop-Line Delay (Average)	0.7	sec		
Idling Time (Average)	0.4	sec		
Intersection Level of Service (LOS)	NA			
98% Back of Queue - Vehicles (Worst Lane)	0.5	veh		
98% Back of Queue - Distance (Worst Lane)	3.8	m		
Queue Storage Ratio (Worst Lane)	0.00			
Total Effective Stops	61	veh/h	73	pers/h
Effective Stop Rate	0.02	per veh	0.02	per pers
Proportion Queued	0.02		0.02	
Performance Index	45.9		45.9	
Cost (Total)	981.06	$/h	981.06	$/h
Fuel Consumption (Total)	197.9	L/h		
Carbon Dioxide (Total)	475.5	kg/h		
Hydrocarbons (Total)	0.034	kg/h		
Carbon Monoxide (Total)	0.527	kg/h		
NOx (Total)	1.052	kg/h		

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1,305,095	veh/y	1,566,114	pers/y
Delay	296	veh-h/y	355	pers-h/y
Effective Stops	29,397	veh/y	35,277	pers/y
Travel Distance	1,254,222	veh-km/y	1,505,066	pers-km/y
Travel Time	21,315	veh-h/y	25,578	pers-h/y
Cost	470,908	$/y	470,908	$/y
Fuel Consumption	94,978	L/y		
Carbon Dioxide	228,254	kg/y		
Hydrocarbons	16	kg/y		
Carbon Monoxide	253	kg/y		
NOx	505	kg/y		

MOVEMENT SUMMARY

Site: Churchill-Gurr - PM - Calib.

New Site
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	98% Back of Queue Vehicles veh	98% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Churchill Rd (S)											
1	L2	1	2.5	0.690	5.7	LOS A	0.0	0.0	0.00	0.00	33.1
2	T1	1304	8.0	0.690	0.2	LOS A	0.0	0.0	0.00	0.00	59.6
3	R2	14	2.5	0.032	13.0	LOS B	0.1	0.7	0.80	0.92	45.3
Approach		1319	7.9	0.690	0.3	NA	0.1	0.7	0.01	0.01	59.4
East: Albert St (E)											
4	L2	8	2.5	0.043	21.1	LOS C	0.1	1.0	0.88	0.94	40.6
5	T1	1	2.5	0.190	91.0	LOS F	0.5	3.8	0.98	1.00	16.0
6	R2	6	2.5	0.190	94.1	LOS F	0.5	3.8	0.98	1.00	21.7
Approach		16	2.5	0.190	55.0	LOS F	0.5	3.8	0.93	0.97	28.8
North: Churchill Rd (N)											
7	L2	14	2.5	0.718	5.7	LOS A	0.0	0.0	0.00	0.01	57.7
8	T1	1344	8.0	0.718	0.2	LOS A	0.0	0.0	0.00	0.01	59.5
9	R2	8	2.5	0.018	12.1	LOS B	0.1	0.4	0.79	0.91	42.3
Approach		1366	7.9	0.718	0.3	NA	0.1	0.4	0.00	0.01	59.4
West: Gurr St (W)											
10	L2	16	2.5	0.078	20.6	LOS C	0.2	1.7	0.88	0.94	35.3
11	T1	1	2.5	0.045	70.0	LOS F	0.1	0.9	0.97	0.99	19.3
12	R2	1	2.5	0.045	70.0	LOS F	0.1	0.9	0.97	0.99	20.1
Approach		18	2.5	0.078	26.4	LOS D	0.2	1.7	0.89	0.95	32.1
All Vehicles		2719	7.9	0.718	0.8	NA	0.5	3.8	0.02	0.02	58.8

Level of Service (LOS) Method: Delay (HCM 2000).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

INTERSECTION SUMMARY

Site: Churchill-Gurr - AM + DEV - Calib.

New Site
Giveway / Yield (Two-Way)

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	58.5	km/h	58.5	km/h
Travel Distance (Total)	2154.5	veh-km/h	2585.4	pers-km/h
Travel Time (Total)	36.8	veh-h/h	44.2	pers-h/h
Demand Flows (Total)	2261	veh/h	2713	pers/h
Percent Heavy Vehicles (Demand)	7.8	%		
Degree of Saturation	0.707			
Practical Spare Capacity	38.6	%		
Effective Intersection Capacity	3198	veh/h		
Control Delay (Total)	0.62	veh-h/h	0.75	pers-h/h
Control Delay (Average)	1.0	sec	1.0	sec
Control Delay (Worst Lane)	52.3	sec		
Control Delay (Worst Movement)	53.5	sec	53.5	sec
Geometric Delay (Average)	0.2	sec		
Stop-Line Delay (Average)	0.8	sec		
Idling Time (Average)	0.5	sec		
Intersection Level of Service (LOS)	NA			
98% Back of Queue - Vehicles (Worst Lane)	0.7	veh		
98% Back of Queue - Distance (Worst Lane)	4.6	m		
Queue Storage Ratio (Worst Lane)	0.02			
Total Effective Stops	82	veh/h	98	pers/h
Effective Stop Rate	0.04	per veh	0.04	per pers
Proportion Queued	0.03		0.03	
Performance Index	38.7		38.7	
Cost (Total)	810.64	$/h	810.64	$/h
Fuel Consumption (Total)	164.3	L/h		
Carbon Dioxide (Total)	394.7	kg/h		
Hydrocarbons (Total)	0.028	kg/h		
Carbon Monoxide (Total)	0.438	kg/h		
NOx (Total)	0.868	kg/h		

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1,085,305	veh/y	1,302,366	pers/y
Delay	299	veh-h/y	359	pers-h/y
Effective Stops	39,201	veh/y	47,041	pers/y
Travel Distance	1,034,141	veh-km/y	1,240,970	pers-km/y
Travel Time	17,679	veh-h/y	21,215	pers-h/y
Cost	389,108	$/y	389,108	$/y
Fuel Consumption	78,849	L/y		
Carbon Dioxide	189,470	kg/y		
Hydrocarbons	14	kg/y		
Carbon Monoxide	210	kg/y		
NOx	417	kg/y		

MOVEMENT SUMMARY

Site: Churchill-Gurr - AM + DEV - Calib.

New Site
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	98% Back of Queue Vehicles veh	98% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Churchill Rd (S)											
1	L2	13	2.5	0.444	5.6	LOS A	0.0	0.0	0.00	0.01	33.1
2	T1	827	8.0	0.444	0.1	LOS A	0.0	0.0	0.00	0.01	59.8
3	R2	1	2.5	0.002	12.3	LOS B	0.0	0.1	0.79	0.76	45.6
Approach		841	7.9	0.444	0.2	NA	0.0	0.1	0.00	0.01	59.3
East: Albert St (E)											
4	L2	20	2.5	0.099	21.1	LOS C	0.3	2.3	0.88	0.94	40.6
5	T1	2	2.5	0.047	51.7	LOS F	0.1	1.0	0.96	0.98	22.8
6	R2	1	2.5	0.047	53.5	LOS F	0.1	1.0	0.96	0.98	29.3
Approach		23	2.5	0.099	25.4	LOS D	0.3	2.3	0.89	0.95	38.2
North: Churchill Rd (N)											
7	L2	2	2.5	0.707	5.7	LOS A	0.0	0.0	0.00	0.00	57.8
8	T1	1336	8.0	0.707	0.2	LOS A	0.0	0.0	0.00	0.00	59.6
9	R2	13	2.5	0.014	8.2	LOS A	0.0	0.3	0.54	0.70	46.1
Approach		1351	7.9	0.707	0.3	NA	0.0	0.3	0.01	0.01	59.5
West: Gurr St (W)											
10	L2	29	2.5	0.054	9.7	LOS A	0.2	1.4	0.64	0.83	43.5
11	T1	2	2.5	0.219	49.7	LOS E	0.7	4.6	0.96	0.99	23.0
12	R2	15	2.5	0.219	51.7	LOS F	0.7	4.6	0.96	0.99	24.1
Approach		46	2.5	0.219	24.9	LOS C	0.7	4.6	0.76	0.89	33.2
All Vehicles		2261	7.8	0.707	1.0	NA	0.7	4.6	0.03	0.04	58.5

Level of Service (LOS) Method: Delay (HCM 2000).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

INTERSECTION SUMMARY

Site: Churchill-Gurr - PM + DEV - Calib.

New Site
Giveway / Yield (Two-Way)

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Travel Speed (Average)	58.3	km/h	58.3	km/h
Travel Distance (Total)	2636.6	veh-km/h	3163.9	pers-km/h
Travel Time (Total)	45.2	veh-h/h	54.3	pers-h/h
Demand Flows (Total)	2759	veh/h	3311	pers/h
Percent Heavy Vehicles (Demand)	7.8	%		
Degree of Saturation	0.718			
Practical Spare Capacity	36.5	%		
Effective Intersection Capacity	3844	veh/h		
Control Delay (Total)	0.90	veh-h/h	1.08	pers-h/h
Control Delay (Average)	1.2	sec	1.2	sec
Control Delay (Worst Lane)	95.4	sec		
Control Delay (Worst Movement)	95.8	sec	95.8	sec
Geometric Delay (Average)	0.2	sec		
Stop-Line Delay (Average)	1.0	sec		
Idling Time (Average)	0.7	sec		
Intersection Level of Service (LOS)	NA			
98% Back of Queue - Vehicles (Worst Lane)	0.6	veh		
98% Back of Queue - Distance (Worst Lane)	4.0	m		
Queue Storage Ratio (Worst Lane)	0.01			
Total Effective Stops	95	veh/h	114	pers/h
Effective Stop Rate	0.03	per veh	0.03	per pers
Proportion Queued	0.03		0.03	
Performance Index	47.6		47.6	
Cost (Total)	1004.60	$/h	1004.60	$/h
Fuel Consumption (Total)	200.7	L/h		
Carbon Dioxide (Total)	482.3	kg/h		
Hydrocarbons (Total)	0.034	kg/h		
Carbon Monoxide (Total)	0.534	kg/h		
NOx (Total)	1.061	kg/h		

Level of Service (LOS) Method: Delay (HCM 2000).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1,324,295	veh/y	1,589,154	pers/y
Delay	433	veh-h/y	519	pers-h/y
Effective Stops	45,500	veh/y	54,600	pers/y
Travel Distance	1,265,557	veh-km/y	1,518,668	pers-km/y
Travel Time	21,703	veh-h/y	26,043	pers-h/y
Cost	482,210	$/y	482,210	$/y
Fuel Consumption	96,352	L/y		
Carbon Dioxide	231,502	kg/y		
Hydrocarbons	17	kg/y		
Carbon Monoxide	256	kg/y		
NOx	509	kg/y		

MOVEMENT SUMMARY

Site: Churchill-Gurr - PM + DEV - Calib.

New Site
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	98% Back of Queue Vehicles veh	98% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Churchill Rd (S)											
1	L2	14	2.5	0.697	5.7	LOS A	0.0	0.0	0.00	0.01	33.0
2	T1	1304	8.0	0.697	0.2	LOS A	0.0	0.0	0.00	0.01	59.6
3	R2	14	2.5	0.032	13.0	LOS B	0.1	0.7	0.80	0.92	45.3
Approach		1332	7.9	0.697	0.4	NA	0.1	0.7	0.01	0.02	59.0
East: Albert St (E)											
4	L2	8	2.5	0.043	21.1	LOS C	0.1	1.0	0.88	0.94	40.6
5	T1	1	2.5	0.193	92.8	LOS F	0.5	3.8	0.98	1.00	15.8
6	R2	6	2.5	0.193	95.8	LOS F	0.5	3.8	0.98	1.00	21.5
Approach		16	2.5	0.193	55.8	LOS F	0.5	3.8	0.93	0.97	28.6
North: Churchill Rd (N)											
7	L2	14	2.5	0.718	5.7	LOS A	0.0	0.0	0.00	0.01	57.7
8	T1	1344	8.0	0.718	0.2	LOS A	0.0	0.0	0.00	0.01	59.5
9	R2	19	2.5	0.042	12.5	LOS B	0.1	0.9	0.80	0.91	42.0
Approach		1377	7.9	0.718	0.4	NA	0.1	0.9	0.01	0.02	59.3
West: Gurr St (W)											
10	L2	25	2.5	0.124	20.9	LOS C	0.4	2.8	0.89	0.95	35.1
11	T1	1	2.5	0.202	78.8	LOS F	0.6	4.0	0.98	1.00	17.9
12	R2	8	2.5	0.202	78.8	LOS F	0.6	4.0	0.98	1.00	18.6
Approach		35	2.5	0.202	36.7	LOS E	0.6	4.0	0.91	0.96	27.9
All Vehicles		2759	7.8	0.718	1.2	NA	0.6	4.0	0.03	0.03	58.3

Level of Service (LOS) Method: Delay (HCM 2000).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

ATTACHMENT F

Stormwater Management Plan (PT Design)

STORMWATER MANAGEMENT REPORT

Churchill Road (244-246), Prospect

Prepared by:

PT Design ABN 35 008 116 916
141-149 Ifould Street, ADELAIDE SA 5000
Tel: (08) 8412 4300

Project No: 19724
Revision: -00-
Date of Issue: 17/10/2017

INTRODUCTION

A new apartment building is proposed to be constructed on the corner of Churchill Road and Gurr Street, Prospect. The site is located in a residential area, however, there are commercial buildings of a similar scale in the area. This report considers the stormwater management including detention in accordance with council's requirements.

THE SITE

The site is an almost rectangular piece of land 1935m2 in area. The site is fronted by Churchill Road to the east, Gurr Street to the south, a residential property to the west and what is currently vacant land to the north. This vacant land is currently being developed, but the land use is unknown to this office. The pre-development site is covered by buildings and a significant amount of paving with some pervious areas. The existing site is basically level with a difference in level of just 200mm over the entire site. No stormwater from outside of the property boundaries flow onto the site during 'normal' rain events.

There is a side entry pit in the south-eastern corner of the site to allow for direct connection of the stormwater.

STORMWATER DETENTION

The City of Prospect has advised that we must detain stormwater from the site such that the flow from the critical post-development 1 in 20 year storm does not exceed the pre-development minor storm.

Calculations show that we must provide 12.6 kL of storage with a maximum discharge rate of 30.4 L/sec. Refer to appendix A for the supporting calculations.

Detention will be provided by a series of above ground tanks linked by a levelling pipe that will gravity drain to the side entry pit in the south-east corner of the site. The final makeup and or location of the tanks will be finalised during detailed design development in the future.

STORMWATER DESIGN

The FFLs of the ground floor will be set at 10.78. This FFL has been selected to ensure it is a min. of 300mm above the nearest adjacent water table level to minimise the risk of inundation of flood water from the road during a major storm event.

The levels of the carpark to the southern boundary will be set at 10.90 then ramp down to suit the finished floor levels. This is to ensure that the levels at the boundary are a min. of 300mm above the nearest adjacent water table level to minimise the risk of inundation of flood water from the road during a major storm event.

All roof and paved catchment areas within the site will be directed to the stormwater detention system. Final stormwater pipe layout and sizes will be determined in accordance with AS3500.3 during detailed design development stage in the future.

Any stormwater that manages to make its way to the basement level will be collected and pumped back to ground level as required.

Given the site is basically entirely covered by roof, no treatment of the stormwater is required.

APPENDIX A

STORMWATER DETENTION CALCULATIONS

STORMWATER CALCULATIONS

Churchill Road (244-246), Prospect

Prepared by:

PT Design ABN 35 008 116 916
141-149 Ifould Street, ADELAIDE SA 5000
Tel: (08) 8412 4300

Project No: 19724
Revision: -00-
Date of Issue: 17/10/2017

Project:	244-246 Churchill Road	Project #	19724
	Prospect	Date	17.10.2017
Design By:	MP	Page	1 of 2

CRITICAL 1 IN 20 YEAR DETENTION VOLUME

PRE DEVELOPMENT FLOW (MINOR STORM)

Time of Concentration	5	mins
Rainfall Intensity	94.2	mm/hr

Catchment Area	C	Area (m^2)		
Roof	0.9	569.4	13.4	
Impervious	0.75	692.4	13.6	
Pervious	0.2	642.6	3.4	
		Total	**30.4**	L/sec

POST DEVELOPMENT FLOW (MAJOR STORM)

Time of Concentration	t	mins (critical TBC)
Rainfall Intensity	$^{20}I_t$	mm/hr

Catchment Area	C	Area (m^2)		
Roof	0.9	1934.4	0.48	
Impervious	0.75	0	0.00	
Pervious	0.2	0	0.00	
		Total	**0.48**	$^{100}I_t$

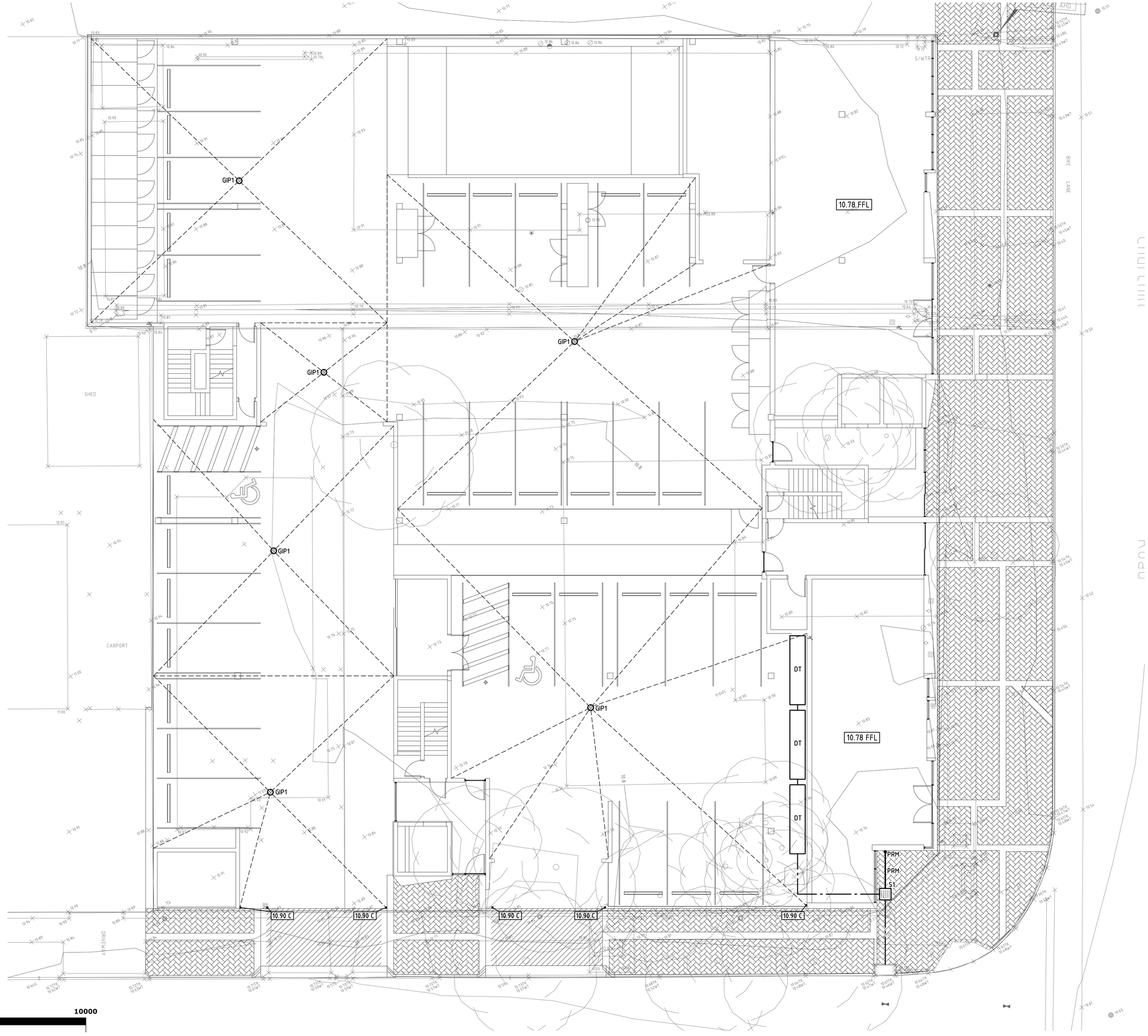
Project:	244-246 Churchill Road	Project #	19724
	Prospect	Date	17.10.2017
Design By:	MP	Page	2 of 2

CRITICAL STORAGE VOLUME

Q in		**Q out**	
0.48	$^{20}I_t$	30.4	L/sec

Tc (mins)	Intensity, I (mm/hr)	Q in (L/sec)	Q out (L/sec)	V in (L^3)	V out (L^3)	V total (L^3)
5	119	57.5	30.4	17265	9108	8156.322
6	110	53.2	30.4	19151	10019	9132
10	87.5	42.3	30.4	25389	13662	11727
20	60.8	29.4	30.4	35283	22770	12513
30	47.8	23.1	30.4	41609	31879	9730
60	30.5	14.7	30.4	53099	59203	-6104
120	18.9	9.1	30.4	65808	113852	-48044.2
180	14.2	6.9	30.4	74165	168502	-94337
360	8.7	4.2	30.4	90878	332449	-241571
720	5.3	2.6	30.4	110725	660344	-549619
1440	3.1	1.5	30.4	129527	1316135	-1186607

PEAK STORAGE REQUIRED 12513 L^3



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PT Design

structural • civil • engineers

LEGEND

——— · ———	STORMWATER PIPE TO FUTURE DETAILS
S1	STORMWATER SUMP TO FUTURE DETAILS
GIP1	GRATED INLET POINT TO FUTURE DETAILS
GIP2	GRATED INLET POINT TO FUTURE DETAILS
GD	GRATED DRAIN
SP300	300 WIDE CONCRETE SPOON DRAIN
15.55	DESIGN LEVEL C - CONCRETE
– – – – –	GRADE LINE
DT	3 x 5.0 kL DETENTION TANKS (WITH LEVELLING PIPES) STRICTLY IN ACCORDANCE WITH MANUF'S DETAILS PROVIDE INSPECTION OPENINGS, BREATHER VALVES, ETC. STRICTLY IN ACCDORDANCE WITH MANUF'S DETAILS
PS	PRE-PACKAGED PUMP STATION TO PUMP MANUFACTURERS DETAILS PUMP RATE - 10.0 L/sec
PRM	PUMP RISING MAIN TO PUMP MANUFACTURERS DETAILS
	CONCRETE CROSSOVER TO COUNCIL'S REQUIREMENTS
	FOOTPATH PAVING TO COUNCIL'S REQUIREMENTS

PUMP NOTES:

PUMP SHALL BE DUAL PUMP. THE PUMP CONTROLS SHALL BE SET UP TO ENABLE ALTERNATE PUMP OPERATION AT EACH START. IN THE EVENT THAT A PUMP FAILS TO OPERATE WHEN THE WATER LEVEL IN THE WELL REACHES THE PUMP START, THE OTHER PUMP SHALL BE ACTIVATED AND A VISIBLE ALARM INITIATED. IN THE EVENT THAT BOTH PUMPS FAIL TO OPERATE, AN AUDIBLE ALARM SHALL BE INITIATED. PROVIDE BACK-UP POWER SUPPLY IN CASE OF POWER FAILURE.

NOTE:

DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS DRAWINGS AS A PACKAGE. REFER TO ARCHITECTS DRAWINGS FOR ALL SETOUT DIMENSIONS.

ALL LEVELS SHALL BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION. SHOULD ANY DISCREPANCY OCCUR THE CONTRACTOR SHALL CONTACT THIS OFFICE IMMEDIATELY FOR FURTHER INSTRUCTION.

Date	Revision	Issue
26.10.2017	ISSUED FOR PLANNING APPROVAL	A

FOR APPROVAL

PT Design

PT Design Pty Ltd 141-149 Ifould Street Adelaide SA 5000
T (08 8412 4300) E (ptdesign@ptdesign.net.au)

Designed	MP	Drawn	MP
Approved		Date	OCT '17
CIVIL		Sheet	1 of 2

Project

PROPOSED APARTMENTS 244-246 CHURCHILL ROAD PROSPECT

Client

MICHAEL CALABRO Pty. Ltd.

N

Drawing Title

GROUND FLOOR DRAINAGE LAYOUT

Scale

1:100

Drawing Number

19724-C01

Issue

A

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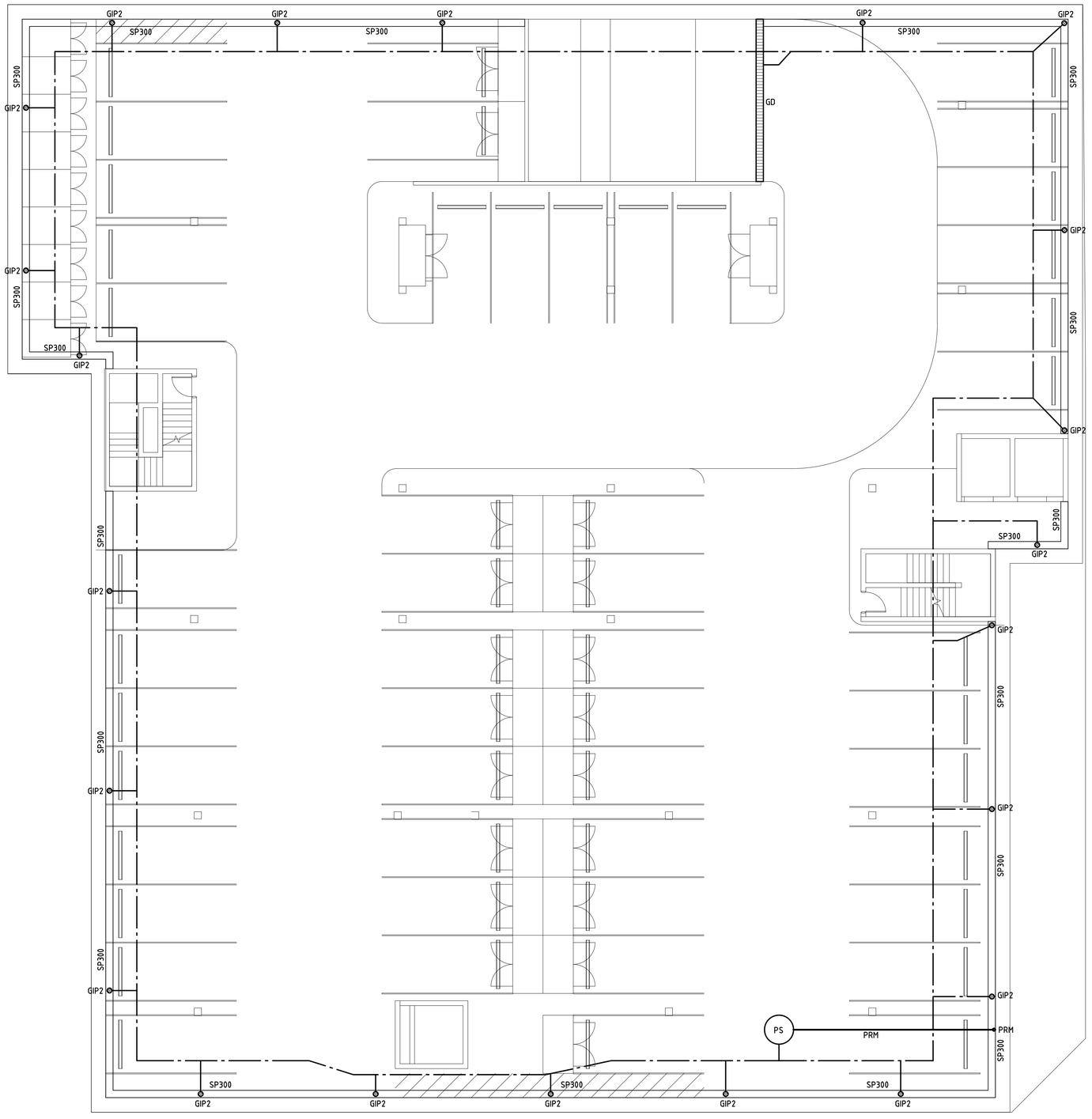
PT Design

structural • civil • engineers



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SCALE 1:100 @A1

LEGEND

——·——	STORMWATER PIPE TO FUTURE DETAILS
S1	STORMWATER SUMP TO FUTURE DETAILS
GIP1	GRATED INLET POINT TO FUTURE DETAILS
GIP2	GRATED INLET POINT TO FUTURE DETAILS
GD	GRATED DRAIN
SP300	300 WIDE CONCRETE SPOON DRAIN
15.55	DESIGN LEVEL C - CONCRETE
– – – – –	GRADE LINE
DT	3 x 5.0 kL DETENTION TANKS (WITH LEVELLING PIPES) STRICTLY IN ACCORDANCE WITH MANUF'S DETAILS PROVIDE INSPECTION OPENINGS, BREATHER VALVES, ETC. STRICTLY IN ACCDORDANCE WITH MANUF'S DETAILS
PS	PRE-PACKAGED PUMP STATION TO PUMP MANUFACTURERS DETAILS PUMP RATE - 10.0 L/sec
PRM	PUMP RISING MAIN TO PUMP MANUFACTURERS DETAILS
	CONCRETE CROSSOVER TO COUNCIL'S REQUIREMENTS
	FOOTPATH PAVING TO COUNCIL'S REQUIREMENTS

PUMP NOTES:

PUMP SHALL BE DUAL PUMP. THE PUMP CONTROLS SHALL BE SET UP TO ENABLE ALTERNATE PUMP OPERATION AT EACH START. IN THE EVENT THAT A PUMP FAILS TO OPERATE WHEN THE WATER LEVEL IN THE WELL REACHES THE PUMP START, THE OTHER PUMP SHALL BE ACTIVATED AND A VISIBLE ALARM INITIATED. IN THE EVENT THAT BOTH PUMPS FAIL TO OPERATE, AN AUDIBLE ALARM SHALL BE INITIATED. PROVIDE BACK-UP POWER SUPPLY IN CASE OF POWER FAILURE.

NOTE:

DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS DRAWINGS AS A PACKAGE. REFER TO ARCHITECTS DRAWINGS FOR ALL SETOUT DIMENSIONS.

ALL LEVELS SHALL BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION. SHOULD ANY DISCREPANCY OCCUR THE CONTRACTOR SHALL CONTACT THIS OFFICE IMMEDIATELY FOR FURTHER INSTRUCTION.

Date	Revision	Issue
26.10.2017	ISSUED FOR PLANNING APPROVAL	A

FOR APPROVAL

PT Design

PT Design Pty Ltd 141-149 Ifould Street Adelaide SA 5000
T (08 8412 4300) E (ptdesign@ptdesign.net.au)

Designed	MP	Drawn	MP
Approved		Date	OCT '17
CIVIL		Sheet	2 of 2

Project

PROPOSED APARTMENTS 244-246 CHURCHILL ROAD PROSPECT

Client

MICHAEL CALABRO Pty. Ltd.

N

Drawing Title

BASEMENT LEVEL DRAINAGE LAYOUT

Scale 1:100

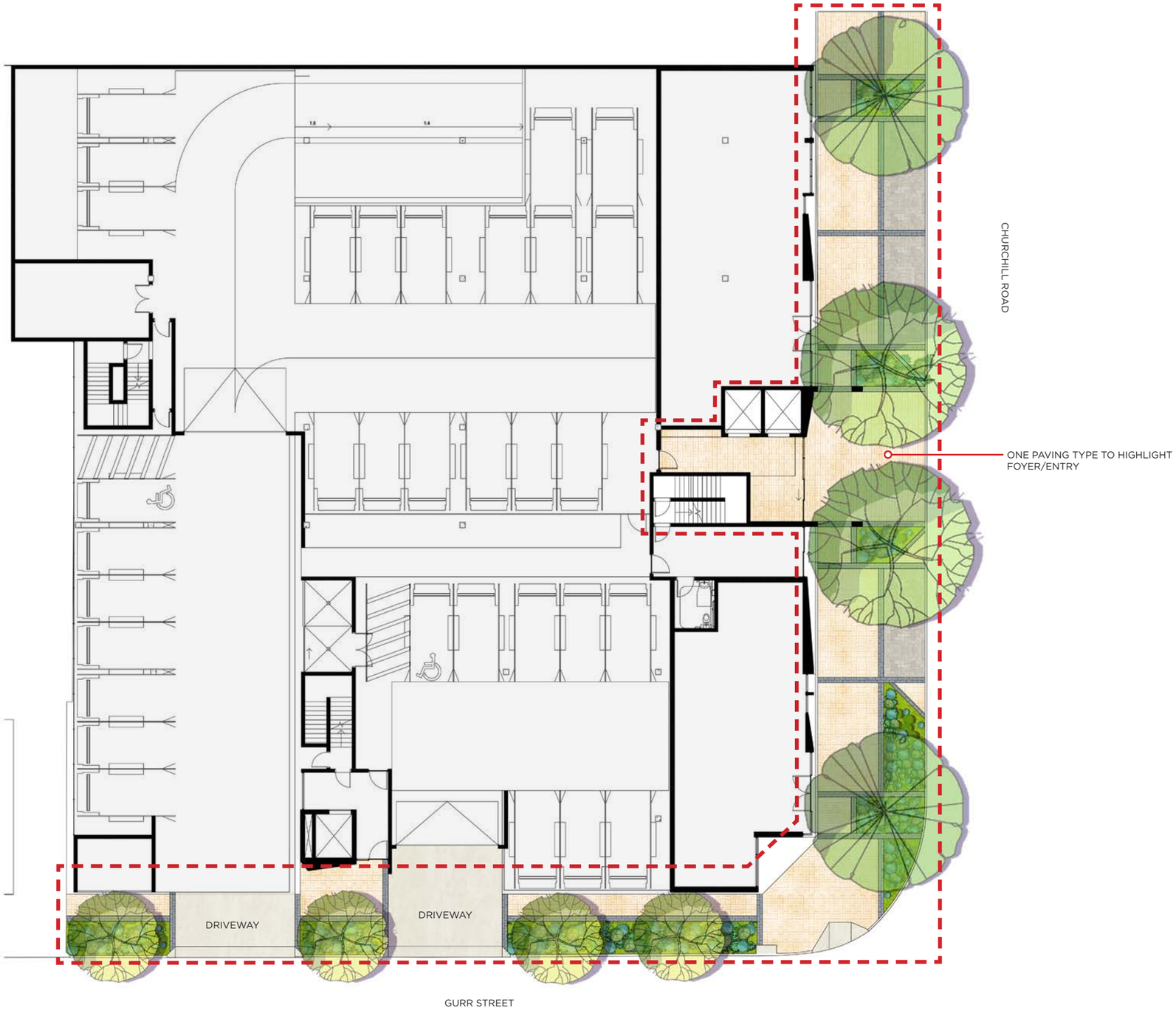
Drawing Number 19724-C02

Issue A

© Copyright

ATTACHMENT G

Streetscape Plan (Outerspace Landscape Architects)



LEGEND

- PROPOSED PLANE TREE
- PROPOSED TUCKEROO
- PROPOSED 'GOLDEN RAIN' TREE
- LOW SEDGE PLANTING
- BRICK PAVING
- INTERLOCKING ESSE PAVERS
- PAVING BANDING
- CONCRETE
- EXTENT OF WORKS

OUTER SPACE®

PROJECT	244-246 CHURCHILL ROAD MIXED USE DEVELOPMENT
CLIENT	PROSKE ARCHITECTS
DRAWING	STREETSCAPE PLAN

0 2 5 10 15m

SCALE 1:250 @ A3

DATE: 27/09/17
DWG NO. OS603_SK02A

BY: RO
APPROVED BY: PW

LEGEND

- PROPOSED SHRUB
- QUATRO PLANTER BOX
- QUATRO FLINDERS BENCH
- SANDSTONE PAVERS
- COBBLESTONE PAVERS
- EXTENT OF WORKS

OUTER SPACE

PROJECT	244-246 CHURCHILL ROAD MIXED USE DEVELOPMENT
CLIENT	PROSKE ARCHITECTS
DRAWING	LEVEL 01 PLAN

0 2 4 6 8 10m

SCALE 1:200 @ A3

DATE: 27/09/17

DWG NO. OS603_SK03A

BY: RO

APPROVED BY: PW

LEGEND

- PROPOSED SHRUB
- QUATRO PLANTER BOX
- QUATRO FLINDERS BENCH
- SANDSTONE PAVERS
- COBBLESTONE PAVERS
- EXTENT OF WORKS

OUTER SPACE

PROJECT	244-246 CHURCHILL ROAD MIXED USE DEVELOPMENT
CLIENT	PROSKE ARCHITECTS
DRAWING	LEVEL 04 PLAN

0 2 4 6 8 10m

SCALE 1:200 @ A3

DATE: 27/09/17
DWG NO. OS603_SK04A

BY: RO
APPROVED BY: PW

COURTYARD PLANTER BOXES

Quatro trough planter

Quatro square planter

COURTYARD FURNITURE

Quatro seat (with timber)

Quatro seat

STREETSCAPE PAVING

Beach Sand Brick Paver

Interlocking Esse Paver

Banding

COURTYARD PAVING

Sandstone Pavers

Cobblestone Pavers

STREETSCAPE PLANTING

Platanus orientalis
(Oriental Plane)

Cupaniopsis anacardioides
(Tuckeroo)

Koelreuteria paniculata
(Golden Rain)

Lomandra longifolia

Westringia fruticosa

COURTYARD PLANTING

Chamaedora elegans

Ficus elastica

Monstera deliciosa

Philodendron xanadu

Rhapis excelsa

Sanseviera trifasciata

Spathiphyllum wallisii ‘Giant’

OUTER SPACE®	PROJECT	244-246 CHURCHILL ROAD MIXED USE DEVELOPMENT		DATE: 27/09/17
	CLIENT	PROSKE ARCHITECTS		DWG NO. OS603_SK01A
	DRAWING	MATERIALS & PLANTING PALETTE		BY: RO
				APPROVED BY: PW

MASTERPLAN
TOWN + COUNTRY PLANNERS

31 August 2018

Ms Gabrielle McMahon
Principal Planner – CBD and Inner Metro
Strategic Development Assessment
Department of Planning, Transport and Infrastructure
Level 5, 50 Flinders Street
ADELAIDE SA 5000

Dear Gabrielle,

Re: DA 050/M009/14 – 224-248 Churchill Road, Prospect

We refer to:

- your request for further information dated 29th November 2017;
- ODASA's information request which was forwarded on 5th December 2017;
- DPTI's Safety and Service Referral Response dated 11th December 2017; and
- the City of Prospect's comments from the 11th December 2017 Council Assessment Panel meeting.

The proposal has been extensively redesigned to take account of the above comments received, together with the suggestions made at Proske Architects' studio on 8th December 2017. The amended proposal is shown on Proske Architects' drawing set attached (Various Revisions dated 30 August 2018).

Amendment Summary

To further assist your understanding of the amendments made, please refer to the attached Comparison Analysis Table.

Floor by floor, the main changes are as follows:

Basement

- It has been necessary to raise the finished floor level of the basement by 270 millimetres in accordance with Council's Flood Risk requirements.

- The vehicle car park and associated aisles have been amended to accommodate the revised stair/lift core locations. The vehicle access ramp remains in the same location as before.
- Fewer parking spaces are provided within a smaller basement footprint (50 spaces previously, 40 spaces now proposed).
- A simplified, square shaped building footprint has been designed for more efficient construction, with the building now set back 3.0 metres from the Churchill Road boundary and 1.35 metres from the Gurr Street boundary.
- Twenty (20) secure storage lockers for the residential apartments with another fourteen (14) lockers provided at ground floor level.

Ground Floor

- A raised internal ground floor level (foyers, waste rooms, services areas and commercial tenancies) and car park levels to accommodate Council's flood risk requirements. Previously the internal ground floor was set at 10.78FFL but this has been raised by 490 millimetres to 11.27FFL.
- Amended Junction Australia car park layout and driveway access point which is 6.0 metres from the Churchill Road junction tangent specified by Cirqa Pty Ltd in the attached Traffic and Parking Report dated 26 June 2018. These amendments were necessary to accommodate a disability access ramp and steps because of the need to raise the basement and ground levels of the building (see above).
- Junction Australia's foyer and the associated apartments remain generally the same as before, other than the bedroom window positions to the upper levels which now have an improved outlook. External bedroom windows facing into the internal community courtyard have 1,800 millimetre high sills and are screened via either a vertical privacy screen (to windows facing the private light well connected to the common courtyard) or a 300 deep awning surround for privacy, as noted on the Floor Plan drawings.
- 3.0 metre building setback to the Churchill Road frontage. The Gurr Street frontage will have a minimum ground floor building setback of 1.35 metres, whereas previously the setback was zero.
- A raised, undercover verandah 1.95 metres wide adjacent the two retail tenancies facing Churchill Road, inclusive of a 1:14 disability access ramp and 2.9 metre wide stairs from the Churchill Road footpath to the retail tenancies, entry court and residential foyer.
- A revised residential entry foyer, lift and stair configuration to suit the 3.0 metre building setback from Churchill Road, with more intuitive pedestrian access and amenity to the foyer and retail tenancies.
- Inclusion of a large entry court with double height ceiling and dual access points to the residential foyer and lifts.

- Revised retail tenancy layouts in response to the 3.0 metre building setback from Churchill Road. The retail tenancies have also been reduced from 255 square metres to 203 square metres total floor area.
- A consequential reduction in the number of accessible retail parking spaces (from 7 to 6) due to the reduced floor area.
- 14 storage lockers provided at ground floor level for the residential apartments in addition to the 20 lockers in the basement.
- Fourteen (14) vertical bicycle parking spaces in the car park for riders plus four (4) publicly accessible bicycle parking spaces at the front of the entry court. The publicly accessible bicycle parking spaces are visible to Churchill Road and both retail tenancies.
- Three (3) deep soil planting zones with a combined area of 101 square metres, or 5.2% of the site. Low level landscaping will also be planted in the 1.25 metre wide garden bed between the Churchill Road footpath and the raised, undercover footpath.
- A 20,000 litre, above ground rainwater tank between the retail parking spaces and the stairs on the western side of the car park.
- Dedicated waste storage rooms - one for the residential apartments and retail tenancies[1] and one for Junction Australia.

<u>Levels 1 to 4</u>

- A reduced overall apartment yield, from 55 apartments (47 residential apartments plus 8 Junction Australia social housing units) to 42 apartments (34 residential plus 8 social housing).
- South facing residential apartments have been rotated and redesigned to face west to enclose a central community courtyard.
- Increased Level 4 setback for all apartments to reduce overall building mass and perceived building height particularly from Churchill Road.
- Revised residential lift lobby and egress stair locations and inclusion of a central community courtyard of 120 square metres which will incorporate seating, benches, raised garden beds and plantings, paving and barbeque facilities. The community courtyard is detailed on Outerspace's amended landscape plan.
- Increased building setback to the north-west corner of the site to increase the building setback from the western boundary and to accommodate a deep soil landscape zone along this boundary. A setback of 1.35 metres has been achieved, whereas previously the setback was zero.

[1] Although labelled 'residential waste' on Drawing PL05.B this room has been designed to accommodate waste for retail tenancies 01 and 02, as detailed in Rawtec's Waste Management Plan, version 3 dated 14th June 2018

The Table below compares the floor area reductions at each apartment floor level, indicating an overall reduction of 1,216.88 square metres of floor space for the amended development.

Table: Floor Area Comparison

FLOOR LEVEL	LODGED APPLICATION (SQUARE METRES)	AMENDED APPLICATION (SQUARE METRES)
Basement	1,733.32	1,496.97
Ground Floor	1,832.34	1,608.52
Level 1	1,660.53	1,460.66
Level 2	1,403.65	1,267.28
Level 3	1,403.65	1,267.26
Level 4	1,397.13	1,113.05
TOTAL	**9,430.62**	**8,213.74**

Information Request (your email dated 29th November 2017).

Additional Information

1. We will courier to your office a full set of scaled architectural drawings and perspectives printed on A3 and A1 sheets, as well as the amended Landscape Concept Plan prepared by Outerspace Landscape Architects - attached.

2. Proske Architects' Drawing PL10A (Roof Plan) is new. The Elevations show a 0.5 metre high parapet surrounding the roof to screen roof top plant and equipment. The two lift shafts extend slightly beyond the height of this parapet, but they are not dominant or visually obtrusive. Furthermore, the double lift shaft servicing the residential apartments is centrally located on the roof while the smaller Junction Australia lift shaft is set well back from Churchill Road.

3. The air conditioning units will be located at roof top level, as detailed in Drawing PL10A.

4. Diagrams showing the extent of overshadowing for the property on the opposite corner of Gurr Street and Churchill Road at 10.00 am and 11.00 am on 21 June are shown in Drawing PL15B. These properties are a pair of semi-detached dwellings, and the diagrams indicate that they will receive full sunlight at 9.00 am and 10.00 am, with the rear yard of the semi-detached dwelling closest to Gurr Street in shadow at 11.00 am. However, from 3.00 pm onwards on 21 June the rear yards of both dwellings receive sunlight into their rear yards. Relevantly, these properties are also located in the Urban Corridor Zone and Boulevard Policy Area where Zone PDC 13 does *not* apply. The PDC which is most relevant is Council-wide PDC 139 (Development in Mixed Use, Urban Corridor and Centre Zones) which requires buildings to be designed and located to *minimise* the overshadowing into adjacent dwellings. We are satisfied that the proposal has been designed and sited to satisfy the intent of PDC 139.

5. Perspective drawings showing the northern view of the building are now included in the amended drawing set at Drawings PL19 and PL20.

6. Light spill from the car park at Ground Level will be minimised by the installation of a 2.10 metre high 'Good Neighbour' Colorbond fence along the western boundary. The Colorbond fence along this boundary will be supported on a 400 millimetre to 500 millimetre high retaining wall, which will provide an added measure of screening to prevent headlight glare.

   The Junction Australia car park will be screened from Gurr Street by a perforated metal screen to minimise headlight glare. This screen will also minimise headlight glare into the pair of single storey semi-detached dwellings directly opposite which we note are already screened with a 1.6 metre high solid metal fence along the Gurr Street boundary.

7. The proposal has been redesigned in accordance with recommendations made by Sonus Pty Ltd, whose report dated August 2018 is included with this letter. The Minister's Specification SA 788B is relevant to this site because Churchill Road is designated as a "Type A" road in the Development Plan. The development site is furthermore located in a "designated area" through the Air and Noise Emissions Overlay of the Development Plan. Minister's Specification SA 78A is mandatory for the assessment of residential development located within 100 metres of a 60km/hr road such as Churchill Road, and for all residences within 50 metres of a designated rail corridor[2].

8. A materials sample board will be supplied for inspection by SCAP members when the application is presented for consideration.

Matters for Further Consideration

1. Landscaping: as detailed above, the amended proposal has three dedicated deep soil zones with a combined site coverage of 5.2 %. Allocation of 7 percent of the site as a deep soil zone could have been achieved but for Council's Flood Risk Assessment requirement, which has necessitated the inclusion of additional disability access ramps and a raised walkway along the Churchill Road frontage to provide public access to the commercial tenancies. The areas now set aside and required for ramps and walkways would have been set aside as deep soil zones had it not been necessary to raise the ground floor level.

   Additional landscaping adjacent to Churchill Road will nevertheless soften and enhance the development's appearance from Churchill Road.

2. Churchill Road setback: the amended proposal is now setback 3.0 metres from Churchill Road.

[2] The rail corridor is located 80 metres west of the development site's western boundary and therefore the Minister's Specification does not apply to this noise source. Sonus has nevertheless taken account of noise from the rail corridor as part of its assessment.

3. Building Height: we acknowledge that the building exceeds the height limits set out in the Development Plan. To minimise the impact represented by this additional height, the upper level has been setback from the lower levels. This effect can be seen by comparing Level 4, where the apartments facing Churchill Road and Gurr Street are now set back further from these street frontages than the apartments at Levels 1, 2 and 3 below them. The visual effect of these amendments can also be seen on Perspective Drawings PL17A, PL19A and PL.22. The top level also features a subtly different palette of materials and colours compared to the lower levels, in accordance with your suggestions.

   Apartment/Amenity Outlook: the floor plans at each level have been amended to ensure that each apartment has an attractive outlook, improved access to light and avoids overlooking. The revised layout features apartments arranged around a central courtyard at Level 1 and a central void which is open to the sky at roof top level. Apartment windows and balconies have also been carefully designed to prevent overlooking into adjacent apartments. The internal acoustic environment of each apartment will also achieve compliance with the Minister's Specification SA 78B Assessment criteria, as detailed in the August 2018 Report prepared by Sonus.

Office for Design and Architecture SA (ODASA)

1. Works to the footpaths are shown on the amended Landscape Plan prepared by Outerspace. These public realm works have been designed to match the streetscape works undertaken further south along Churchill Road. Our client undertakes to carry out these works in accordance with the reasonable requirements of DPTI/City of Prospect. A formal agreement has not been entered into with either agency. We invite SCAP to impose a condition on the approval, and notes as necessary, to secure our client's undertaking in this regard.

2. The minimum dimension of the south facing apartment balconies is 2.0 metres.

3. The Access Way on Level 1 has now been deleted and replaced with a corridor providing direct access to the private apartments. Access to Junction Australia's social housing units will be via dedicated stairs and a lift.

4. Courtyards and balconies between all dwellings will be separated by 1,800 millimetre high solid fencing (Level 1 Private Courtyards) and full height solid walls (Level 1 – 4 balconies) extending to the outer edge of each Courtyard and balcony respectively.

5. Overlooking into the Level 1 private courtyards from the floors above has been mitigated with the amended proposal. The central private courtyards have been deleted and replaced with an internal community courtyard at Level 1. The north facing private courtyards on Level 1 have 2.6 metre deep recessed undercover terraces that are completely out of line-of-sight from the apartments above. A note to this effect is included on Drawing PL06.B

6. A/C condensers: as noted earlier, all A/C condensers will be located at roof top level – see Drawing PL10A.

DPTI – Safety and Service – Traffic Operations

1. Directed Condition: keep 4.5 metre by 4.5 metre clear of development and paved at footpath level: the amended plans exceed this requirement, as noted by the red dashed diagonal line and dimensions on each Floor Level drawing. Every building element is located behind this line. The Landscape Concept Plan by Outerspace furthermore shows paving at this corner.

2. All vehicle access to the site will be via Gurr Street only.

3. The indented parking bays on Churchill Road have been removed. See Drawing PL05B.

4. The external materials and finishes are scheduled on Drawings PL.11B and PL12B. We are satisfied that these materials will not result in glare or cause other discomfort or impairment to nearby road users.

5. Stormwater will be discharged from the site in accordance with the Stormwater Management Report prepared by PT Design [Revision 01, 22 May 2018].

City of Prospect – Requested Clarifications

1. Setback requirements to all property boundaries, inclusive of the Metropolitan Adelaide Road Widening Plan: the amended proposal is setback 3.0 metres from Churchill Road, and not less than 1.35 metres at Ground Level from Gurr Street. DPTI Safety and Service: Traffic Operations has confirmed that the proposal satisfies the Metropolitan Adelaide Road Widening Plan requirements. We note that the Development Plan specifies a minimum setback of 2.0 metres from a secondary street (Zone Principle 15) but the proposal has been architecturally designed to a very high standard to address Gurr Street and should not in our opinion be set back any further than the distance now proposed. The Gurr Street frontage will also be taken up with social housing for Junction Australia's clients. Junction Australia has specifically asked that these units be sited as close as possible to Gurr Street for safety and security reasons. It will also be noted that "quality landscaping" of the Gurr Street public realm is proposed, as detailed on the Landscape Plan prepared by Outerspace. Quality landscaping is specifically mentioned in Zone Principle 15.

   The amended proposal is setback 3.0 metres from the northern boundary at Levels 1 to 4. The ground level car park will however be sited onto this boundary. The boundary wall will be 3.7 metres high, and being on the north boundary of the site it will obviously not overshadow future residential development to the north.

2. Bulk and massing of corner facades: we are surprised that the City of Prospect CAP has raised concerns about the bulk and massing of the Gurr Street and Churchill Road facades. Those comments are particularly surprising given that the proposal has been designed by the acclaimed firm of Proske Architects, and ODASA has furthermore not raised concerns about the bulk and massing of these facades. Nevertheless, it will be noted that all levels have been redesigned, including the upper level which has been setback from both road frontages to reduce the bulk and scale of the building.

3. Deep soil zone/landscaping: this concern has been addressed in our previous comments.

4. Balcony/courtyard/window off sets: this concern has been addressed in our previous comments.

5. Adaptive reuse: the only relevant reference to adaptive reuse in the Development Plan is Adaptability: Council-wide PDC 176. It states:

> **176 Multi-storey buildings should include a variety of internal designs that will facilitate adaptive reuse, including the conversion of ground floor residential to future commercial use (ie including floor to ceiling heights suitable for commercial use).**

The proposal has already been designed having regard to Council-wide PDC 176, being a mixed use development of social housing, private apartments and retail tenancies at ground floor level. Moreover, the ground floor retail tenancies will have floor to ceiling heights of 3.7 metres, consistent with their intended use for retail and other commercial purposes.

The proposal also provides a variety of dwelling styles and layouts (two-bedroom and three-bedroom apartments), plus eight two-bedroom social housing apartments for Junction Australia's clients.

We disagree with the assertion that the proposal has not been designed for adaptive reuse.

6. Stormwater discharge: the amended Stormwater Management Report by PT Design accords with the City of Prospect's requirement for stormwater to be detained so that flows from a 1:20 storm event do not exceed pre-development flows. Detention will be provided in a 20,000 litre above ground rainwater tank that drains to a side entry point in the south-east corner of the site.

In addition, the Basement and Ground Floor FFL's have been set at 8.27 metres and 11.27 metres, respectively, to prevent those levels being flooded from a major storm/flooding event.

7. On-site refuse storage: dedicated rooms for waste storage are provided at Ground Level. The larger of these rooms (39 square metres) will store residential and retail waste and the smaller room (17 square metres) will store Junction Australia's waste.

The proposal's refuse arrangements are detailed in the amended Waste Management Plan prepared by Rawtec (Version 3, 14 June 2018).

8. Affordable Housing: eight of the units have been designed for and will be acquired by Junction Australia for occupation by its clients. While these units will not be owned by Junction SA's clients, they have nevertheless been appropriately designed for the specific needs of this social housing provider.

   Our client also expects that the two-bedroom apartments will be marketed at a price-point not higher than the current Affordability Indicator for Greater Adelaide (currently set at $381,800).

Conclusion

We trust that the amended proposal will now be assessed as being acceptable and deserving of Development Plan Consent.

Please arrange for our client's application to be formally considered at the next available meeting of the State Commission Assessment Panel.

Yours sincerely

Graham Burns
MasterPlan SA Pty Ltd

enc: Proske Architects Amended Drawing Set - Revision B.
Comparison Analysis Table.
Cirqa Pty Ltd: Traffic and Parking Report – Version 3 [26 June 2018].
Amended Landscape Concept Plan.
Sonus Pty Ltd: Minister's Specification SA 78B Assessment [August 2018].
PT Design: Stormwater Management Report Revision 1 [22 May 2018].
Rawtec Amended Waste Management Plan – Version 3.

cc Michael Calabro.
Proske Architects.

ATTACHMENT

Proske Architects Amended Drawing Set - Revision B

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

LEGEND

SUBJECT SITE

AMENITIES

SHOPPING
RESTAURANT & SPECIALTY SHOPPING
MEDICAL
EDUCATION

PUBLIC TRANSPORT

BUS ROUTE
BUS STOP
RAILWAY LINE
ISLINGTON RAILWAY STATION

ZONING

CITY OF PROSPECT ZONE BOUNDARY
RA 350 COUNCIL ZONING CODE. REFER CITY OF PROSPECT DEVELOPMENT PLAN

B	FOR APPROVAL	30.08.2018
A	FOR APPROVAL	27.10.2017

FOR APPROVAL

17.001. PL00.B

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
SITE CONTEXT PLAN

DRAWING DETAILS
DRAWN: **Author**
SCALE: **As indicated @ A1**
DATE: **30.08.2018**

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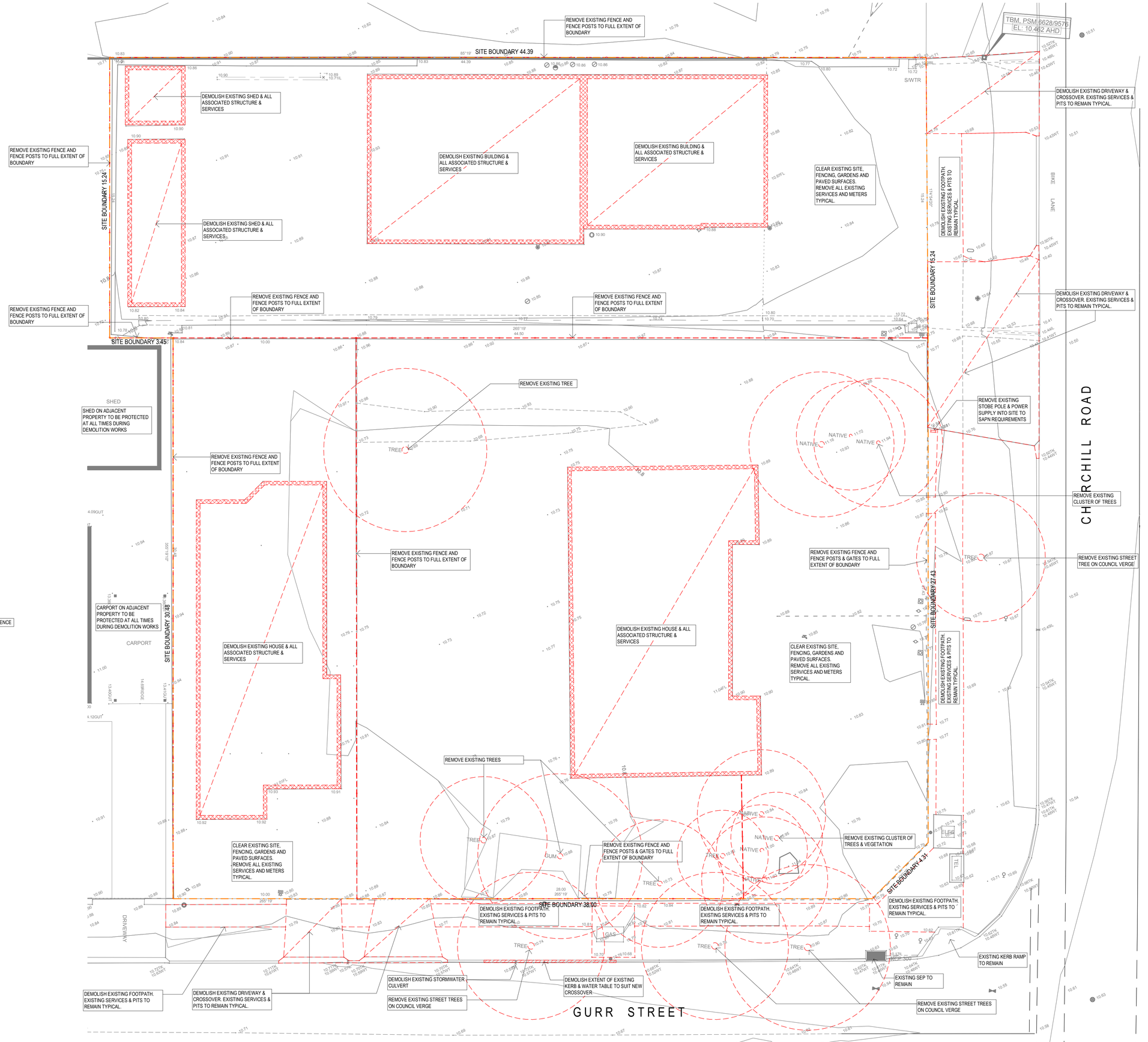

SITE DEMOLITION PLAN

SCALE 1 : 100

proske ARCHITECTS

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

B	FOR APPROVAL	30.08.2018
A	FOR APPROVAL	27.10.2017

FOR APPROVAL

17.001.PL01.B

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
SITE DEMOLITION PLAN

DRAWING DETAILS
DRAWN: **Author**
SCALE: **1 : 100 @ A1**
DATE: **30.08.2018**

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NEW 2100 HIGH COLORBOND GOOD NEIGHBOUR FENCE TO BOUNDARY WITH NOMINAL 400-500mm HIGH RETAINING WALL UNDER. COLOUR: WOODLAND GREY

ADJACENT VACANT ALLOTMENT

SITE BOUNDARY 44.39

TBM, PSM 6628/9576 EL: 10.462 AHD

ADJACENT PRIVATE OPEN SPACE

SITE BOUNDARY 15.24

DEEP ROOT ZONE 53 m²

NEW 2100 HIGH COLORBOND GOOD NEIGHBOUR FENCE TO BOUNDARY WITH NOMINAL 400-500mm HIGH RETAINING WALL UNDER. COLOUR: WOODLAND GREY.

SITE BOUNDARY 3.45

SHED

ADJACENT SHED

HOUSE

ADJACENT RESIDENCE

ADJACENT CARPORT

CARPORT

SITE BOUNDARY 30.48

1:8

1:4

VEHICLE RAMP 60 m²

RESIDENTIAL GROUND CAR PARK 548 m² (08 SPACES)

20,000L RWT

RESIDENTIAL WASTE 39 m²

LIFT 02 5 m²

LIFT 03 5 m²

RESIDENTIAL FOYER 23 m²

WC 5 m²

STAIR 02 13 m²

RAISED PLANTER

DOUBLE HEIGHT VOID

BIKE PARKS x4

ENTRY COURT 38 m²

RAISED WALKWAY 70 m²

ACCESS WAY 34 m²

TENANCY 01 131 m²

DEEP ROOT ZONE 13 m²

GARDEN

GARDEN

GARDEN

SITE BOUNDARY 15.24

BIKE LANE

CHURCHILL ROAD

PROPOSED NEW STREET TREE & GARDEN BED. REFER DETAILED LANDSCAPE PLAN

PROPOSED NEW STREET TREE & GARDEN BED. REFER DETAILED LANDSCAPE PLAN

PROPOSED NEW STREET TREE & GARDEN BED. REFER DETAILED LANDSCAPE PLAN

PROPOSED NEW STREETSCAPE PAVING & FOOTPATHS. REFER DETAILED LANDSCAPE PLAN

JUNCTION WASTE 17 m²

RETAIL / VISITOR CAR PARK 321 m² (06 SPACES)

STAIR 01 13 m²

JUNCTION CAR PARK 271 m² (8 SPACES)

TENANCY 02 72 m²

ACCESS RAMP 1:14

SITE BOUNDARY 27.43

PROPOSED NEW STREET TREE & GARDEN BED. REFER DETAILED LANDSCAPE PLAN

NEW 2100 HIGH COLORBOND GOOD NEIGHBOUR FENCE TO BOUNDARY WITH NOMINAL 400-500mm HIGH RETAINING WALL UNDER. COLOUR: WOODLAND GREY

JUNCTION FOYER 13 m²

LIFT 01 5 m²

TRANSFORMER 15 m²

VEHICLE RAMP 1:16

RAMP UP 265:19

SITE BOUNDARY 38.00

DEEP ROOT ZONE 35 m²

SITE BOUNDARY 4.31

PROPOSED NEW STREETSCAPE PAVING & FOOTPATHS. REFER DETAILED LANDSCAPE PLAN

DPTI ROAD WIDENING 4.5 X 4.5M CORNER CUT OFF ZONE SHOWN DASHED RED

DRIVEWAY

PROPOSED NEW STREET TREE & GARDEN BED. REFER DETAILED LANDSCAPE PLAN

NEW DRIVEWAY & CROSSOVER TO COUNCIL REQUIREMENTS

PROPOSED NEW STREET TREES & GARDEN BED. REFER DETAILED LANDSCAPE PLAN

PROPOSED NEW STREETSCAPE PAVING & FOOTPATHS. REFER DETAILED LANDSCAPE PLAN

NEW DRIVEWAY & CROSSOVER TO COUNCIL REQUIREMENTS

GURR STREET

SITE PLAN
SCALE 1 : 100

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TOTAL ALLOTMENT AREA

ALLOTMENT AREA	1922 m²

GROSS BUILDING AREA SCHEDULE

DESCRIPTION	AREA
BASEMENT FLOOR AREA	1604 m²
GROUND FLOOR AREA	1327 m²
LEVEL 1 FLOOR AREA	1203 m²
LEVEL 2 FLOOR AREA	1211 m²
LEVEL 3 FLOOR AREA	1211 m²
LEVEL 4 FLOOR AREA	996 m²
TOTAL GROSS BUILDING AREA	7552 m²

NOTE: GROSS AREAS ARE TAKEN TO EXTERNAL FACE OF EXTERNAL WALLS. AREAS EXCLUDE PRIVATE COURTYARDS, BALCONIES & COMMUNITY COURTYARD

CAR PARKING SCHEDULE

JUNCTION	8
RESIDENTIAL	48
RETAIL	6
TOTAL CAR PARKS: 62	

CAR PARKING NOTES

COMMERCIAL TENANCY TOTAL AREA	203 m2
REQUIRED CAR PARKS	**06**
JUNCTION APARTMENTS TOTAL (2 BED)	08
REQUIRED CAR PARKS (INC VISITORS)	**10**
1 BED APARTMENTS TOTAL	00
REQUIRED CAR PARKS (INC VISITORS)	**00**
2 BED APARTMENTS TOTAL	24
REQUIRED CAR PARKS (INC VISITORS)	**30**
3 BED APARTMENTS TOTAL	10
REQUIRED CAR PARKS (INC VISITORS)	**15**
TOTAL REQUIRED CAR PARKS (INC VISITORS)	**62**
TOTAL CAR PARKS PROVIDED ON SITE	**62**

B	FOR APPROVAL	30.08.2018
A	FOR APPROVAL	27.10.2017

FOR APPROVAL

17.001.PL02.B

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
SITE PLAN

DRAWING DETAILS
DRAWN: **MB**
SCALE: **1 : 100 @ A1**
DATE: **30.08.2018**

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STREETSCAPE ELEVATION (CHURCHILL ROAD)

SCALE 1 : 200

STREETSCAPE ELEVATION (GURR STREET)

SCALE 1 : 200

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17.001. PL03.B

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
STREETSCAPE ELEVATIONS

DRAWING DETAILS
DRAWN: **Author**
SCALE: **1 : 200 @ A1**
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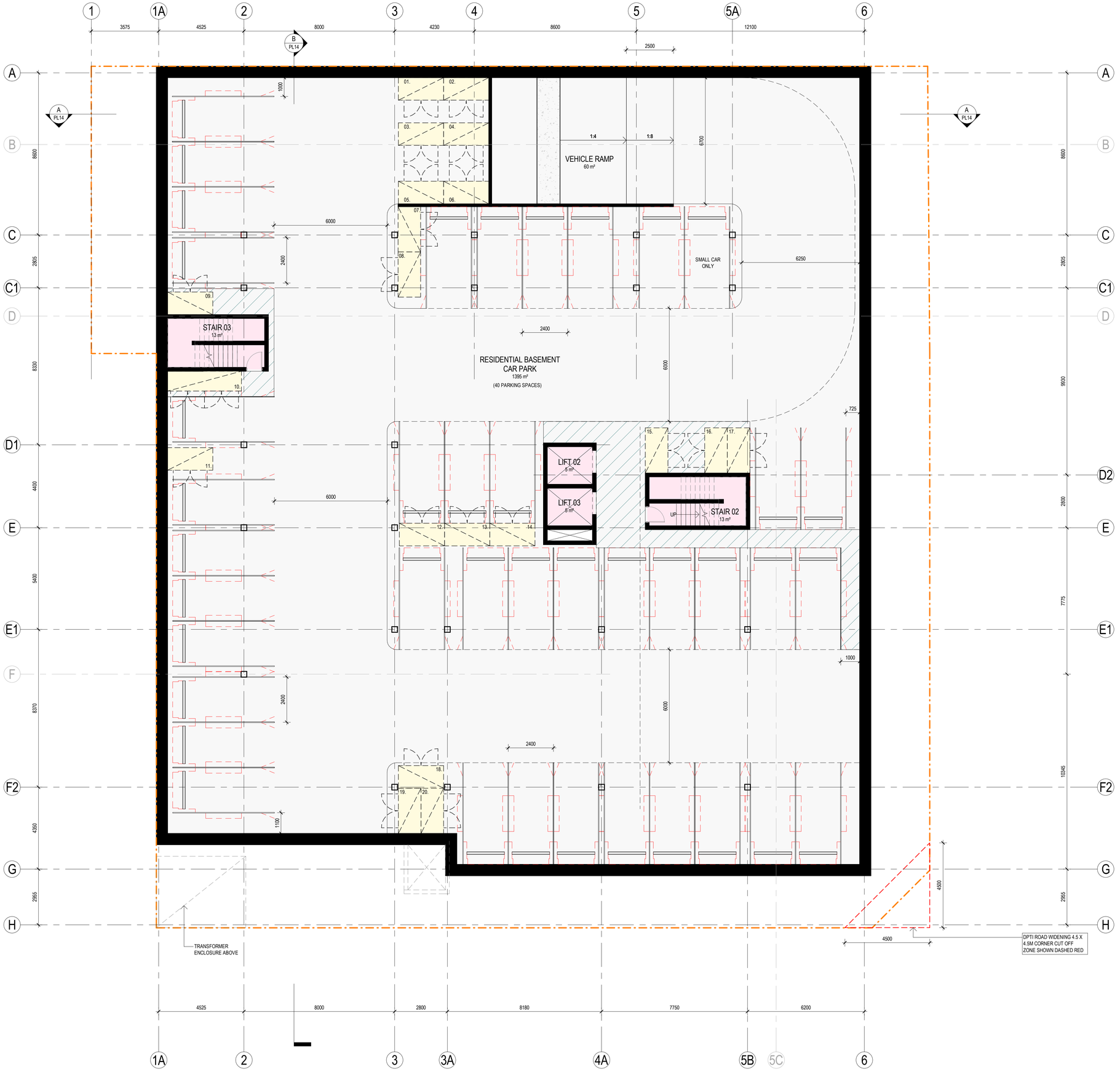

BASEMENT FLOOR PLAN
SCALE 1 : 100

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BASEMENT FLOOR AREA...

CAR PARK & VEHICLE CIRCULATION	1460.59 m²
COMMON CIRCULATION (FOYERS, STAIRS, LIFTS, CORRIDORS)	36.38 m²
TOTAL NET BUILDING AREA	1496.97 m²

CAR PARKING SCHEDULE

JUNCTION	8
RESIDENTIAL	48
RETAIL	6
TOTAL CAR PARKS: 62	

CAR PARKING NOTES

COMMERCIAL TENANCY TOTAL AREA	203 m2
REQUIRED CAR PARKS	**06**
JUNCTION APARTMENTS TOTAL (2 BED)	08
REQUIRED CAR PARKS (INC VISITORS)	**10**
1 BED APARTMENTS TOTAL	00
REQUIRED CAR PARKS (INC VISITORS)	**00**
2 BED APARTMENTS TOTAL	24
REQUIRED CAR PARKS (INC VISITORS)	**30**
3 BED APARTMENTS TOTAL	10
REQUIRED CAR PARKS (INC VISITORS)	**15**
TOTAL REQUIRED CAR PARKS (INC VISITORS)	**62**
TOTAL CAR PARKS PROVIDED ON SITE	**62**

APARTMENT STORAGE NOTES

8m3 SECURE STORAGE LOCKER
(1 PER APARTMENT)

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PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
BASEMENT FLOOR PLAN

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GROUND FLOOR PLAN
SCALE 1 : 100

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GROUND FLOOR AREA SCHEDULE (NET)

CAR PARK & VEHICLE CIRCULATION	1148.91 m²
COMMON CIRCULATION (FOYERS, STAIRS, LIFTS, CORRIDORS)	91.45 m²
PLANTING ZONE	91.43 m²
SERVICES & AMENITY	76.08 m²
TENANCY 01	129.74 m²
TENANCY 02	70.91 m²
TOTAL NET GROUND FLOOR AREA	1608.52 m²

CAR PARKING SCHEDULE

JUNCTION	8
RESIDENTIAL	48
RETAIL	6
TOTAL CAR PARKS: 62	

CAR PARKING NOTES

COMMERCIAL TENANCY TOTAL AREA	203 m2
REQUIRED CAR PARKS	**06**
JUNCTION APARTMENTS TOTAL (2 BED)	08
REQUIRED CAR PARKS (INC VISITORS)	**10**
1 BED APARTMENTS TOTAL	00
REQUIRED CAR PARKS (INC VISITORS)	**00**
2 BED APARTMENTS TOTAL	24
REQUIRED CAR PARKS (INC VISITORS)	**30**
3 BED APARTMENTS TOTAL	10
REQUIRED CAR PARKS (INC VISITORS)	**15**
TOTAL REQUIRED CAR PARKS (INC VISITORS)	**62**
TOTAL CAR PARKS PROVIDED ON SITE	**62**

APARTMENT STORAGE NOTES

8m3 SECURE STORAGE LOCKER
(1 PER APARTMENT)

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PROJECT
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244-248 CHURCHILL ROAD PROSPECT

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GAMMA ILLUMINATION

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GROUND FLOOR PLAN

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LEVEL 01 FLOOR PLAN
SCALE 1 : 100

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LEVEL 1 AREA SCHEDULE (NET)

APARTMENT LIVING AREAS INCLUDE INTERNAL WALLS & APARTMENT SERVICE RISERS. ALL REMAINING AREAS ARE TAKEN FROM INTERNAL FACE OF WALL LINE.

COMMUNAL COURTYARD	125.27 m²
TOTAL APARTMENT LIVING	944.36 m²
TOTAL COMMON CIRCULATION (FOYERS, STAIRS LIFTS, CORRIDORS)	129.76 m²
TOTAL EXTERNAL COURTYARD/BALCONY	261.26 m²
TOTAL NET LEVEL 1 FLOOR AREA	1460.65 m²

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PROJECT
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244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

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LEVEL 01 FLOOR PLAN

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LEVEL 02 FLOOR PLAN
SCALE 1 : 100

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LEVEL 2 AREA SCHEDULE (NET)

APARTMENT LIVING AREAS INCLUDE INTERNAL WALLS & APARTMENT SERVICE RISERS. ALL REMAINING AREAS ARE TAKEN FROM INTERNAL FACE OF WALL LINE.

TOTAL APARTMENT LIVING	963.77 m²
TOTAL COMMON CIRCULATION (FOYERS, STAIRS, LIFTS, CORRIDORS)	120.16 m²
TOTAL EXTERNAL COURYARD/BALCONY	183.35 m²
TOTAL NET LEVEL 2 FLOOR AREA	1267.28 m²

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A	FOR APPROVAL	27.10.2017

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PROJECT
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244-248 CHURCHILL ROAD PROSPECT

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LEVEL 02 FLOOR PLAN

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LEVEL 03 FLOOR PLAN
SCALE 1 : 100

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LEVEL 3 AREA SCHEDULE (NET)

APARTMENT LIVING AREAS INCLUDE INTERNAL WALLS & APARTMENT SERVICE RISERS. ALL REMAINING AREAS ARE TAKEN FROM INTERNAL FACE OF WALL LINE.

TOTAL APARTMENT LIVING	953.36 m²
TOTAL COMMON CIRCULATION (FOYERS, STAIRS LIFTS, CORRIDORS)	129.76 m²
TOTAL EXTERNAL COURYARD/BALCONY	184.13 m²
TOTAL NET LEVEL 3 FLOOR AREA	1267.26 m²

B	FOR APPROVAL	30.08.2018
A	FOR APPROVAL	27.10.2017

FOR APPROVAL

17.001. PL08.B

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
LEVEL 03 FLOOR PLAN

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LEVEL 04 FLOOR PLAN
SCALE 1 : 100

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LEVEL 4 AREA SCHEDULE (NET)

APARTMENT LIVING AREAS INCLUDE INTERNAL WALLS & APARTMENT SERVICE RISERS. ALL REMAINING AREAS ARE TAKEN FROM INTERNAL FACE OF WALL LINE.

TOTAL APARTMENT LIVING	694.67 m²
TOTAL COMMON CIRCULATION (FOYERS, STAIRS LIFTS, CORRIDORS)	124.85 m²
TOTAL EXTERNAL COURYARD/BALCONY	293.53 m²
TOTAL NET LEVEL 4 FLOOR AREA	1113.05 m²

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A	FOR APPROVAL	27.10.2017

FOR APPROVAL

17.001. PL09.B

PROJECT
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244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
LEVEL 04 FLOOR PLAN

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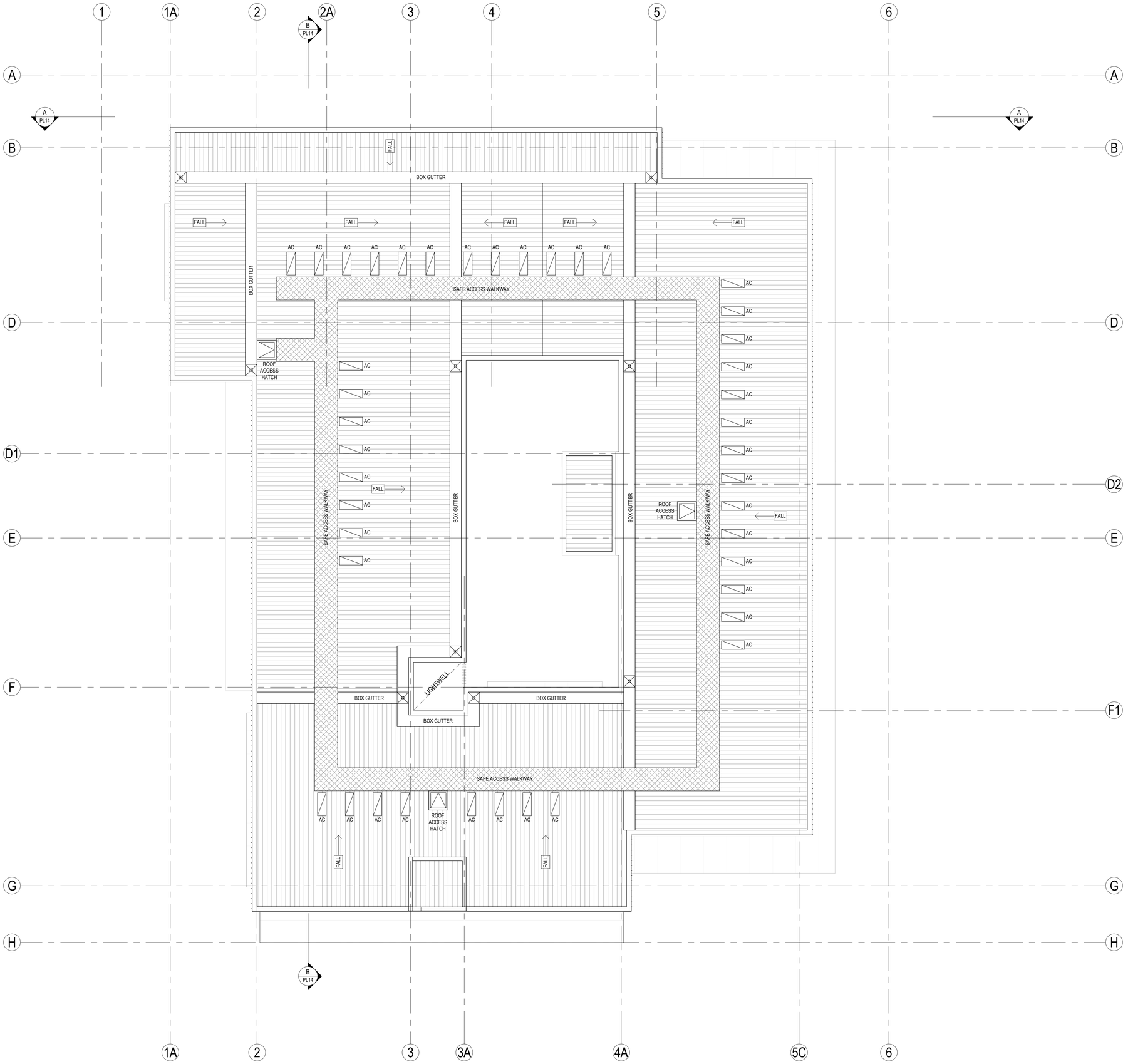

ROOF PLAN
SCALE 1 : 100

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A FOR APPROVAL 30.08.2018

FOR APPROVAL

17.001. PL10.A

PROJECT
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244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
ROOF PLAN

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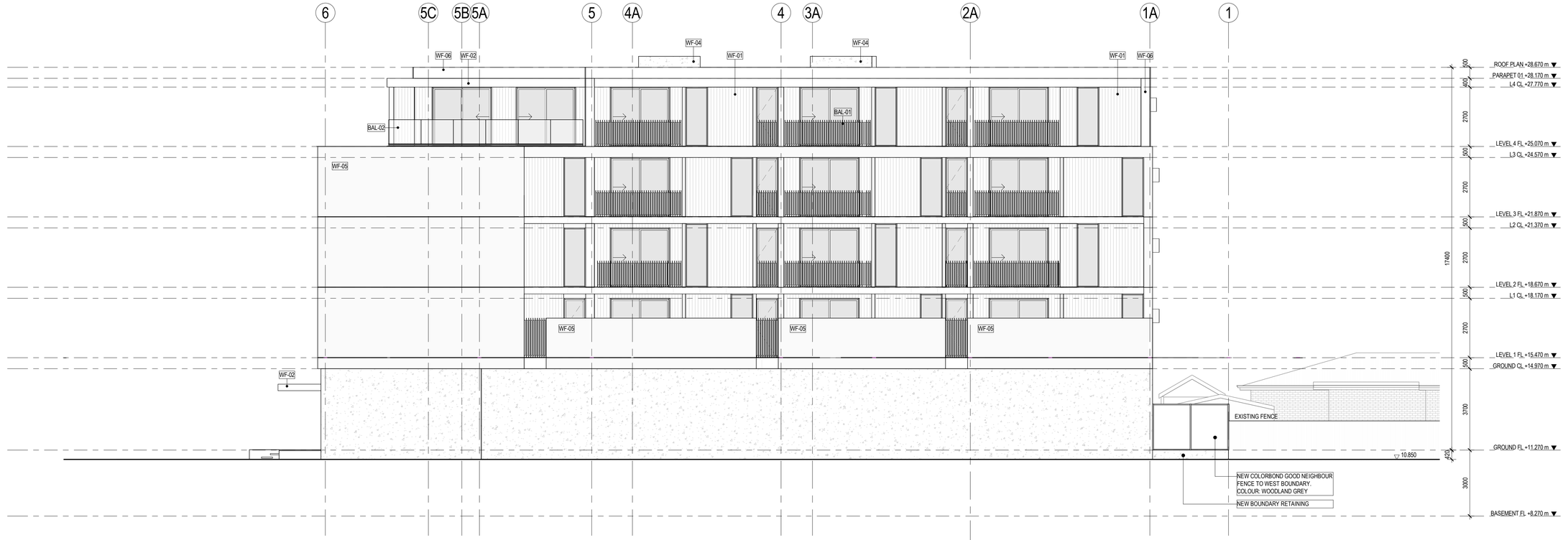
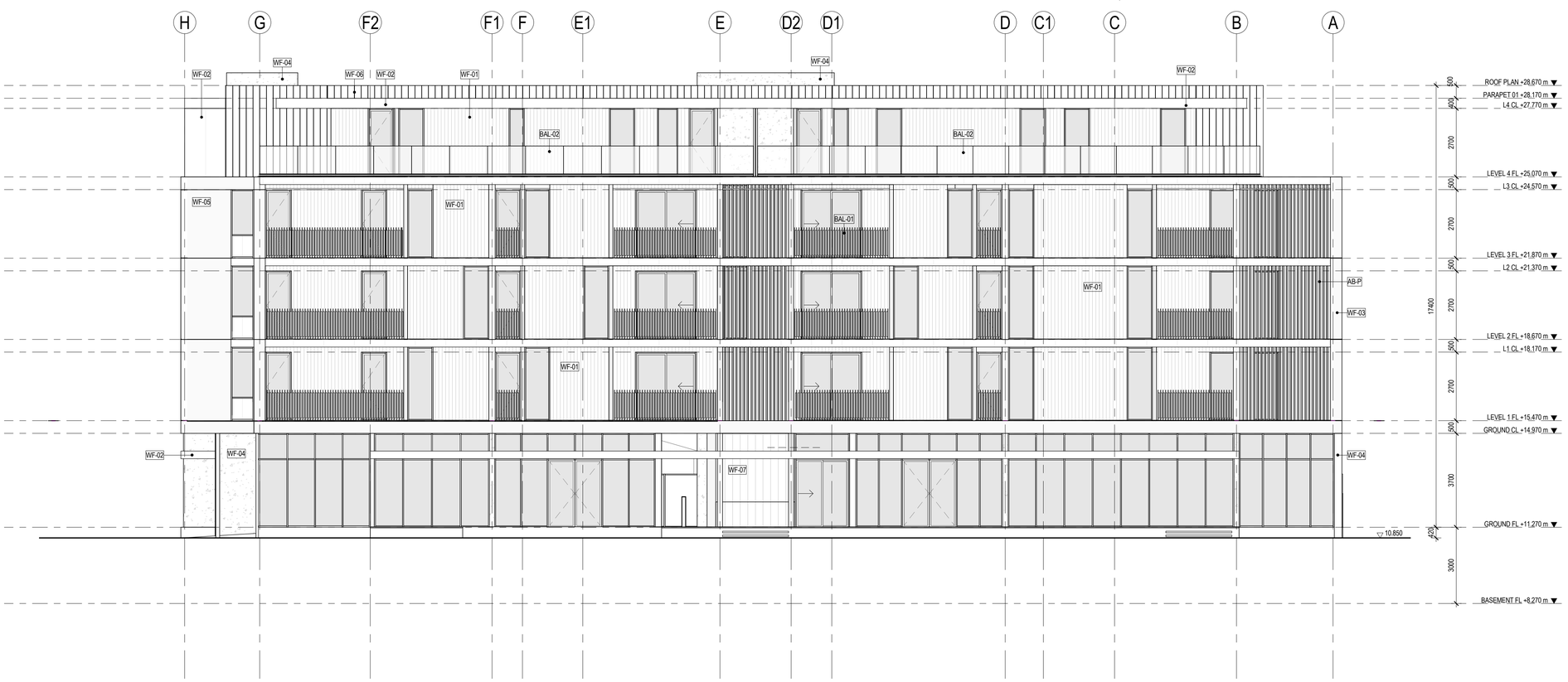


NORTH ELEVATION
SCALE 1 : 100



EAST ELEVATION
SCALE 1 : 100

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EXTERNAL FINISHES

AB-P	VERTICAL ALUMINIUM BATTEN SCREEN. POWDER COAT FINISH DARK GREY / BROWN TONAL RANGE
BAL-01	VERTICAL STEEL ANGLE BALUSTRADE. PAINT FINISH DARK GREY / BROWN TONAL RANGE. 1200mm HIGH TYPICAL FOR BALCONIES. 1800mm TYPICAL HEIGHT FOR L1 COURTYARD WALLS.
BAL-02	GLAZED BALUSTRADE
GD	SEGMENTED SMOOTH PANEL GARAGE DOOR. COLORBOND STEALTH (MATTE MONUMENT) OR SIMILAR
PSC	PERFORATED METAL SCREEN. POWDERCOAT BLACK
WF-01	JAMES HARDIE SCYON AXON PANEL CLADDING VERTICAL GROOVE. PAINT FINISH DARK GREY / BROWN TONAL RANGE
WF-02	COMPOSITE ALUMINIUM PANEL CLADDING. MATTE BLACK FINISH
WF-03	COMPOSITE ALUMINIUM PANEL CLADDING. OFF-WHITE FINISH
WF-04	PRECAST CONCRETE PANEL. DARK GREY ACID ETCHED FINISH
WF-05	PRECAST CONCRETE PANEL. PAINT FINISH OFF-WHITE TONAL RANGE
WF-06	'MAXLINE' METAL CLADDING. COLORBOND MATTE SHALE GREY OR SIMILAR
WF-07	INTERLOCKING METAL CLADDING VERTICAL FORMAT. WEATHERING STEEL FINISH OR SIMILAR TONAL RANGE
WF-08	CEMINTEL BARESTONE CLADDING NATURAL FINISH

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FOR APPROVAL

17.001. PL11.B

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
ELEVATIONS 01

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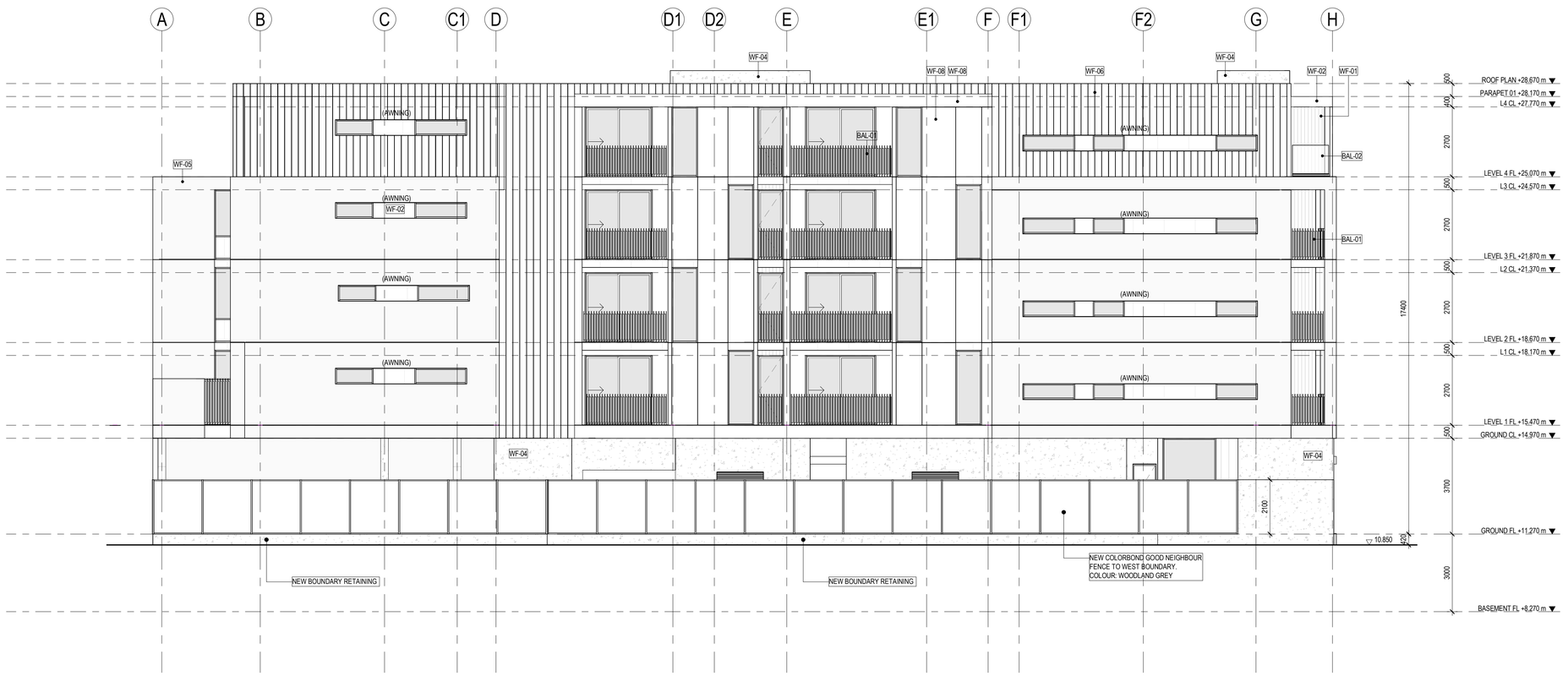
SOUTH ELEVATION
SCALE 1 : 100



WEST ELEVATION
SCALE 1 : 100

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EXTERNAL FINISHES

AB-P	VERTICAL ALUMINIUM BATTEN SCREEN. POWDER COAT FINISH DARK GREY / BROWN TONAL RANGE
BAL-01	VERTICAL STEEL ANGLE BALUSTRADE. PAINT FINISH DARK GREY / BROWN TONAL RANGE. 1200mm HIGH TYPICAL FOR BALCONIES, 1800mm TYPICAL HEIGHT FOR L1 COURTYARD WALLS.
BAL-02	GLAZED BALUSTRADE
GD	SEGMENTED SMOOTH PANEL GARAGE DOOR. COLORBOND STEALTH (MATTE MONUMENT) OR SIMILAR
PSC	PERFORATED METAL SCREEN. POWDERCOAT BLACK
WF-01	JAMES HARDIE SCYON AXON PANEL CLADDING VERTICAL GROOVE. PAINT FINISH DARK GREY / BROWN TONAL RANGE
WF-02	COMPOSITE ALUMINIUM PANEL CLADDING. MATTE BLACK FINISH
WF-03	COMPOSITE ALUMINIUM PANEL CLADDING. OFF-WHITE FINISH
WF-04	PRECAST CONCRETE PANEL. DARK GREY ACID ETCHED FINISH
WF-05	PRECAST CONCRETE PANEL. PAINT FINISH OFF-WHITE TONAL RANGE
WF-06	'MAXLINE' METAL CLADDING. COLORBOND MATTE SHALE GREY OR SIMILAR
WF-07	INTERLOCKING METAL CLADDING VERTICAL FORMAT. WEATHERING STEEL FINISH OR SIMILAR TONAL RANGE
WF-08	CEMINTEL BARESTONE CLADDING NATURAL FINISH

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A	FOR APPROVAL	27.10.2017

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17.001. PL12.B

PROJECT
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244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
ELEVATIONS 02

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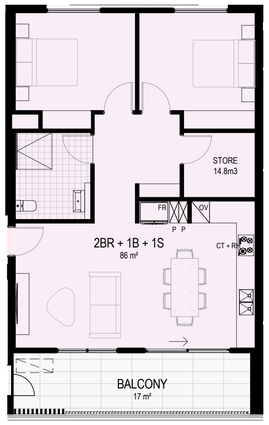
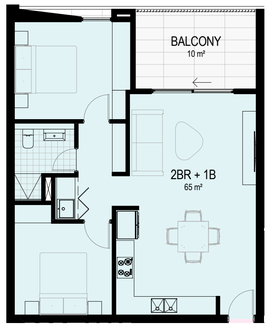


2BR + 1B + 1S - TYPE 01 - FLOOR PLAN

SCALE 1 : 100

2B + 1B + 1S - TYPE 01 - AREA SCHEDULE

LIVING	85.79 m²
BALCONY (POS)	16.29 m²
TOTAL NET APARTMENT AREA	102.08 m²

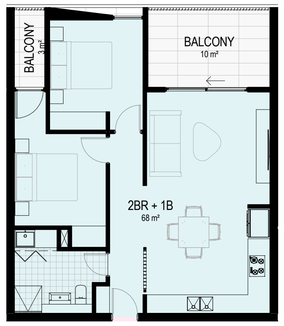


2BR + 1B - TYPE 01 - FLOOR PLAN

SCALE 1 : 100

2B + 1B - TYPE 01 - AREA SCHEDULE

BALCONY (POS)	10.28 m²
LIVING	66.08 m²
TOTAL NET APARTMENT AREA	76.37 m²

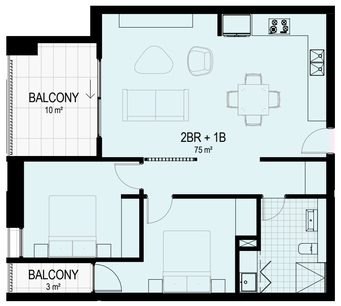


2BR + 1B - TYPE 02 - FLOOR PLAN

SCALE 1 : 100

2B + 1B - TYPE 02 - AREA SCHEDULE

BALCONY	2.62 m²
BALCONY (POS)	10.44 m²
LIVING	67.56 m²
TOTAL NET APARTMENT AREA	80.62 m²

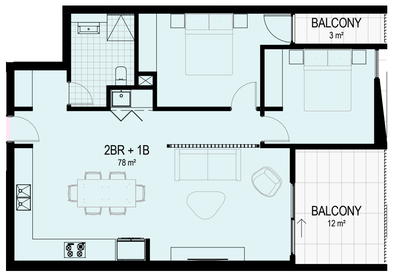


2BR + 1B - TYPE 03 - FLOOR PLAN

SCALE 1 : 100

2B + 1B - TYPE 03 - AREA SCHEDULE

BALCONY	2.72 m²
BALCONY (POS)	10.39 m²
LIVING	75.41 m²
TOTAL NET APARTMENT AREA	88.52 m²



2BR + 1B - TYPE 04 - FLOOR PLAN

SCALE 1 : 100

2B + 1B - TYPE 04 - AREA SCHEDULE

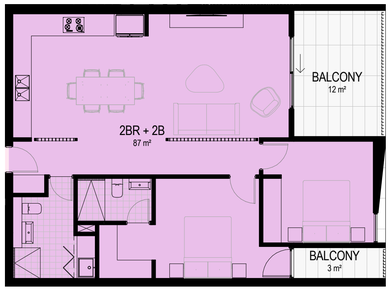
BALCONY	3.17 m²
BALCONY (POS)	11.32 m²
LIVING	78.22 m²
TOTAL NET APARTMENT AREA	92.71 m²

2BR + 2B - TYPE 01 - FLOOR PLAN

SCALE 1 : 100

2BR + 2B - TYPE 01 - AREA SCHEDULE

BALCONY (POS)	11.46 m²
LIVING	79.68 m²
TOTAL NET APARTMENT AREA	91.13 m²

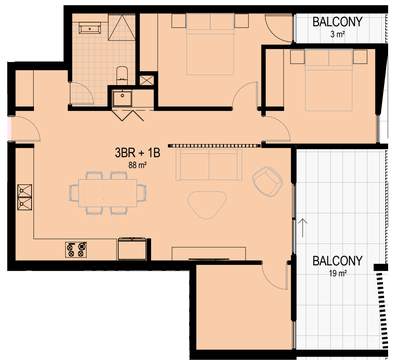


2BR + 2B - TYPE 02 - FLOOR PLAN

SCALE 1 : 100

2BR + 2B - TYPE 02 - AREA SCHEDULE

BALCONY	3.03 m²
BALCONY (POS)	12.36 m²
LIVING	87.13 m²
TOTAL NET APARTMENT AREA	102.52 m²

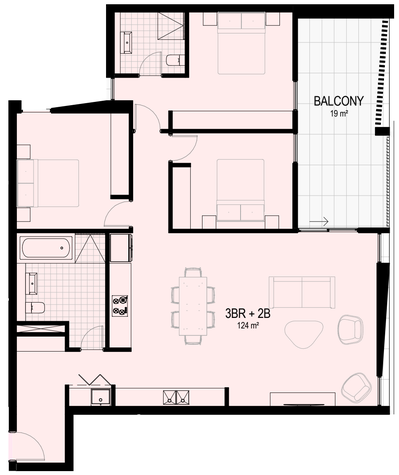


3BR + 1B - TYPE 01 - FLOOR PLAN

SCALE 1 : 100

3BR + 1B - TYPE 01 - AREA SCHEDULE

BALCONY	3.17 m²
BALCONY (POS)	19.72 m²
LIVING	87.24 m²
TOTAL NET APARTMENT AREA	110.13 m²



3BR + 2B - TYPE 01 - FLOOR PLAN

SCALE 1 : 100

3BR + 2B - TYPE 01 - AREA SCHEDULE

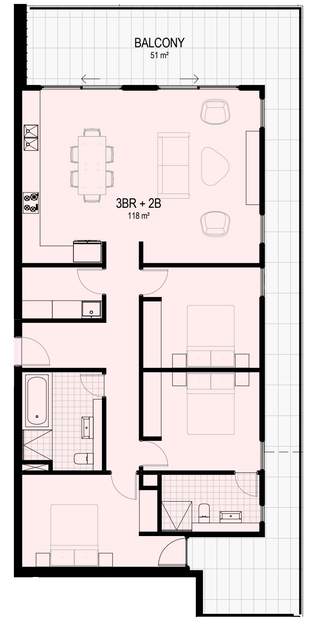
BALCONY (POS)	20.56 m²
LIVING	124.27 m²
TOTAL NET APARTMENT AREA	144.83 m²

3BR + 2B - TYPE 02 - FLOOR PLAN

SCALE 1 : 100

3BR + 2B - TYPE 02 - AREA SCHEDULE

BALCONY (POS)	15.26 m²
BALCONY (POS)	16.38 m²
LIVING	125.88 m²
TOTAL NET APARTMENT AREA	157.52 m²

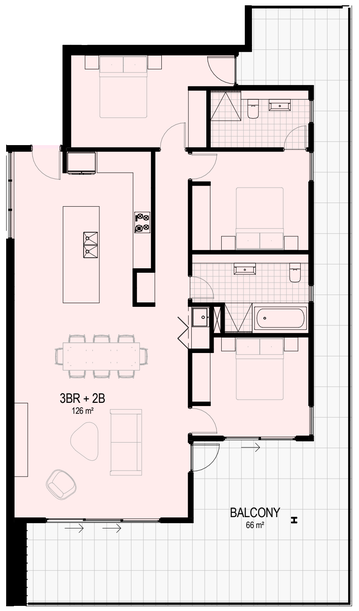


3BR + 2B - TYPE 03 - FLOOR PLAN

SCALE 1 : 100

3BR + 2B - TYPE 03 - AREA SCHEDULE

BALCONY	50.65 m²
LIVING	0.00 m²
LIVING	118.29 m²
TOTAL NET APARTMENT AREA	168.94 m²



3BR + 2B - TYPE 04 - FLOOR PLAN

SCALE 1 : 100

3BR + 2B - TYPE 04 - AREA SCHEDULE

BALCONY (POS)	66.06 m²
LIVING	126.36 m²
TOTAL NET APARTMENT AREA	192.42 m²

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REFER LEVEL 1 FLOOR PLAN FOR APARTMENT TYPES WITH PRIVATE COURTYARDS IN LIEU OF BALCONIES

B	FOR APPROVAL	30.08.2018
A	FOR APPROVAL	27.10.2017

FOR APPROVAL

17.001.PL13.B

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
TYPICAL APARTMENT FLOOR PLANS

DRAWING DETAILS
DRAWN: **Author**
SCALE: **1 : 100 @ A1**
DATE: **30.08.2018**

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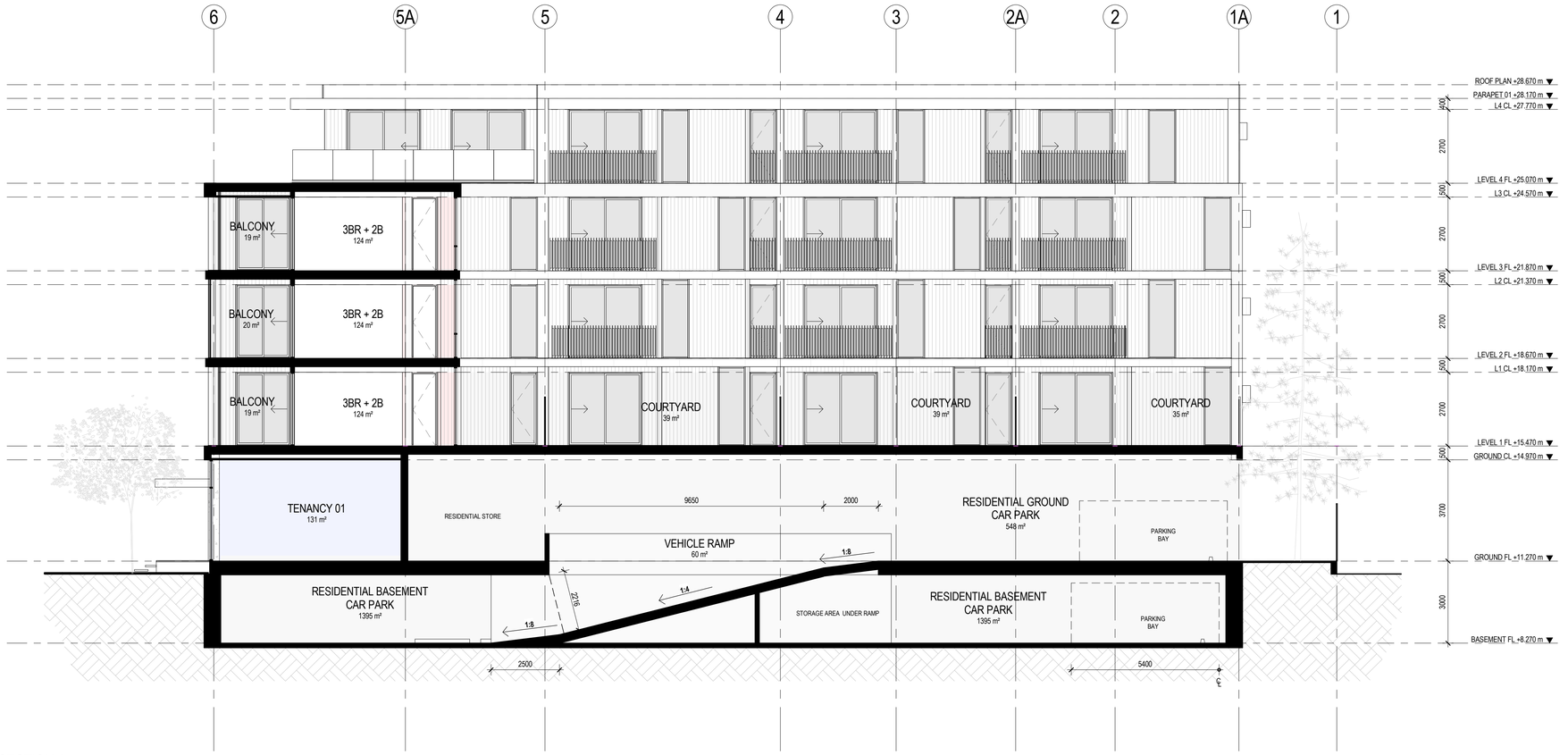
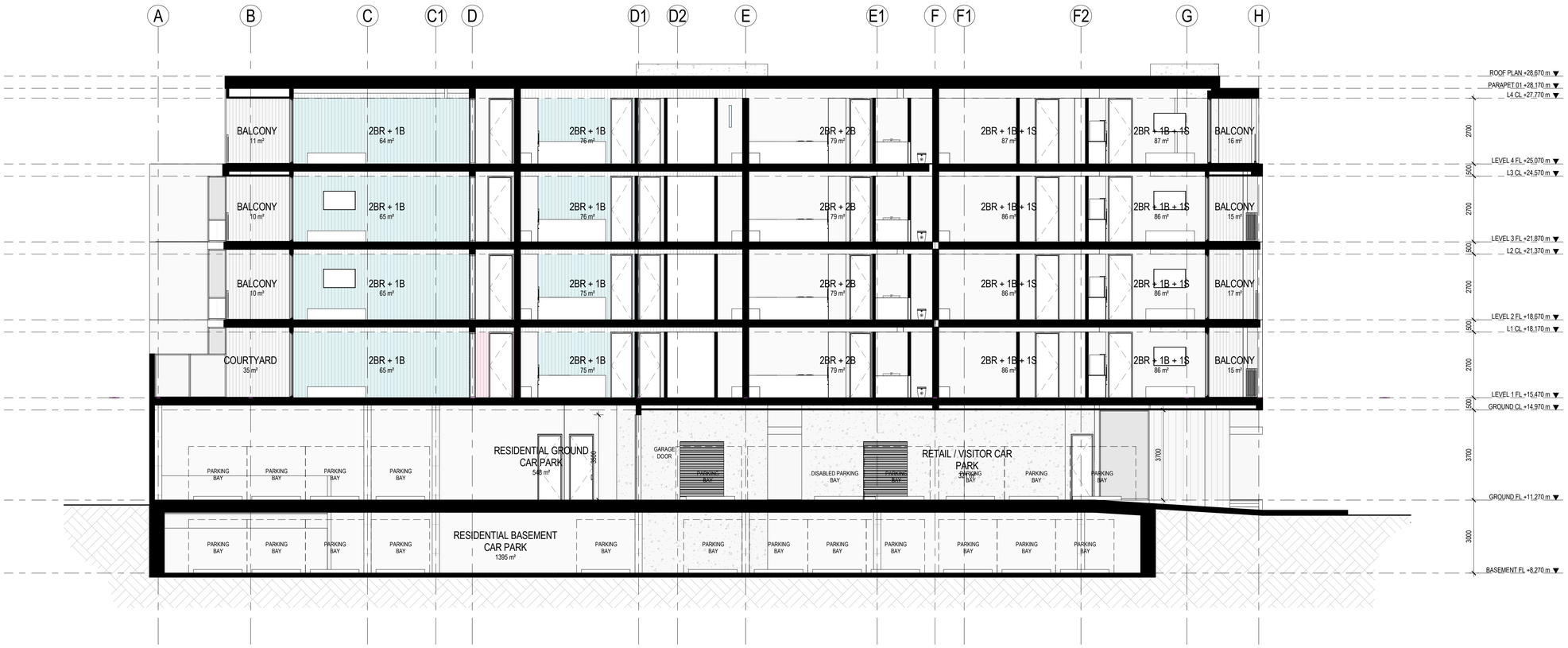


DESIGN SECTION A

SCALE 1 : 100



DESIGN SECTION B

SCALE 1 : 100

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FOR APPROVAL

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PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
DESIGN SECTIONS

DRAWING DETAILS
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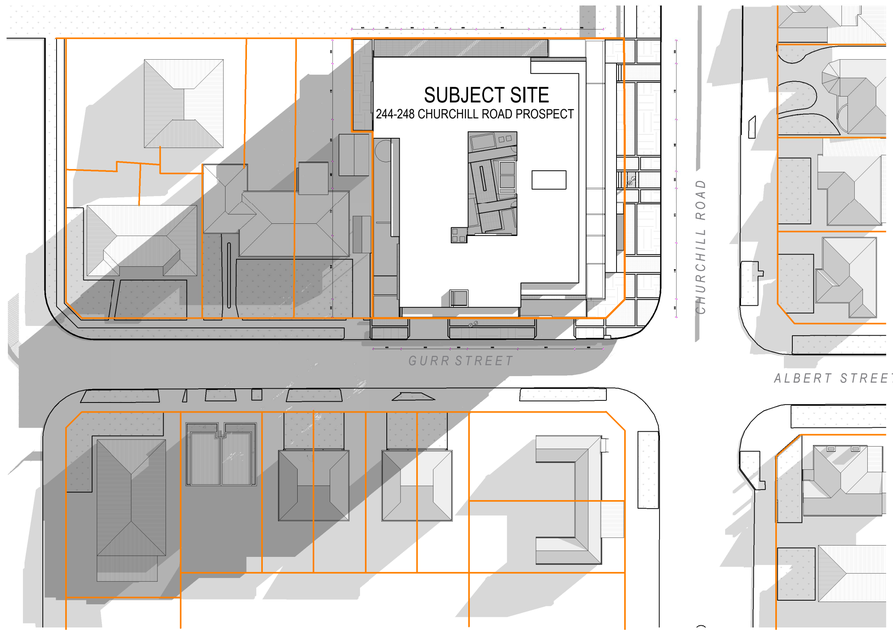
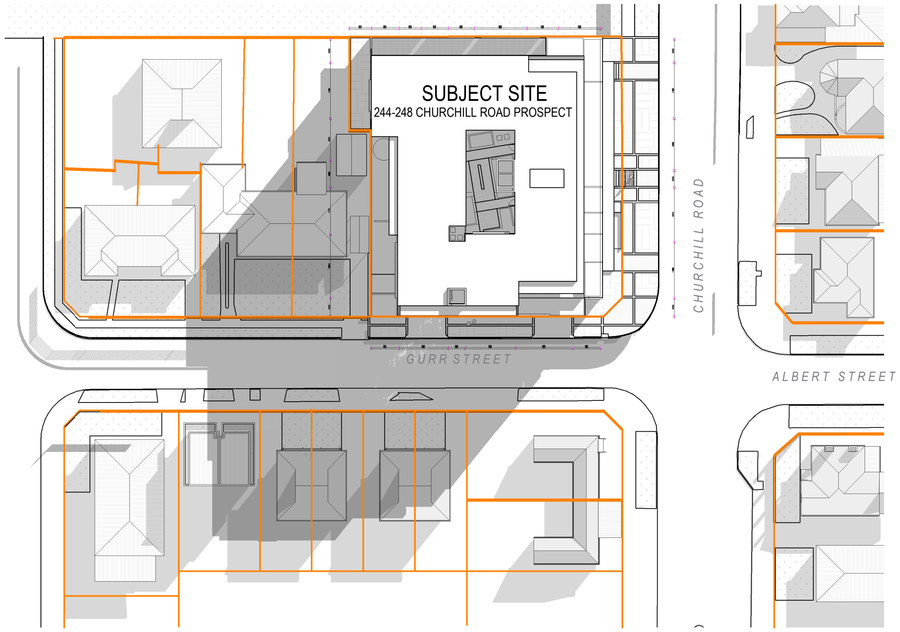


SUN ANALYSIS - 9AM (21ST JUNE)



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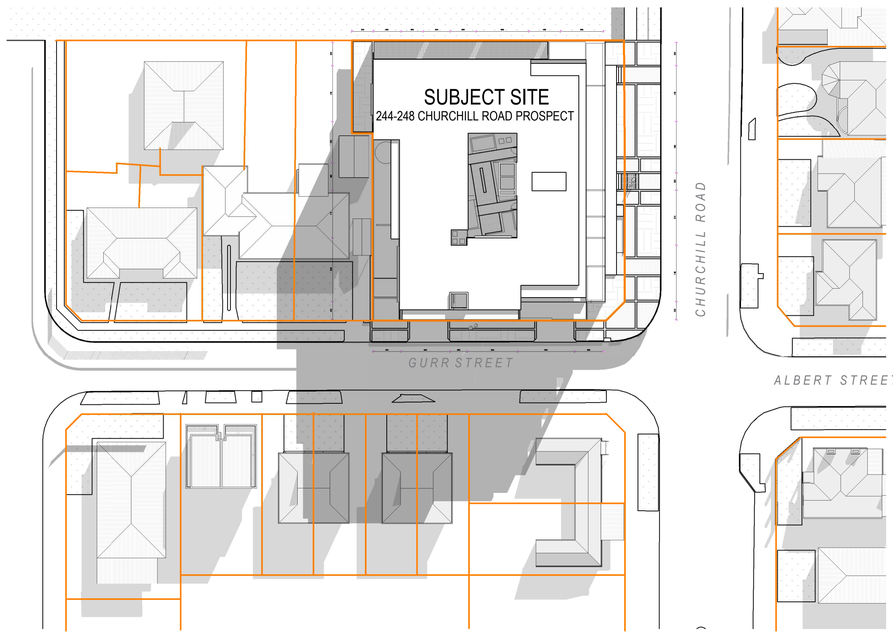

SUN ANALYSIS - 11AM (21ST JUNE)

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A	FOR APPROVAL	27.10.2017

FOR APPROVAL

17.001. PL15.B

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
SOLAR ANALYSIS

DRAWING DETAILS
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SCALE: **1 : 500 @ A1**
DATE: **30.08.2018**

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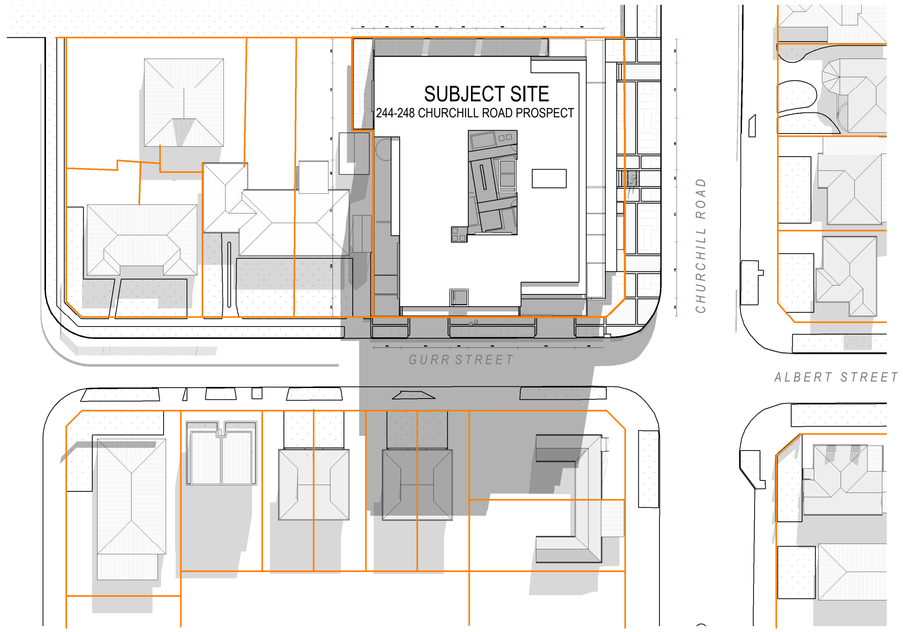
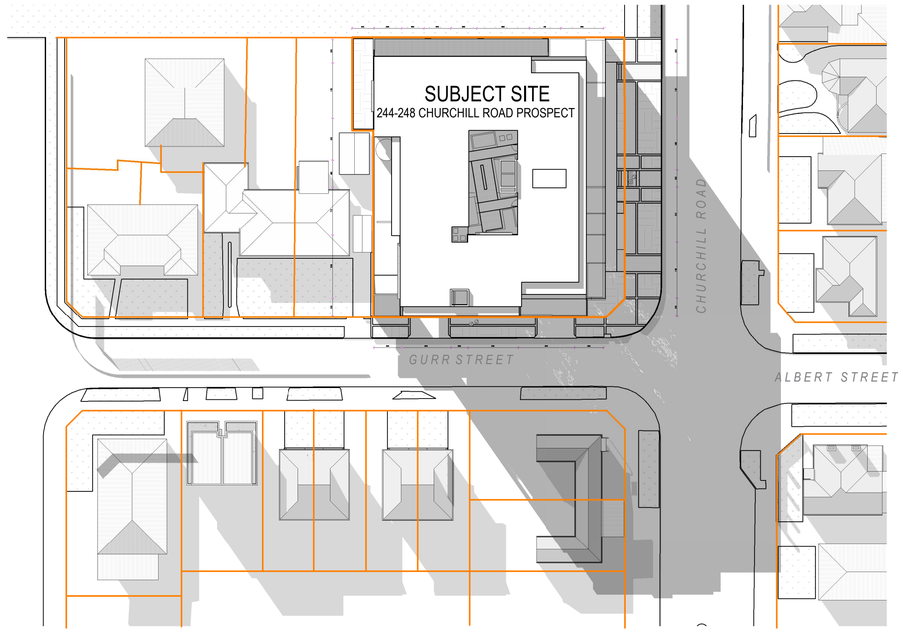


SUN ANALYSIS - 12PM (21ST JUNE)



SUN ANALYSIS - 3PM (21ST JUNE)

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A FOR APPROVAL 30.08.2018

FOR APPROVAL

17.001.PL16.A

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
SOLAR ANALYSIS

DRAWING DETAILS
DRAWN: **Author**
SCALE: **1 : 500 @ A1**
DATE: **30.08.2018**

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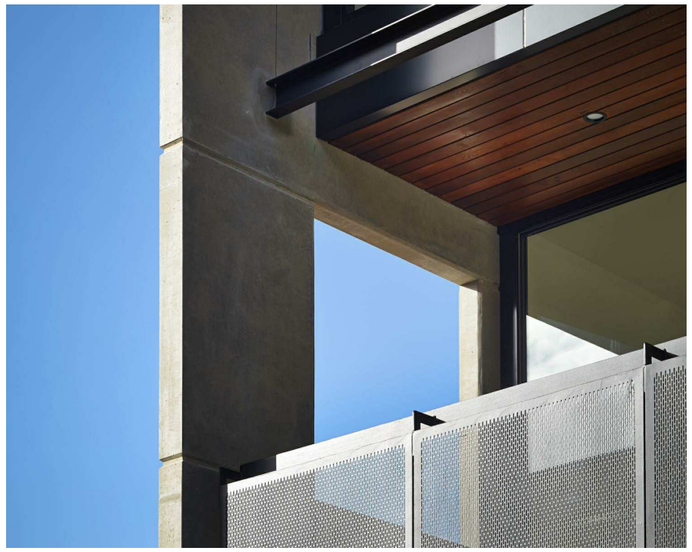

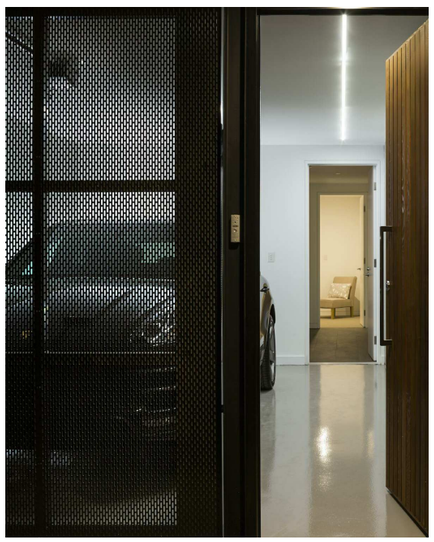

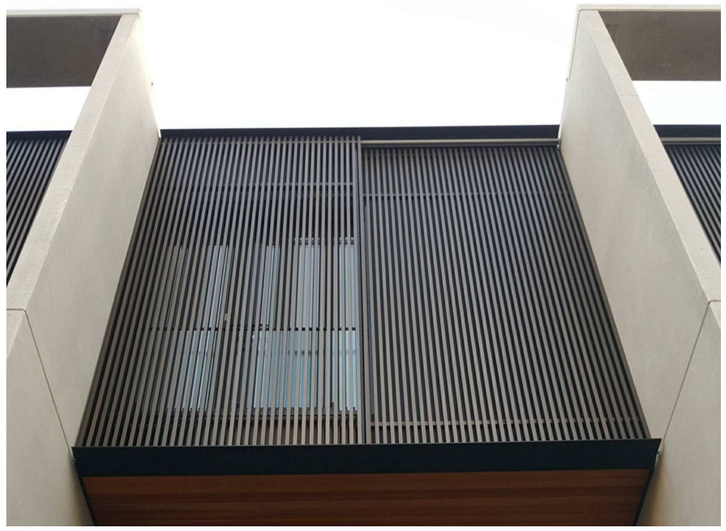

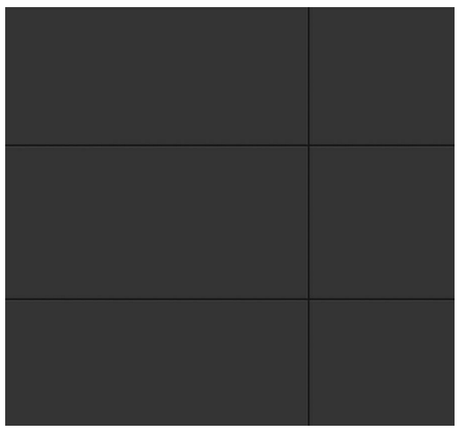

PL23.A. MATERIALS & FINISHES MOOD BOARD

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ATTACHMENT

Comparison Analysis Table

MASTERPLAN
TOWN + COUNTRY PLANNERS

COMPARISON ANALYSIS TABLE

ITEM	LODGED APPLICATION (27 OCTOBER 2017)	AMENDED APPLICATION (29 AUGUST 2018)
Building Height	17.3 metres	17.4 metres
Private Apartments	47	34
Social Housing Apartments	8	8
Retail Floor Space	255 square metres (148+107)	203 square metres (131+72)
Parking Spaces (Vehicles)	81 (50 basement, 31 ground level)	62 (40 basement, 22 ground level)
Parking Spaces (Bicycles)	24	18
Junction Road Setback (GL-min)	Nil	3.0 metres
Gurr Street Setback (GL-min)	Nil	1.35 metres
Ground Floor FFL	10.78 FFL	11.270 FFL
Ground Floor Net Area	1,832.34 square metres	1,608.52 square metres
Deep Soil Zone	Nil	101 square metres
Basement Floor Level	8.0 metres	8.270 metres
Ground Floor Level	11.0 metres	11.270 metres

ATTACHMENT

Cirqa Pty Ltd: Traffic and Parking Report – Version 3 [26 June 2018]

PROPOSED MIXED-USE DEVELOPMENT
244-248 CHURCHILL ROAD, PROSPECT

TRAFFIC AND PARKING REPORT

CIRQA™

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DOCUMENT CONTROL

Report title:	Proposed Mixed-Use, 244-248 Churchill Road, Prospect
Project number:	17108
Client:	Gamma Illumination
Client contact:	Michael Callabro

Version	Date	Details/status	Prepared by	Approved by
Draft	21 Sep 17	For review	TAW/BNW	BNW
V1	29 Sep 17	For submission	TAW/BNW	BNW
V2	03 Sep 17		TAW/BNW	BNW
V3	26 Jun 18	Revised plans	TAW/BNW	BNW

CIRQA Pty Ltd
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150 Halifax Street, Adelaide SA 5000
www.cirqa.com.au

1. INTRODUCTION

CIRQA has been engaged by Gamma Illumination to provide design and assessment advice for the proposed mixed-use development at 244-248 Churchill Road, Prospect. Specifically, CIRQA has provided advice in respect to traffic and parking aspects of the proposal.

This report provides a review of the subject site, the proposed development (and its associated operation), its access and parking provisions and the associated traffic impact on the adjacent road network. The traffic and parking assessments have been based upon plans prepared by Proske Architects (drawing no. 17.001.PL04.F and 17.001.PL05.G, dated 25 June 2018, refer Appendix A).

2. BACKGROUND

The subject site is located on the north-western corner of the Churchill Road/ Gurr Street/Albert Street intersection, Prospect, and comprises 244-246 and 248 Churchill Road. The site is bounded to the north by undeveloped land, Churchill Road to the east, Gurr Street to the south and residential dwellings 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 three residential dwellings (244-246 Churchill Road) and a commercial premise (248 Churchill Road). Vehicle access is provided to 224-244 Churchill Road via two crossovers on Gurr Street and one crossover on Churchill Road. A further two crossovers on Churchill Road provide vehicle access to 248 Churchill Road. Pedestrian access to both sites is provided via their respective frontages to Churchill Road and Gurr 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 lane operating Monday to Friday between 4:30 pm and 6:00 pm) and southbound (full-time bicycle lane) bicycle movements. Parking is permitted on-street on the western side of Churchill Road (outside of bicycle lane hours) and within the verge on the eastern side of Churchill Road (permitted via a roll-over kerb). Sealed footpaths are provided on both sides of Churchill Road, accommodating both pedestrian and cyclist movements (unobstructed by verge parking on the eastern side of Churchill Road).

Traffic data provided by 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.

Gurr Street is a local street under the care and control of the City of Prospect. Adjacent the site, Gurr Street contains an 8.0 m (approximate) wide two-way carriageway. Unrestricted on-street parking is permitted on both sides of Gurr Street. Sealed footpaths are provided on both sides of Gurr Street, accommodating both pedestrian and cyclist movements. Bicycle movements are also permitted on the Gurr Street carriageway under a standard shared arrangement. Traffic data collected by Austraffic indicates that Gurr Street has an AADT in the order of 150 vpd. Gurr Street is subject to a 50 km/h default urban speed limit.

Churchill Road and Gurr Street intersect at a priority controlled (Give Way) four-way intersection, with Churchill Road forming the priority. Albert Street forms the eastern approach to the intersection. All turning movements are permitted at the intersection, with right-turns from Churchill Road (both northern and southern approaches) 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.

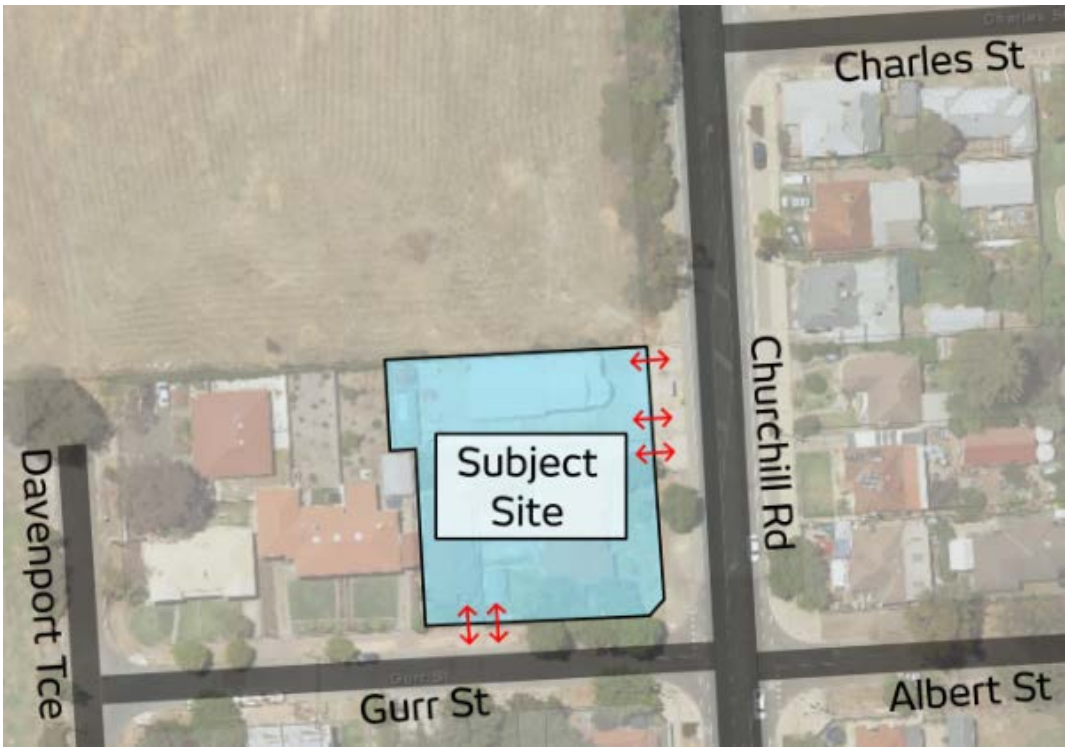


Figure 1 - Location of the subject site, existing crossovers and adjacent road network

3. PROPOSED DEVELOPMENT

The proposal comprises the demolition of the existing site infrastructure and the construction of a multi-storey mixed-use building on the subject site. Specifically, the proposed development will comprise the following components:

- 8x two-bedroom apartment dwellings (affordable housing product herein referred to as the Junction Apartments);
- 24x two-bedroom apartment dwellings;
- 10x three-bedroom apartment dwellings; and
- 201 m² of commercial floor area (consisting of two tenancies).

Within the site, it is proposed that the Junction Apartments will primarily operate independently of the remaining components of the building. Specifically, the Junction Apartments will be serviced by an independent eight-space secure parking area (of which one space will be designated for people with disabilities), as well as a separate foyer/lift/stairwell and waste room.

The remaining components of the proposed development (i.e. the remaining residential apartments and the two commercial tenancies) will be serviced by the primary parking area. The primary parking area will contain 54 parking spaces (one of which will be designated exclusively for use by people with disabilities), 18 bicycle parking spaces and a waste area.

Bicycle parking will be provided in the form of horizontal bicycle rails (capable of accommodating two bicycles per rail) and vertical bicycle rails. Bicycle parking will comply with the requirements of the Australian Standard, *Parking facilities Part 3: Bicycle parking* (AS 2890.3:2015).

Vehicle parking areas will generally comply with the requirements of the Australian/New Zealand Standard, *Parking Facilities Part 1: Off-street car parking* (AS/NZS 2890.1:2004) and Australian/New Zealand Standard, *Parking Facilities Part 6: Off-street parking for people with disabilities* (AS/NZS 2890.6:2009) in that:

- resident parking spaces will be at least 2.4 m wide and 5.4 m long;
- regular parking spaces will be 2.6 m wide and 5.4 m long;
- disabled parking spaces will be 2.4 m wide and 5.4 m long with an adjacent shared space of the same dimension;
- aisles will be at least 5.8 m wide (in excess of 6.6 m wide adjacent regular parking spaces);

- 1.0 m end-of-aisle extensions will be provided beyond the last parking space in an aisle;
- columns will be located outside of the car clearance envelope;
- 0.3 m clearance will be provided (where applicable) to all objects greater than 0.15 m in height;
- a head-height of at least 2.2 m will be provided; and
- ramps (residential access only) will have a maximum gradient of no steeper than 1 in 4 m, with at least 2 m transition grades of 1 in 8 m.

The at-grade parking areas will be ramped up from the Gurr Street property boundary. Two 6.9 m ramps (at 1 in 16.4 m) are proposed car park access points. Whilst these ramps are negligibly steeper than the 1 in 20.0 m required by the Standard, the ramps are longer than that required by the Standard (at a property boundary). Such a (length) provision will retain the allowance for a vehicle to store entirely on the ramp when exiting the property. As such, the minor ramp alteration is not considered to be an issue.

On the ground floor of the primary parking area, a secure panel-lift door will segregate parking spaces within the primary parking area. The panel-lift door will have an opening width of 6.1 m, as required by the Standard (AS/NZS 2890.1:2004) for minimum aisle widths (i.e. 5.5 m plus an additional 0.3 m clearance on both sides), with a clear height (once fully retracted) of 3.5 m.

Vehicle access to both parking areas will be provided via two-way crossovers (a separate two-way crossover for each parking area) on Gurr Street. Crossovers will be located outside of the 'prohibited locations of access driveways' as identified in the Standard (AS/NZS 2890.1:2004). No vehicle access is proposed to the site directly via Churchill Road. As such, the proposal will result in the closure (reinstatement of kerb) of three crossovers on Churchill Road. The 'status-quo' (two crossovers) will be retained on Gurr Street. All turning movements will be permitted at both crossovers. Pedestrian sightline provisions have been accommodated at both access points in accordance with the Standard. Figure 2 illustrates the two site access points in relation to Churchill Road.

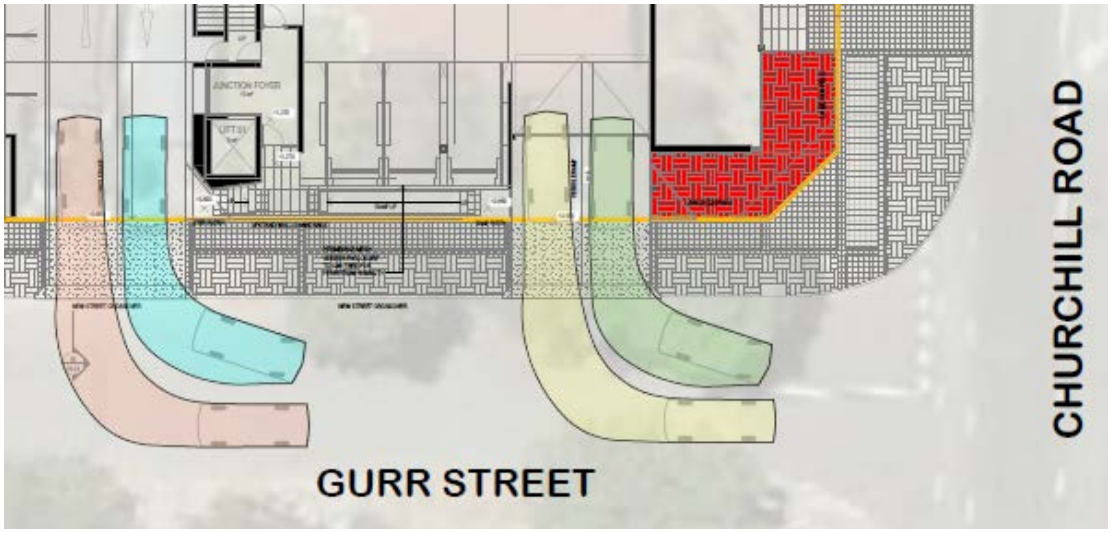


Figure 2 – The proposed access points in relation to Churchill Road

Pedestrian and cyclist access to the site will be provided via the site's frontages to Churchill Road and Gurr Street. However, pedestrians and cyclists wishing to access the Junction Apartments will only be able to do so via Gurr Street.

Refuse collection is proposed to occur on-site within the primary parking area. The parking area has been designed to accommodate commercial vehicles up to 8.8 m in length. Such vehicles will be able to enter and exit the site in a forward direction. A head height of at least 3.5 m has been provided in all areas where commercial vehicle movements will occur. Figure 3 illustrates the turn path of an 8.8 m refuse collection vehicle accessing the subject site.

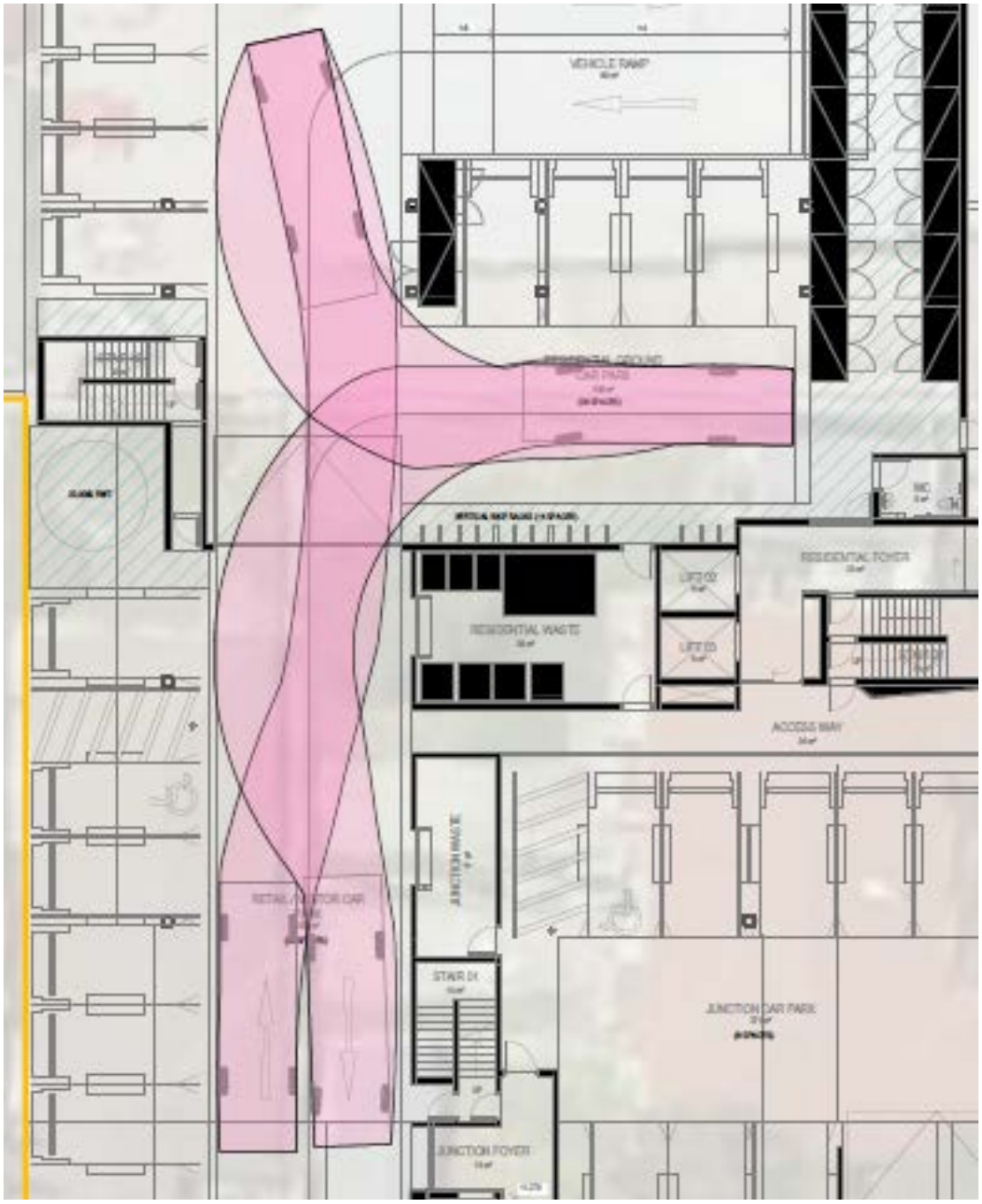


Figure 3 – An 8.8 m refuse collection vehicle accessing the subject site

Along the site's frontage to Churchill Road, it is proposed to install three indented parking bays (capable of accommodating three vehicles). The indented parking bay would provide additional parking opportunities to passing trade on Churchill Road as well as a light vehicle loading (with appropriate parking restrictions). Such an arrangement would be subject to discussions with both Council and DPTI, however is it is understood (from initial discussions) that Council is supportive of the arrangement. Furthermore, similar street upgrades (south of the site) have already been undertaken on Churchill Road.

4. PARKING ASSESSMENT

4.1 CAR PARKING

The City of Prospect's Development Plan identifies the following vehicle parking requirements applicable to the subject development:

- Residential development in a multi-storey building - one space per studio, 1-bedroom or 2-bedroom dwelling (plus 0.25 visitor spaces per dwelling) plus 1.25 spaces per 3-or-more-bedroom dwelling (plus 0.25 visitor spaces per dwelling); and
- Non-residential development - three spaces per 100 m² of gross leasable floor area.

Based upon the above requirements, the proposed development would have a theoretical vehicle parking requirement for 62 spaces to be provided on the subject site. Given that it is proposed to provide 62 parking spaces across the subject site, the vehicle parking requirements of Council's Development Plan are satisfied.

However, as mentioned above, parking spaces will be provided within two separate parking areas. Based upon the above rates, the 'Junction Apartments' will have a theoretical parking demand for eight resident spaces and two visitor spaces. Given that eight spaces are proposed within the 'Junction Apartment' parking area, the resident component (associated with the 'Junction Apartments') of Council's Development Plan is considered to be satisfied. The two spaces associated with the visitor parking demand will be accommodated within the unsecure parking area.

With regard to the remaining residential apartments, Council's Development Plan identifies a parking requirement for 37 residential parking spaces and nine visitor parking spaces. Given that 54 spaces will be provided within the primary secure parking area, the residential requirements of Council's Development Plan have been met.

The 'non-residential' component will have a theoretical parking requirement for six spaces. It should be noted that this will comprise both staff (employees) and visitors to the tenancies. Given that two spaces on the ground floor of the primary secure parking area will be designated as 'staff only' and four spaces within the unsecure area 'remain', the 'non-residential' component of Council's Development Plan is considered to be satisfied.

In reality, the peak parking demands associated with the commercial tenancies and (residential) visitors will occur at different times (i.e. the peak parking demand

associated with visitors will likely occur outside of regular business hours). As such, there will be an opportunity for shared parking within the unsecured parking area.

However, it should be reiterated that the above parking assessment does not rely on a shared parking arrangement, nor does it rely on the proposed indented parking along the site's Churchill Road frontage. The above parking assessment instead provides a 'worst case' scenario in the event that all of the site uses have a simultaneous peak parking demand.

4.2 BICYCLE PARKING

Council's Development Plan identifies the following parking requirements:

- Residential development in a multi-storey building – one space for every four dwellings for residents plus one space for every ten dwellings for visitors; and
- Shop – one space for every 300 m² of gross floor area for staff plus one space for every 600 m² of gross floor area for visitors.

Based upon the above bicycle parking requirements, there is a requirement for 18 bicycle parking spaces to be provide within the proposed development. Given that it is proposed to provide 18 bicycle spaces within the subject site, the bicycle parking requirements identified in Council's Development Plan are satisfied.

5. TRAFFIC ASSESSMENT

5.1 TRAFFIC GENERATION AND DISTRIBUTION

The NSW Roads and Maritime Services' "*Guide to Traffic Generating Developments*" (the RMS Guide) identifies a peak traffic generation of 0.53 trips per dwelling during the am peak hour and 0.32 trips per dwelling during the pm peak hour for dwellings classified as high-density residential dwellings.

The RMS Guide also identifies a peak hour (Thursday) traffic generation of 12.3 peak hour trips per 100 m^2 of gross leasable floor area for shopping centres with a total floor area between 0 and 10,000 m^2. However, such a rate is not considered to be appropriate for application to the subject proposal. This is due to the large-scale nature and variety of offerings of a shopping centre compared to that of the proposal. In reality, it would be expected that the retail component would generate in the order of 7.5 to 9.0 peak hour trips per 100 m^2 of floor area. Such rates have recently been adopted (and accepted) for small retail shops throughout metropolitan Adelaide. As such, a rate of 9.0 trips per 100 m^2 (for conservatism) has been adopted for this assessment.

Based upon the above traffic generation rates, it is forecast that the proposed development will generation in the order of 40 am and 32 pm peak hour trips. However, due to separate parking areas being provided for the various apartments, the site's traffic generation will be split between the site's two access points; specifically, 36 am and 29 pm peak hour trips via the site's western access and 4 am and 3 pm peak hour trips via the site's eastern access.

5.2 TRAFFIC IMPACT

In order to determine the site's potential impact on the adjacent road network, traffic surveys have been undertaken at the Churchill Road/Gurr Street/Albert Street intersection. Data was collected for a 12-hour period by Austraffic on Wednesday, 23 August 2017. The data identified that the am peak hour occurred between 7:15 am and 8:15 am, whilst the pm peak hour occurred between 4:30 pm and 5:30 pm.

Using the data collected, CIRQA has undertaken SIDRA Intersection modelling of the Churchill Road/Gurr Street/Albert Street intersection to determine the existing operating conditions as well as any potential traffic impacts of the proposed development. To provide a conservative assessment, the modelling assumes all movements with be to/from this intersection. In reality, a proportion will be to/from the west (via Davenport Terrace and Pym Street).

The SIDRA modelling was calibrated using queues and delays observed on-site during the survey period. Detailed SIDRA output is attached in Appendix B. Table 1 illustrates the existing operating conditions of the Churchill Road/Gurr Street/Albert Street intersection during the am and pm peak periods.

Table 1 – Existing conditions of the Churchill Road/Gurr Street/Albert Street during the am (pm) peak periods.

Movement	Degree of Saturation (DoS)	98th %ile Queue Distance (m)	Average Delay (s)
Churchill Rd (N) – L	0.71 (0.72)	0.0 (0.0)	5.7 (5.7)
Churchill Rd (N) – T	0.71 (0.72)	0.0 (0.0)	0.2 (0.2)
Churchill Rd (N) – R	0.01 (0.02)	0.1 (0.4)	8.0 (12.1)
Albert St - L	0.10 (0.04)	2.3 (1.0)	21.1 (21.1)
Albert St - T	0.03 (0.19)	0.6 (3.8)	51.0 (91.0)
Albert St - R	0.03 (0.19)	0.6 (3.8)	52.4 (94.1)
Churchill Rd (S) – L	0.44 (0.69)	0.0 (0.0)	5.6 (5.7)
Churchill Rd (S) – T	0.44 (0.69)	0.0 (0.0)	0.1 (0.2)
Churchill Rd (S) – R	0.00 (0.03)	0.1 (0.7)	12.3 (12.0)
Gurr St - L	0.02 (0.08)	0.5 (1.7)	9.5 (20.6)
Gurr St - T	0.03 (0.05)	0.6 (0.9)	43.9 (70.0)
Gurr St - R	0.03 (0.05)	0.6 (0.9)	45.0 (70.0)

Forecast traffic volumes were then added to the calibrated SIDRA models in order to determine the theoretical impact of the proposed development on the Churchill Road/Gurr Street/Albert Street intersection. Detailed SIDRA output is attached in Appendix C. Table 2 illustrates the forecast operating conditions of the Churchill Road/Gurr Street/Albert Street intersection during the am and pm peak periods (i.e. inclusive of forecast traffic volumes generated by the proposed development).

Table 2 – Forecast operating conditions of the Churchill Road/Gurr Street/Albert Street during the am (pm) peak periods.

Movement	Degree of Saturation (DoS)	98th %ile Queue Distance (m)	Average Delay (s)
Churchill Rd (N) – L	0.71 (0.72)	0.0 (0.0)	5.7 (5.7)
Churchill Rd (N) – T	0.71 (0.72)	0.0 (0.0)	0.2 (0.2)
Churchill Rd (N) – R	0.01 (0.04)	0.3 (0.8)	8.1 (12.4)
Albert St - L	0.10 (0.04)	2.3 (1.0)	21.1 (21.1)
Albert St - T	0.05 (0.19)	1.0 (3.8)	51.6 (92.5)
Albert St - R	0.05 (0.19)	1.0 (3.8)	53.2 (95.5)
Churchill Rd (S) – L	0.44 (0.70)	0.0 (0.0)	5.6 (5.7)
Churchill Rd (S) – T	0.44 (0.70)	0.0 (0.0)	0.1 (0.2)
Churchill Rd (S) – R	0.00 (0.03)	0.1 (0.7)	12.3 (13.0)
Gurr St - L	0.05 (0.11)	1.1 (2.5)	9.6 (20.8)
Gurr St - T	0.16 (0.16)	3.4 (3.1)	46.9 (74.8)
Gurr St - R	0.16 (0.16)	3.4 (3.1)	48.8 (74.8)

The SIDRA results indicate that the intersection of Churchill Road, Gurr Street and Albert Street will operate in a similar manner to that of the existing intersection upon completion of the proposed development. Specifically, the SIDRA results indicate that delays could increase on Gurr Street (through and right-turn movements) by up to six seconds during the am and pm peak periods. Similarly, the 98th percentile queue lengths on Gurr Street may increase by three metres during both peak periods. Such increases are considered to be minimal and would not significantly impact upon the operation of the Churchill Road/Gurr Street/ Albert Street intersection. Importantly, the SIDRA modelling indicates that the proposed development will have negligible impact on the operation Churchill Road (and, in particular, on through-movements on the arterial road).

Based upon the above, the forecast traffic volumes generated by the proposed development will be readily accommodated on the adjacent road network with minimal impact on the operation of the Churchill Road/Gurr Street/Albert Street intersection.

6. SUMMARY

The proposal comprises the demolition of the existing buildings and the construction of a multi-storey mixed-use building. Specifically, the building will contain 42 apartment dwellings (in a combination of two and three-bedroom dwellings), 201 m^2 of commercial floor area, 62 vehicle parking spaces and 18 bicycle parking spaces. All parking areas will generally comply with the requirements of the relevant Australian Standards.

Vehicle access to the site will be provided via two crossovers on Gurr Street (all turning movements will be permitted at both access points). Pedestrian and cyclist access will be facilitated via both Churchill Road and Gurr Street.

Commercial vehicles movements (an 8.8 m MRV) will access the site via the site's western crossover. Such vehicles (refuse collection vehicles) will be able to enter and exit the site in a forward direction.

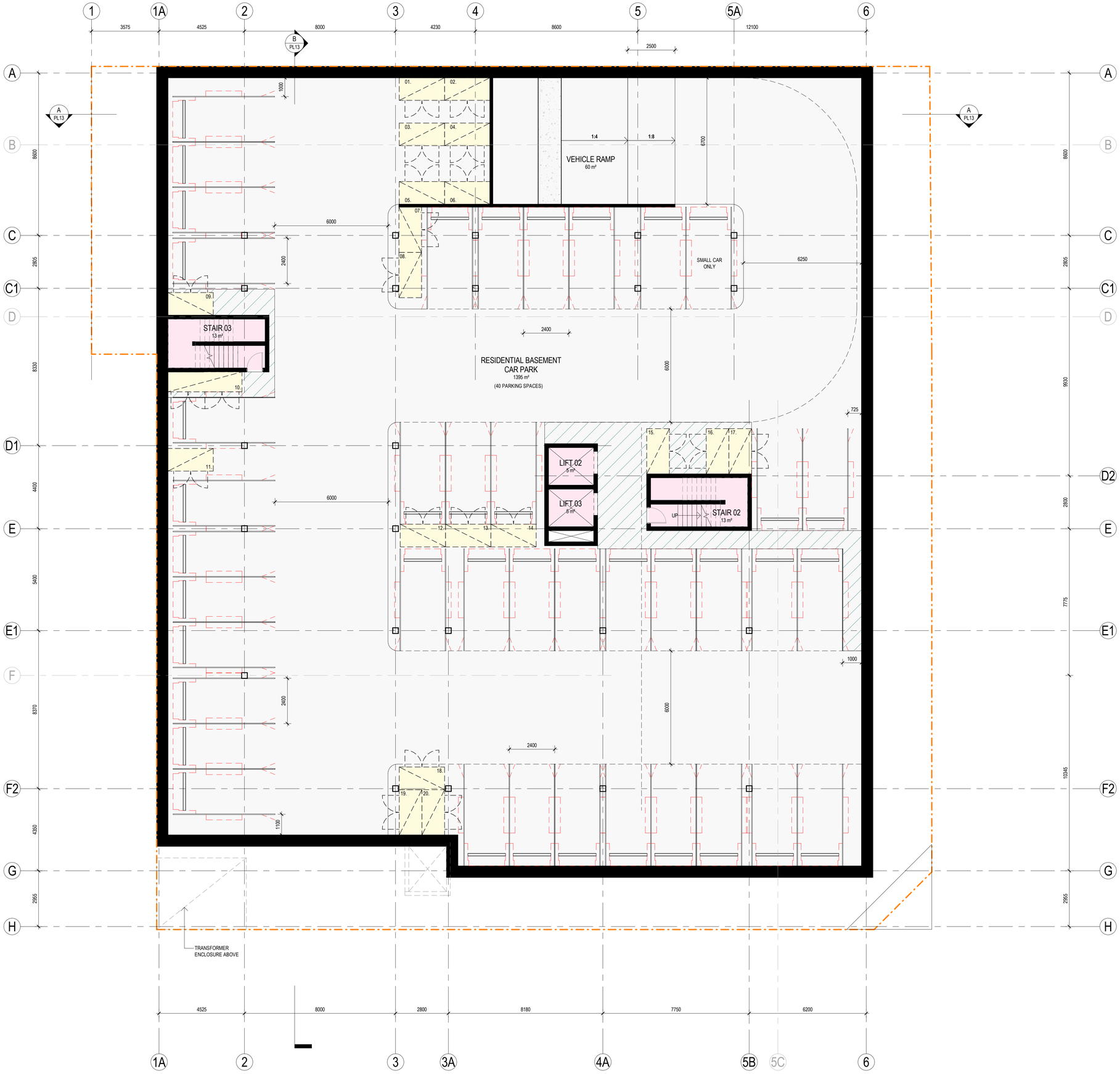
Council's Development Plan identifies a theoretical parking requirement for 62 spaces to be provided on-site. Given that 62 spaces will be provided throughout the site, the theoretical vehicle parking requirements of Council's Development Plan is considered to be satisfied. The Development Plan also requires that 18 bicycle parking be are provided on-site. A total of 18 spaces will be provided within the proposed development, therefore satisfying the bicycle parking requirement of Council's Development Plan.

With regard to traffic, the proposed development will generate in the order of 40 am and 32 pm peak hour trips. The SIDRA modelling undertaken indicates that

such volumes would be readily accommodated on the adjacent road network and at the Churchill Road/Gurr Street/Albert Street intersection with minimal impact on queues and delays.

APPENDIX A

PROSKE ARCHITECTS PLANS



BASEMENT FLOOR PLAN
SCALE 1 : 100

proske ARCHITECTS

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

BASEMENT FLOOR AREA...

CAR PARK & VEHICLE CIRCULATION	1460.59 m²
COMMON CIRCULATION (FOYERS, STAIRS, LIFTS, CORRIDORS)	36.38 m²
TOTAL NET BUILDING AREA	1496.97 m²

CAR PARKING SCHEDULE

JUNCTION	8
RESIDENTIAL	48
RETAIL	6
TOTAL CAR PARKS: 62	

CAR PARKING NOTES

COMMERCIAL TENANCY TOTAL AREA	203 m2
REQUIRED CAR PARKS	**06**
JUNCTION APARTMENTS TOTAL (2 BED)	08
REQUIRED CAR PARKS (INC VISITORS)	**10**
1 BED APARTMENTS TOTAL	00
REQUIRED CAR PARKS (INC VISITORS)	**00**
2 BED APARTMENTS TOTAL	24
REQUIRED CAR PARKS (INC VISITORS)	**30**
3 BED APARTMENTS TOTAL	10
REQUIRED CAR PARKS (INC VISITORS)	**15**
TOTAL REQUIRED CAR PARKS (INC VISITORS)	**62**
TOTAL CAR PARKS PROVIDED ON SITE	**62**

APARTMENT STORAGE NOTES

8m3 SECURE STORAGE LOCKER
(1 PER APARTMENT)

F	CIRQA UPDATE	25.06.2018
E	CIRQA & RAWTEC REVIEW	05.06.2018
D	PRELIMINARY	31.05.2018
C	PLANNING AMENDMENTS	05.03.2018
B	PLANNING AMENDMENTS	30.01.2018
A	APPROVAL	27.10.2017

PRELIMINARY

17.001. PL04.F

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
BASEMENT FLOOR PLAN

DRAWING DETAILS
DRAWN: **Author**
SCALE: **1 : 100 @ A1**
DATE: **25.06.2018**

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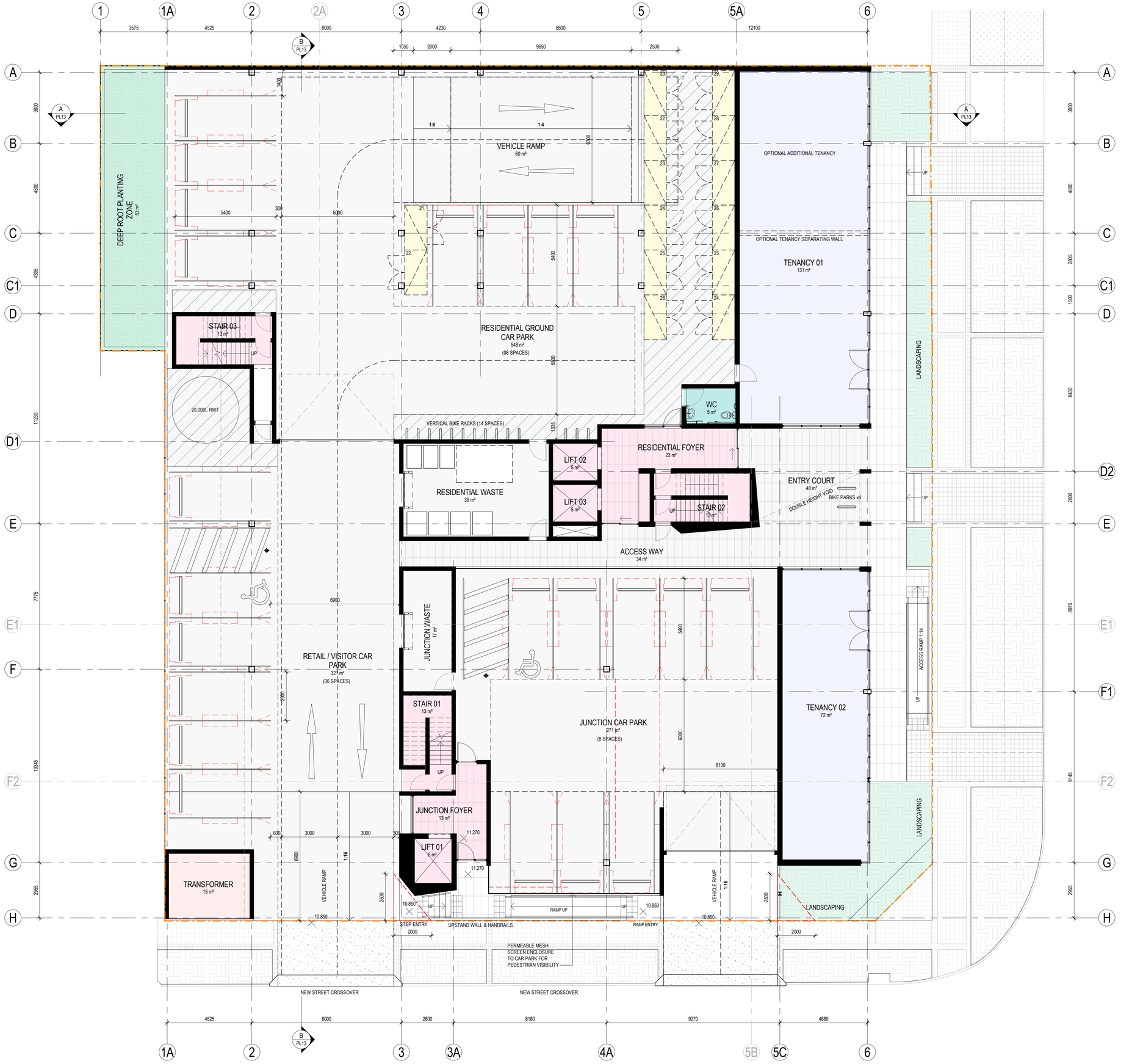

GROUND FLOOR PLAN
SCALE 1 : 100

proske ARCHITECTS

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

GROUND FLOOR AREA SCHEDULE (NET)

CAR PARK & VEHICLE CIRCULATION	1148.91 m²
COMMON CIRCULATION (FOYERS, STAIRS, LIFTS, CORRIDORS)	91.45 m²
PLANTING ZONE	91.43 m²
SERVICES & AMENITY	76.08 m²
TENANCY 01	129.74 m²
TENANCY 02	70.91 m²
TOTAL NET GROUND FLOOR AREA	1608.52 m²

CAR PARKING SCHEDULE

JUNCTION	8
RESIDENTIAL	48
RETAIL	6
TOTAL CAR PARKS: 62	

CAR PARKING NOTES

COMMERCIAL TENANCY TOTAL AREA	203 m2
REQUIRED CAR PARKS	**06**
JUNCTION APARTMENTS TOTAL (2 BED)	08
REQUIRED CAR PARKS (INC VISITORS)	**10**
1 BED APARTMENTS TOTAL	00
REQUIRED CAR PARKS (INC VISITORS)	**00**
2 BED APARTMENTS TOTAL	24
REQUIRED CAR PARKS (INC VISITORS)	**30**
3 BED APARTMENTS TOTAL	10
REQUIRED CAR PARKS (INC VISITORS)	**15**
TOTAL REQUIRED CAR PARKS (INC VISITORS)	**62**
TOTAL CAR PARKS PROVIDED ON SITE	**62**

APARTMENT STORAGE NOTES

8m3 SECURE STORAGE LOCKER
(1 PER APARTMENT)

G	CIRQA UPDATE	25.06.2018
F	CIRQA & RAWTEC REVIEW	05.06.2018
E	PRELIMINARY	31.05.2018
D	REVISED SCHEME	10.05.2018
C	AMENDMENTS FOR COMMENT	18.04.2018
B	PLANNING AMENDMENTS	05.03.2018
A	APPROVAL	27.10.2017

PRELIMINARY

17.001.PL05.G

PROJECT
MIXED USE DEVELOPMENT
244-248 CHURCHILL ROAD PROSPECT

CLIENT
GAMMA ILLUMINATION

DRAWING TITLE
GROUND FLOOR PLAN

DRAWING DETAILS
DRAWN: **Author**
SCALE: **1 : 100 @ A1**
DATE: **25.06.2018**

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APPENDIX B

DETAILED EXISTING SIDRA OUTPUT

MOVEMENT SUMMARY

Site: 101 [Churchill-Gurr - AM - Calib.]

New Site
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	98% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Churchill Rd (S)											
1	L2	1	2.5	0.438	5.6	LOS A	0.0	0.0	0.00	0.00	33.2
2	T1	827	8.0	0.438	0.1	LOS A	0.0	0.0	0.00	0.00	59.9
3	R2	1	2.5	0.002	12.3	LOS B	0.0	0.1	0.79	0.76	45.6
Approach		829	8.0	0.438	0.1	NA	0.0	0.1	0.00	0.00	59.8
East: Albert St (E)											
4	L2	20	2.5	0.099	21.1	LOS C	0.3	2.3	0.88	0.94	40.6
5	T1	1	2.5	0.031	51.0	LOS F	0.1	0.6	0.96	0.98	22.9
6	R2	1	2.5	0.031	52.4	LOS F	0.1	0.6	0.96	0.98	29.5
Approach		22	2.5	0.099	24.0	LOS C	0.3	2.3	0.89	0.95	39.0
North: Churchill Rd (N)											
7	L2	2	2.5	0.707	5.7	LOS A	0.0	0.0	0.00	0.00	57.8
8	T1	1336	8.0	0.707	0.2	LOS A	0.0	0.0	0.00	0.00	59.6
9	R2	4	2.5	0.005	8.0	LOS A	0.0	0.1	0.54	0.65	46.2
Approach		1342	8.0	0.707	0.2	NA	0.0	0.1	0.00	0.00	59.6
West: Gurr St (W)											
10	L2	11	2.5	0.019	9.5	LOS A	0.1	0.5	0.64	0.77	43.7
11	T1	1	2.5	0.027	43.9	LOS E	0.1	0.6	0.95	0.97	24.8
12	R2	1	2.5	0.027	45.0	LOS E	0.1	0.6	0.95	0.97	26.1
Approach		13	2.5	0.027	15.3	LOS C	0.1	0.6	0.69	0.80	38.7
All Vehicles		2206	7.9	0.707	0.5	NA	0.3	2.3	0.01	0.02	59.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Churchill-Gurr - PM - Calib.]

New Site
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	98% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Churchill Rd (S)											
1	L2	1	2.5	0.690	5.7	LOS A	0.0	0.0	0.00	0.00	33.1
2	T1	1304	8.0	0.690	0.2	LOS A	0.0	0.0	0.00	0.00	59.6
3	R2	14	2.5	0.032	13.0	LOS B	0.1	0.7	0.80	0.92	45.3
Approach		1319	7.9	0.690	0.3	NA	0.1	0.7	0.01	0.01	59.4
East: Albert St (E)											
4	L2	8	2.5	0.043	21.1	LOS C	0.1	1.0	0.88	0.94	40.6
5	T1	1	2.5	0.190	91.0	LOS F	0.5	3.8	0.98	1.00	16.0
6	R2	6	2.5	0.190	94.1	LOS F	0.5	3.8	0.98	1.00	21.7
Approach		16	2.5	0.190	55.0	LOS F	0.5	3.8	0.93	0.97	28.8
North: Churchill Rd (N)											
7	L2	14	2.5	0.718	5.7	LOS A	0.0	0.0	0.00	0.01	57.7
8	T1	1344	8.0	0.718	0.2	LOS A	0.0	0.0	0.00	0.01	59.5
9	R2	8	2.5	0.018	12.1	LOS B	0.1	0.4	0.79	0.91	42.3
Approach		1366	7.9	0.718	0.3	NA	0.1	0.4	0.00	0.01	59.4
West: Gurr St (W)											
10	L2	16	2.5	0.078	20.6	LOS C	0.2	1.7	0.88	0.94	35.3
11	T1	1	2.5	0.045	70.0	LOS F	0.1	0.9	0.97	0.99	19.3
12	R2	1	2.5	0.045	70.0	LOS F	0.1	0.9	0.97	0.99	20.1
Approach		18	2.5	0.078	26.4	LOS D	0.2	1.7	0.89	0.95	32.1
All Vehicles		2719	7.9	0.718	0.8	NA	0.5	3.8	0.02	0.02	58.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

APPENDIX C

DETAILED FORECAST SIDRA OUTPUT

MOVEMENT SUMMARY

Site: 101 [Churchill-Gurr - AM + DEV - Calib.]

New Site
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	98% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Churchill Rd (S)											
1	L2	11	2.5	0.443	5.6	LOS A	0.0	0.0	0.00	0.01	33.1
2	T1	827	8.0	0.443	0.1	LOS A	0.0	0.0	0.00	0.01	59.8
3	R2	1	2.5	0.002	12.3	LOS B	0.0	0.1	0.79	0.76	45.6
Approach		839	7.9	0.443	0.2	NA	0.0	0.1	0.00	0.01	59.4
East: Albert St (E)											
4	L2	20	2.5	0.099	21.1	LOS C	0.3	2.3	0.88	0.94	40.6
5	T1	2	2.5	0.047	51.6	LOS F	0.1	1.0	0.96	0.98	22.8
6	R2	1	2.5	0.047	53.2	LOS F	0.1	1.0	0.96	0.98	29.4
Approach		23	2.5	0.099	25.4	LOS D	0.3	2.3	0.89	0.95	38.2
North: Churchill Rd (N)											
7	L2	2	2.5	0.707	5.7	LOS A	0.0	0.0	0.00	0.00	57.8
8	T1	1336	8.0	0.707	0.2	LOS A	0.0	0.0	0.00	0.00	59.6
9	R2	11	2.5	0.012	8.1	LOS A	0.0	0.3	0.54	0.69	46.1
Approach		1348	7.9	0.707	0.3	NA	0.0	0.3	0.00	0.01	59.5
West: Gurr St (W)											
10	L2	24	2.5	0.045	9.6	LOS A	0.2	1.1	0.64	0.82	43.6
11	T1	1	2.5	0.163	46.9	LOS E	0.5	3.4	0.96	0.98	23.7
12	R2	12	2.5	0.163	48.8	LOS E	0.5	3.4	0.96	0.98	24.9
Approach		37	2.5	0.163	23.0	LOS C	0.5	3.4	0.75	0.88	34.2
All Vehicles		2247	7.8	0.707	0.8	NA	0.5	3.4	0.02	0.03	58.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Churchill-Gurr - PM + DEV - Calib.]

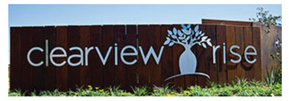
New Site
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	98% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Churchill Rd (S)											
1	L2	11	2.5	0.695	5.7	LOS A	0.0	0.0	0.00	0.00	33.0
2	T1	1304	8.0	0.695	0.2	LOS A	0.0	0.0	0.00	0.00	59.6
3	R2	14	2.5	0.032	13.0	LOS B	0.1	0.7	0.80	0.92	45.3
Approach		1328	7.9	0.695	0.4	NA	0.1	0.7	0.01	0.01	59.1
East: Albert St (E)											
4	L2	8	2.5	0.043	21.1	LOS C	0.1	1.0	0.88	0.94	40.6
5	T1	1	2.5	0.192	92.5	LOS F	0.5	3.8	0.98	1.00	15.8
6	R2	6	2.5	0.192	95.5	LOS F	0.5	3.8	0.98	1.00	21.6
Approach		16	2.5	0.192	55.6	LOS F	0.5	3.8	0.93	0.97	28.6
North: Churchill Rd (N)											
7	L2	14	2.5	0.718	5.7	LOS A	0.0	0.0	0.00	0.01	57.7
8	T1	1344	8.0	0.718	0.2	LOS A	0.0	0.0	0.00	0.01	59.5
9	R2	17	2.5	0.037	12.4	LOS B	0.1	0.8	0.79	0.91	42.0
Approach		1375	7.9	0.718	0.4	NA	0.1	0.8	0.01	0.02	59.3
West: Gurr St (W)											
10	L2	23	2.5	0.114	20.8	LOS C	0.4	2.5	0.88	0.95	35.1
11	T1	1	2.5	0.157	74.8	LOS F	0.4	3.1	0.98	0.99	18.5
12	R2	6	2.5	0.157	74.8	LOS F	0.4	3.1	0.98	0.99	19.2
Approach		31	2.5	0.157	33.8	LOS D	0.4	3.1	0.91	0.96	28.9
All Vehicles		2749	7.8	0.718	1.1	NA	0.5	3.8	0.02	0.03	58.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

ATTACHMENT

Amended Landscape Concept Plan



A POTENTIAL ENTRY STATEMENT PRECEDENT IMAGE

B FOYER SIGNAGE WALL AND LIGHTING WITHIN RAISED PLANTER BED

C DEEP ROOT TREE PLANTING ZONE

D INLAYED TIMBER DECKING AT ENTRY THRESHOLD

LOMANDRA

STIPA

MYOPORUM

DIANELLA

E STREETSCAPE PLANTING SIMILAR TO CHURCHILL ROAD EXISTING STREETSCAPE CHARACTER

CLIVIA

PHORMIUM

PHILODENDRON

CORDYLINE

F SHADE TOLERANT ENTRY PLANTING WITHIN RAISED PLANTING BED

PLATANUS ORIENTALIS

KEOLRUETARIA PANICULATA

CONCRETE STREET PAVERS

BLUESTONE FEATURE PAVERS

HARDWOOD TIMBER DECKING

MIXED PLANTING BED

DEEP ROOT ZONE

OUTER SPACE

STREET TREES

PLATANUS ORIENTALIS

KOELREUTARIA PANICULATA

DEEP ROOT ZONE TREES

CUPRESSUS LEYLANDII

CALLITRIS PREISSII

PRELIMINARY
NOT FOR CONSTRUCTION

Project:	244-248 CHURCHILL ROAD
Client:	Proske Architects
Drawing:	Landscape Concept Plan

0 2 4 6 8 10 20m

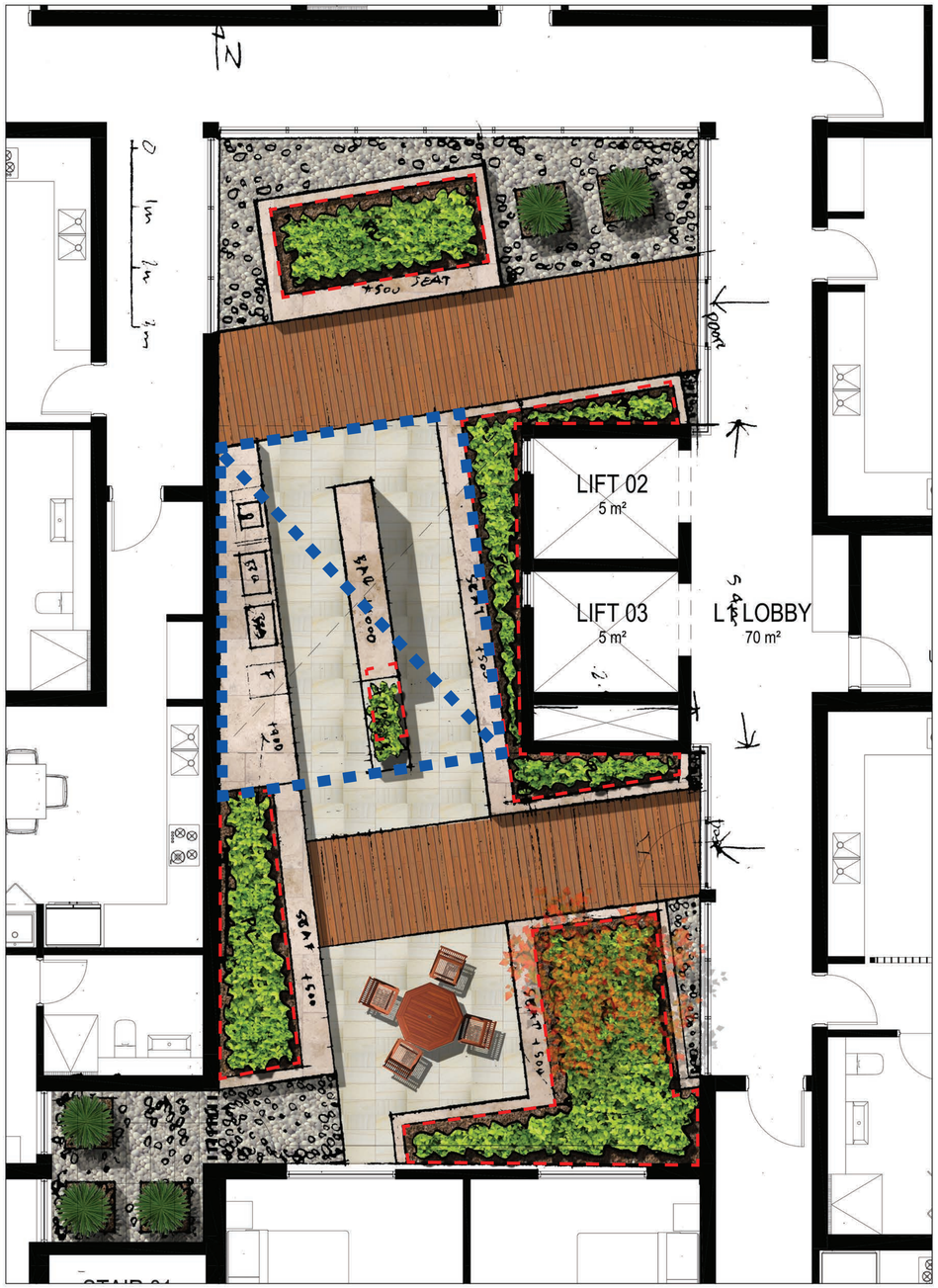
Scale: 1:100 @ A1

Date: 06/06/18

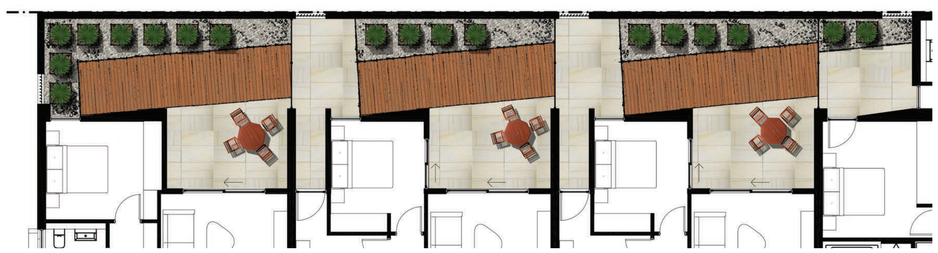
Dwg No.: OS603_CP01

Drawn By: AL

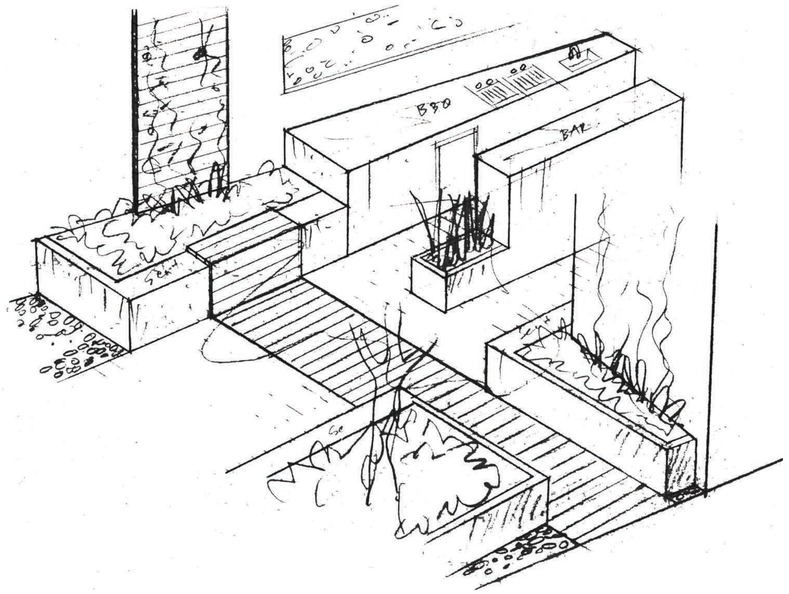
Approved By: PW



FIRST FLOOR COMMUNITY COURTYARD
1:50 @ A1



FIRST FLOOR PRIVATE COURTYARDS
1:100 @ A1



COMMUNITY COURTYARD ARTIST IMPRESSION

AGAVE POT PLANTS

STAR JASMIN CLIMBER

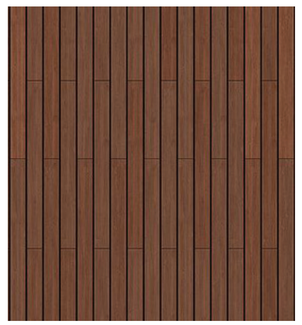
ACER PALMATUM COURTYARD TREE

PLANTER WALL

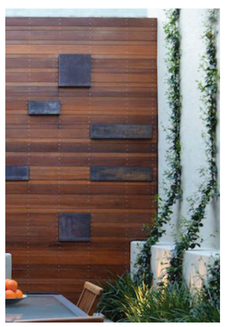
WASHED RIVER PEBBLES

800X800 POT CHARACTER

DECKING



DECKING MATERIAL



TIMBER WALL FEATURE

OUTER SPACE®

TIMBER DECKING

STONE PAVING

WHITE WASHED RIVER PEBBLES

ACER PALMATUM

POTTED PLANTS

MIXED PLANTING BED

MOVABLE CHAIRS & TABLE

RAISED PLANTING BED

COURTYARD ROOF OVER

PRELIMINARY
NOT FOR CONSTRUCTION

Project:	244-248 CHURCHILL ROAD
Client:	Proske Architects
Drawing:	Landscape Concept Plan

0 2 4 6 8 10 20m

Scale: 1:100 @ A1

Date: 06/06/18

Dwg No.: OS603_CP02

Drawn By: AL

Approved By: PW

ATTACHMENT

Sonus Pty Ltd: Minister's Specification SA 78B Assessment [August 2018]

244 Churchill Road

Minister's Specification SA 78B Assessment

S5681C3

August 2018

sonus.

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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

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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).*

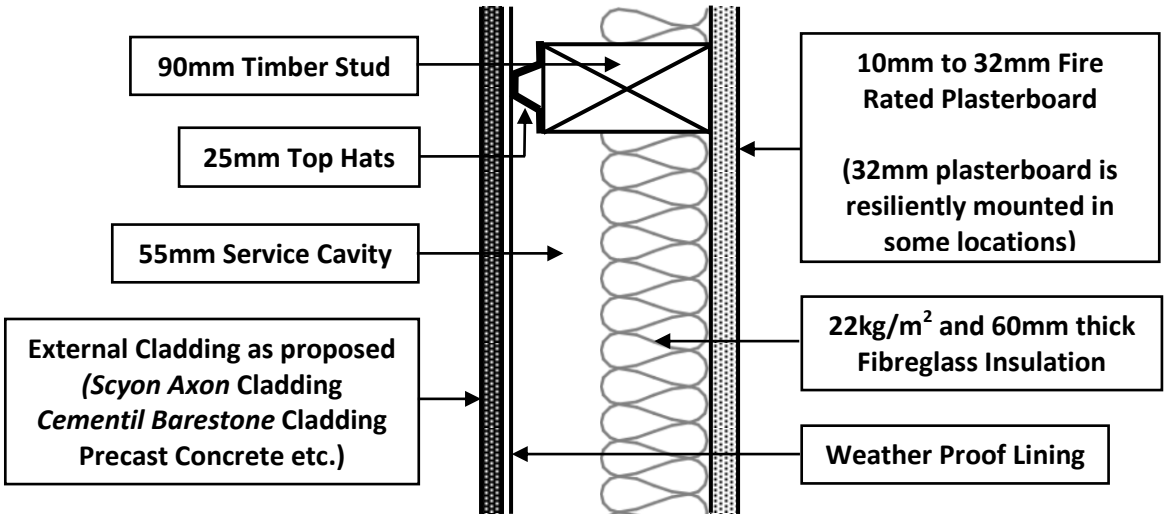


Figure 3: *Level 1, 2, and 3 internal linings.*

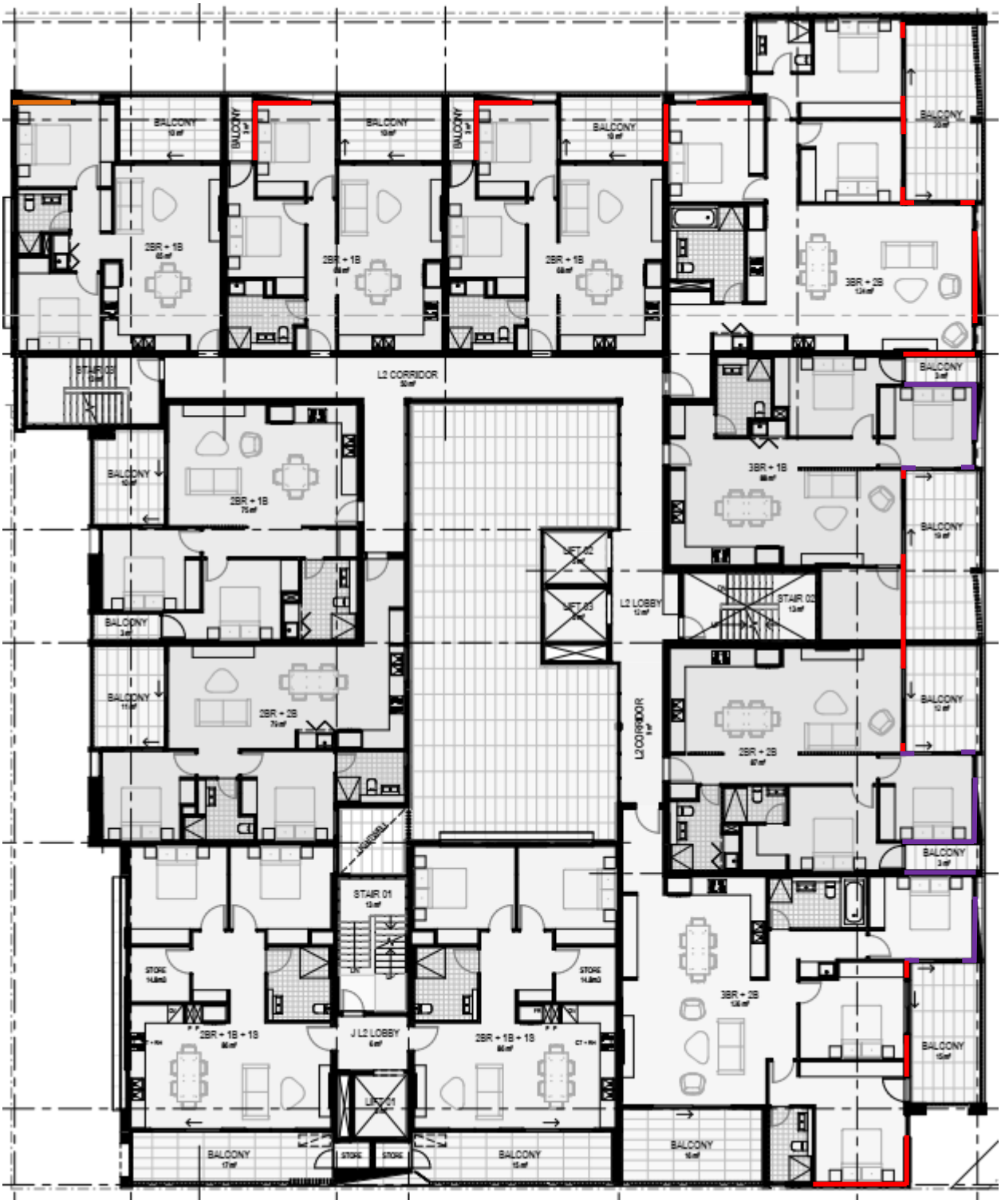
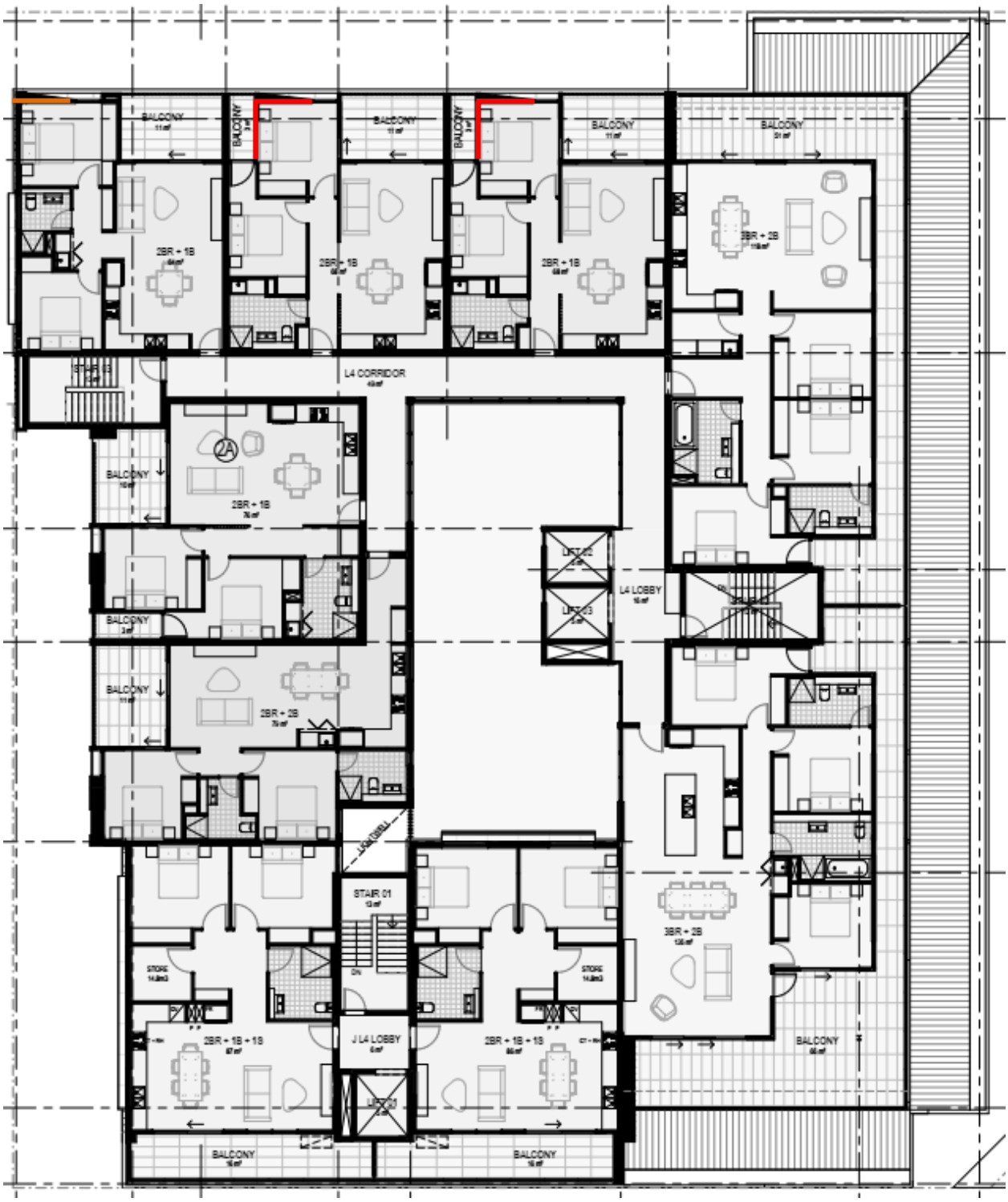
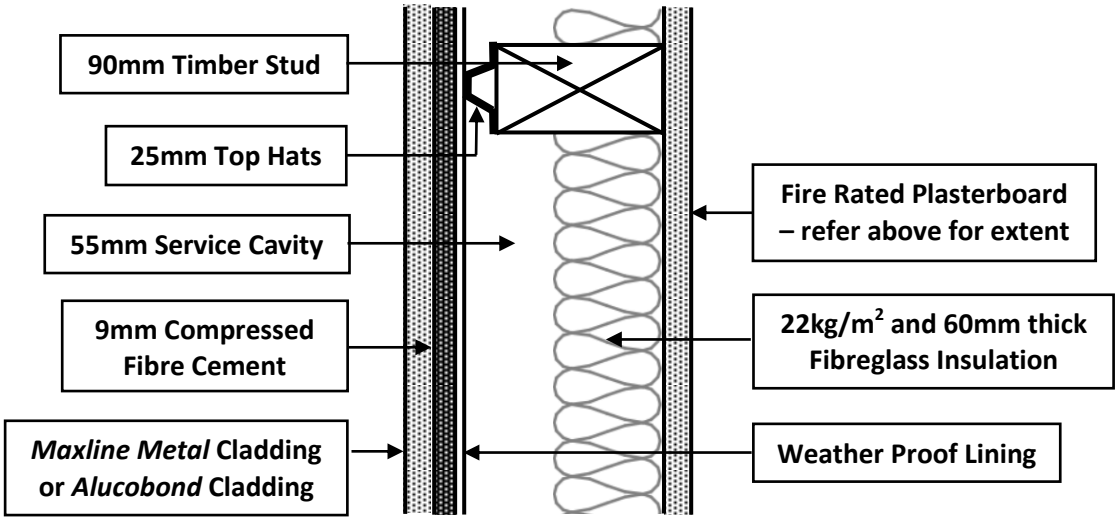


Figure 4: *Level 4 internal linings.*



- 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**

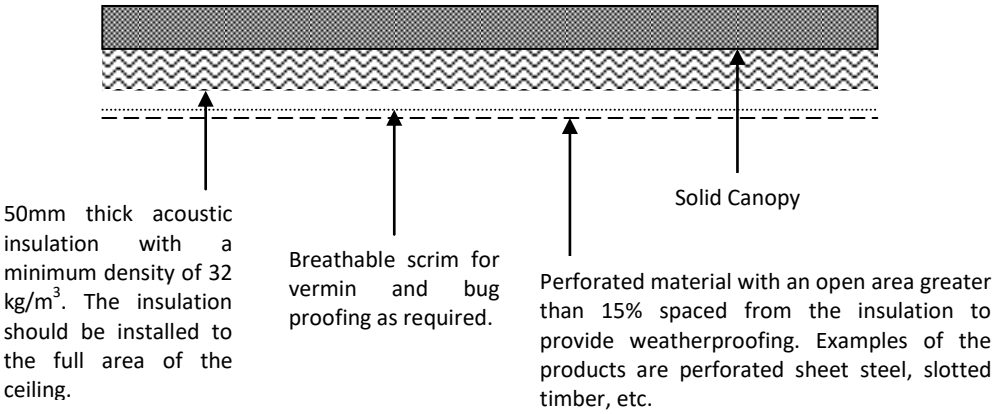
No barrier (acoustically open)	• Install acoustic absorption overhead[1]
	• Resiliently mount the plasterboard to the studs; and,
	• Implement at least one of the following:
	  ○ Reduce the area of all sliding doors between bedrooms and balconies to 2.7m^2 or less; or,
	  ○ Construct dual layer sliding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

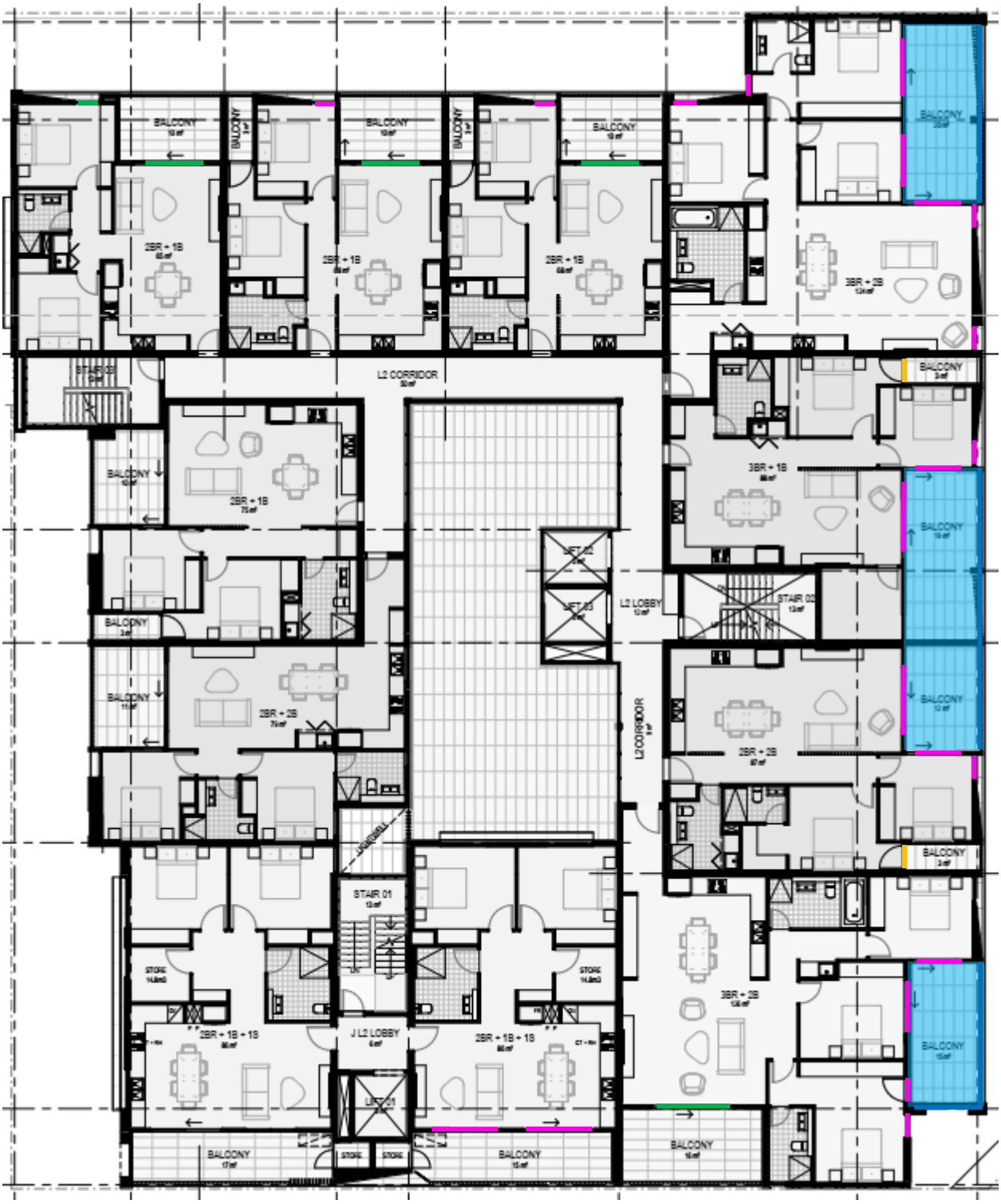


Figure 8: *Level 4 glazed areas.*

ATTACHMENT

PT Design: Stormwater Management Report Revision 1
[22 May 2018]

STORMWATER MANAGEMENT REPORT

Churchill Road (244-246), Prospect

DRAFT

Prepared by:

PT Design ABN 35 008 116 916
141-149 Ifould Street, ADELAIDE SA 5000
Tel: (08) 8412 4300

Project No: 19724
Revision: -01-
Date of Issue: 22/05/2018

INTRODUCTION

A new apartment building is proposed to be constructed on the corner of Churchill Road and Gurr Street, Prospect. The site is located in a residential area, however, there are commercial buildings of a similar scale in the area. This report considers the stormwater management including detention in accordance with council's requirements.

THE SITE

The site is an almost rectangular piece of land 1935m2 in area. The site is fronted by Churchill Road to the east, Gurr Street to the south, a residential property to the west and what is currently vacant land to the north. This vacant land is currently being developed as a residential land division. The pre-development site is covered by buildings and a significant amount of paving with some pervious areas. The existing site is basically level with a difference in level of just 200mm over the entire site. Council has advised that the site is located within a noted flood zone. The site is subject to up to 0.22m deep water inundation during a flood.

There is a side entry pit in the south-eastern corner of the site to allow for direct connection of the stormwater.

DRAFT

STORMWATER DETENTION

The City of Prospect has advised that we must detain stormwater from the site such that the flow from the critical post-development 1 in 20 year storm does not exceed the pre-development minor storm.

Calculations show that we must provide 12.6 kL of storage with a maximum discharge rate of 30.4 L/sec. Refer to appendix A for the supporting calculations.

Detention will be provided by an above ground tank that will gravity drain to the side entry pit in the south-east corner of the site. The final location and drainage of the tank will be finalised during detailed design development in the future.

STORMWATER DESIGN

The FFLs of the ground floor will be set at 11.27. This FFL has been selected as it is 0.22m plus 0.15m freeboard above the worst case flood location (existing RL of 10.90). This will prevent the building from flooding during a major storm/flood event.

The levels of the carpark to the southern boundary will be set at 11.27 then ramp down to suit the finished floor levels. Final drain levels and locations will be determined during detail design.

All roof and paved catchment areas within the site will be directed to the stormwater detention system. Final stormwater pipe layout and sizes will be determined in accordance with AS3500.3 during detailed design development stage in the future.

Any stormwater that manages to make its way to the basement level will be collected and pumped back to ground level as required.

Given the site is basically entirely covered by roof, no treatment of the stormwater is required.

DRAFT

APPENDIX A

STORMWATER DETENTION CALCULATIONS

DRAFT

STORMWATER CALCULATIONS

Churchill Road (244-246), Prospect

DRAFT

Prepared by:

PT Design ABN 35 008 116 916
141-149 Ifould Street, ADELAIDE SA 5000
Tel: (08) 8412 4300

Project No: 19724
Revision: -00-
Date of Issue: 17/10/2017

Project:	244-246 Churchill Road	Project #	19724
	Prospect	Date	17.10.2017
Design By:	MP	Page	1 of 2

CRITICAL 1 IN 20 YEAR DETENTION VOLUME

PRE DEVELOPMENT FLOW (MINOR STORM)

Time of Concentration	5	mins
Rainfall Intensity	94.2	mm/hr

Catchment Area	C	Area (m^2)	
Roof	0.9	569.4	13.4
Impervious	0.75	692.4	13.6
Pervious	0.2	642.6	3.4
		Total	**30.4** L/sec

POST DEVELOPMENT FLOW (MAJOR STORM)

Time of Concentration	t mins (critical TBC)
Rainfall Intensity	$^{20}I_t$ mm/hr

Catchment Area	C	Area (m^2)	
Roof	0.9	1934.4	0.48
Impervious	0.75	0	0.00
Pervious	0.2	0	0.00
		Total	**0.48** $^{100}I_t$

DRAFT

Project:	244-246 Churchill Road	Project #	19724
	Prospect	Date	17.10.2017
Design By:	MP	Page	2 of 2

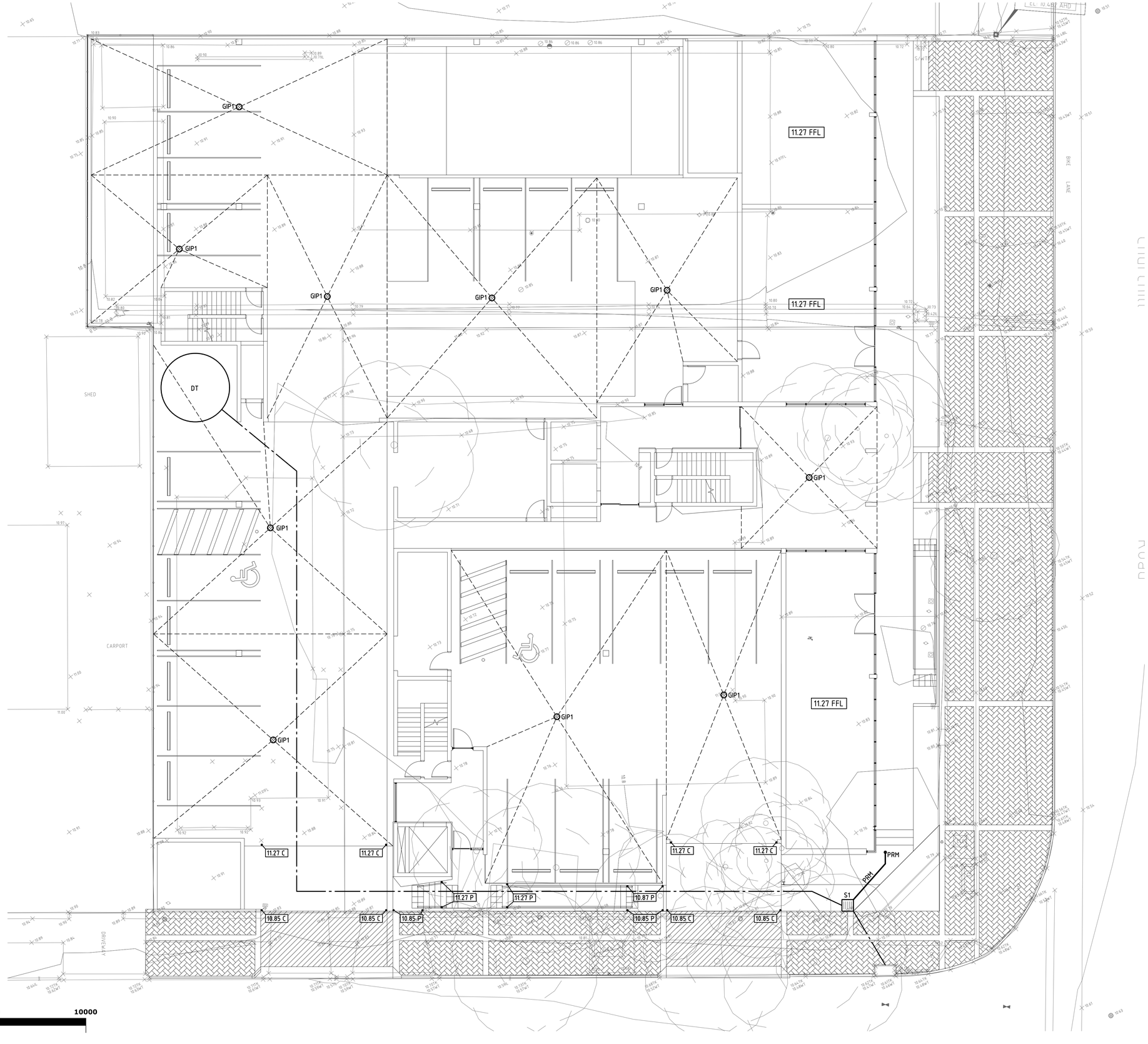
CRITICAL STORAGE VOLUME

Q in		**Q out**	
0.48	$^{20}I_t$	30.4	L/sec

Tc (mins)	Intensity, I (mm/hr)	Q in (L/sec)	Q out (L/sec)	V in (L^3)	V out (L^3)	V total (L^3)
5	119	57.5	30.4	17265	9108	8156.322
6	110	53.2	30.4	19151	10019	9132
10	87.5	42.3	30.4	25389	13662	11727
20	60.8	29.4	30.4	35283	22770	12513
30	47.8	23.1	30.4	41609	31879	9730
60	30.5	14.7	30.4	53099	59203	-6104
120	18.9	9.1	30.4	65808	113852	-48044.2
180	14.2	6.9	30.4	74165	168502	-94337
360	8.7	4.2	30.4	90878	332449	-241571
720	5.3	2.6	30.4	110725	660344	-549619
1440	3.1	1.5	30.4	129527	1316135	-1186607

PEAK STORAGE REQUIRED 12513 L^3

DRAFT



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PT Design

structural • civil • engineers

LEGEND

——·——	STORMWATER PIPE TO FUTURE DETAILS
S1	STORMWATER SUMP TO FUTURE DETAILS
GIP1	GRATED INLET POINT TO FUTURE DETAILS
GIP2	GRATED INLET POINT TO FUTURE DETAILS
GD	GRATED DRAIN
SP300	300 WIDE CONCRETE SPOON DRAIN
15.55	DESIGN LEVEL C - CONCRETE
– – – –	GRADE LINE
DT	3 x 5.0 kL DETENTION TANKS (WITH LEVELLING PIPES) STRICTLY IN ACCORDANCE WITH MANUF'S DETAILS PROVIDE INSPECTION OPENINGS, BREATHER VALVES, ETC. STRICTLY IN ACCDORDANCE WITH MANUF'S DETAILS
PS	PRE-PACKAGED PUMP STATION TO PUMP MANUFACTURERS DETAILS PUMP RATE - 10.0 L/sec
PRM	PUMP RISING MAIN TO PUMP MANUFACTURERS DETAILS
	CONCRETE CROSSOVER TO COUNCIL'S REQUIREMENTS
	FOOTPATH PAVING TO COUNCIL'S REQUIREMENTS

PUMP NOTES:

PUMP SHALL BE DUAL PUMP. THE PUMP CONTROLS SHALL BE SET UP TO ENABLE ALTERNATE PUMP OPERATION AT EACH START. IN THE EVENT THAT A PUMP FAILS TO OPERATE WHEN THE WATER LEVEL IN THE WELL REACHES THE PUMP START, THE OTHER PUMP SHALL BE ACTIVATED AND A VISIBLE ALARM INITIATED. IN THE EVENT THAT BOTH PUMPS FAIL TO OPERATE, AN AUDIBLE ALARM SHALL BE INITIATED. PROVIDE BACK-UP POWER SUPPLY IN CASE OF POWER FAILURE.

NOTE:

DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS DRAWINGS AS A PACKAGE. REFER TO ARCHITECTS DRAWINGS FOR ALL SETOUT DIMENSIONS.

ALL LEVELS SHALL BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION. SHOULD ANY DISCREPANCY OCCUR THE CONTRACTOR SHALL CONTACT THIS OFFICE IMMEDIATELY FOR FURTHER INSTRUCTION.

Date	Revision	Issue
22.05.2018	PRELIMINARY ISSUE - REVISED LAYOUT	B
26.10.2017	ISSUED FOR PLANNING APPROVAL	A

PRELIMINARY

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Approved		Date	OCT '17
CIVIL		Sheet	1 of 2

Project

PROPOSED APARTMENTS 244-246 CHURCHILL ROAD PROSPECT

Client

MICHAEL CALABRO Pty. Ltd.

N

Drawing Title

GROUND FLOOR DRAINAGE LAYOUT

Scale

1:100

Drawing Number

19724-C01

Issue

B

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ATTACHMENT

Rawtec Amended Waste Management Plan – Version 3

Gamma Illumination 244-248 Churchill Road Prospect

Waste Management Plan

Document verification

Date	Version	Title	Prepared by	Approved by
06/10/17	V1	224-248 Churchill road, Prospect Waste management plan Draft	Matthew Allan	Mark Rawson
10/10/17	V2	224-248 Churchill road, Prospect Waste management plan	Matthew Allan	Mark Rawson
14/06/18	V3	224-248 Churchill road, Prospect Waste management plan updated	Kristian Le Gallou & Matt Allan	Matt Allan

Important notes

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Document summary

This Waste Management Plan (WMP) has been developed at the planning stage of the Development. The Client, Project Managers, Project Architects, and Traffic Consultant have been consulted and consideration given to the relevant policy requirements (Appendix 1).

The proposed Waste Management System (WMS) is outlined in this document. This a high-level view and includes a preliminary design that demonstrates waste can be successfully managed at the site. If land uses and waste management arrangements for the development are altered during detailed design work, this WMP may need to be updated.

Document summary **2**

1. Development summary **3**

1.1. Land use and occupancy 3

1.2. Waste management considerations 3

1.3. Recommended services 4

2. Waste management analysis **6**

2.1. Estimated waste and recycling volumes 6

2.2. Bin size and collection details 7

2.3. Waste storage area 8

3. Waste management system **9**

4. Collection requirements **11**

4.1. Vehicle movements per week 11

4.2. Collection vehicle 11

Appendix 1 - Policies **12**

Appendix 2 - Additional waste management and design considerations **13**

1. Development summary

Project	Mixed use development, 244-288 Churchill road, Prospect
Client	Gamma Illumination
Architect	Proske Architects

1.1. Land use and occupancy

Table 1 outlines the proposed building and land uses of the development. This is based on the most recent architectural plans. The waste resource generation categories are based on the land use outlined in the plans.

Table 1 Land use and occupancy overview

Level	Tenancy	Waste resource generation category[1]	Estimated size m^2 / No. bedrooms
Ground	Tenancy 01	Retail <100 m^2	131 m^2
	Tenancy 02	Café/restaurant	72 m^2
Levels 1-4	8 Junction apartments (2 bed)	Serviced apartments	16
	24 Residential apartments (2 bed)	High density residential	48
	10 Residential apartments (3 bed)	High density residential	30

1.2. Waste management considerations

The client and project architect have identified design preferences that may influence waste management (Table 2 overleaf). These arrangements have been considered when designing the waste management system.

[1] Waste Resource Generation land use categories are based on the SA Better Practice Guide – Waste Management in Residential or Mixed Use Developments (Green Industries SA, 2014).

Table 2 Development waste management considerations

Consideration	Description
Tenancies	• For this plan and associated waste generation rates, it has been assumed that tenancy one will be retail. Tenancy two has been assumed as a café/restaurant.
Storage	• Waste and recycling from the residential apartments and commercial tenancies would be stored in the 'residential waste' room. • Waste and recycling from the Junction apartments would be stored in a the 'Junction waste' room.
Movement of waste throughout the building	• Residents would have access to the residential waste room. They would transfer their own waste for disposal. • Staff or cleaners would move waste from the Junction apartments and tenancies into the designated waste rooms.
Waste collection points	• It is assumed that a commercial waste operator will be responsible for waste collection at the development. Council collection may be available for the residential apartments when the building is completed, however this must be confirmed with council. • Collection would take place from the ground floor retail/visitor car park.

1.3. Recommended services

For the development to achieve effective waste and recycling management it's recommended the services outlined in Table 3 be provided.

Table 3 Recommended waste management services

Required/Recommended Waste and Recycling Collection Services					
	Land use	**Residential**	**Commercial**	**Commercial**	**Commercial**
	Development land uses	**Residential apartments**	**Junction apartments**	**Tenancy 01**	**Tenancy 02**
Routine collection (rear lift)	General Waste	**X**	**X**	**X**	**X**
	Comingled Recycling	**X**	**X**	**X**	**X**
	Organics Recycling	**X**	**X**	**X**	**X**
	Cardboard Recycling	NS	NS	**X**	**X**
On-call or external drop-off	Hard Waste	**X**	**X**	**X**	**X**
	E-Waste	**X**	**X**	**X**	**X**
	CFL/Lighting	**X**	**X**	**X**	**X**
	Printer Cartridges	**X**	**X**	**X**	**X**
	Batteries	**X**	**X**	**X**	**X**

X = Required/Desired

NS = Not serviced as not required

These recommendations align with the *SA Better Practice Guide – Waste Management in Residential or Mixed-Use Developments* (Green Industries SA, 2014). The following streams have been considered, but the regular service provision of these streams has not been estimated. They should still be considered in the overall development.

- Electronic waste (batteries, printer cartridges, lighting)
  - E-waste would be temporarily stored within resident's own apartments, or within the hard waste area of the residential waste room. It would then be taken to an appropriate receival facility (e.g. recycling depot or participating retailer) or collected by a certified collection contractor.
- Hard Waste (during tenancy fit out, or residential land uses)
  - Hard waste would be stored within the space allowed in the residential waste room and managed via building services.
  - Further details are provided on the following pages.

2. Waste management analysis

2.1. Estimated waste and recycling volumes

Table 4 below outlines the estimated volumes of waste and recycling produced within the development per stream each week.

Table 4 Estimated waste volumes produced by the development[2]

Estimated waste generation volumes (litres per week)						
Land use type		**Residential**	**Commercial**	**Commercial**	**Commercial**	**Total**
Development land use		**Residential apartments**	**Junction apartments**	**Tenancy 01**	**Tenancy 02**	
WRGR classification		*Residential (High Density)*	*Serviced apartments*	*Retail (Greater than 100m2)*	*Café/Restaurant*	
Waste stream	General Waste	2,300	500	500	1,500	**4,800**
	Comingled Recycling	2,000	300	100	200	**2,600**
	Organics Recycling	800	200	30	2,000	**3,000**
	Cardboard Recycling	NE	NE	400	700	**1,100**
	Hard Waste	500	100	NE	NE	**600**
	E-Waste	100	20	NE	NE	**100**
Total site volume*		**5,700**	**1,100**	**1,000**	**4,400**	**12,200**

*Totals have been rounded and may not equate

NE = Not Estimated as Not Required

[2] Estimates are based on the proposed land use data provided by the client and architect, client expectations and waste management policies (Outlined in Appendix 1) relevant to the developments' land uses. The metrics used are based on those found in The SA Better Guide Practice Guide – Waste Management for Residential and Mixed-Use Developments and developed by Rawtec based on industry knowledge and experience.

2.2. Bin size and collection details

Table 5 below provides estimates of the number of bins and collections per week required to service the development. These figures are based on the total volumes of waste and recycling for the development and the assumption that all waste and recycling would be collected by one service provider. Note that if Junction and Residential and Commercial waste are collected by the same contractor, the total collections per week is estimated to be 9.

Table 5 Estimated bin requirements and collections per week

	Residential and Commercial				Junction			
Stream	Total volumes (L per week)*	Bin size (L)	No. bins required	No. collections per week**	Total volumes (L per week)*	Bin size (L)	No. bins required	No. collections per fortnight**
General Waste	4,400	1,100	2	3	500	1,100	1	1
Comingled Recycling	2,300	660	2	2	300	1,100	1	1
Organics Recycling	2,800	660	2	3	200	240	2	1
Cardboard Recycling	1,150	660	2	1				
Hard Waste	500	8.5 m2 provided		estimated 12 collections p/a	100	stored in residential hard waste area		estimated 12 collections p/a
E-waste	100				20			
Total*	11,250		8	9	1,120		4	3

*Totals have been rounded and may not equate

** Number of collections does not include hard waste and E-waste

2.3. Waste storage area

Figure 1 outlines an indicative drawing of the waste storage areas for the development. This is an example configuration outlining the estimated size and layout of the waste storage area. Additional design advice and other considerations have been included in Appendix 2.

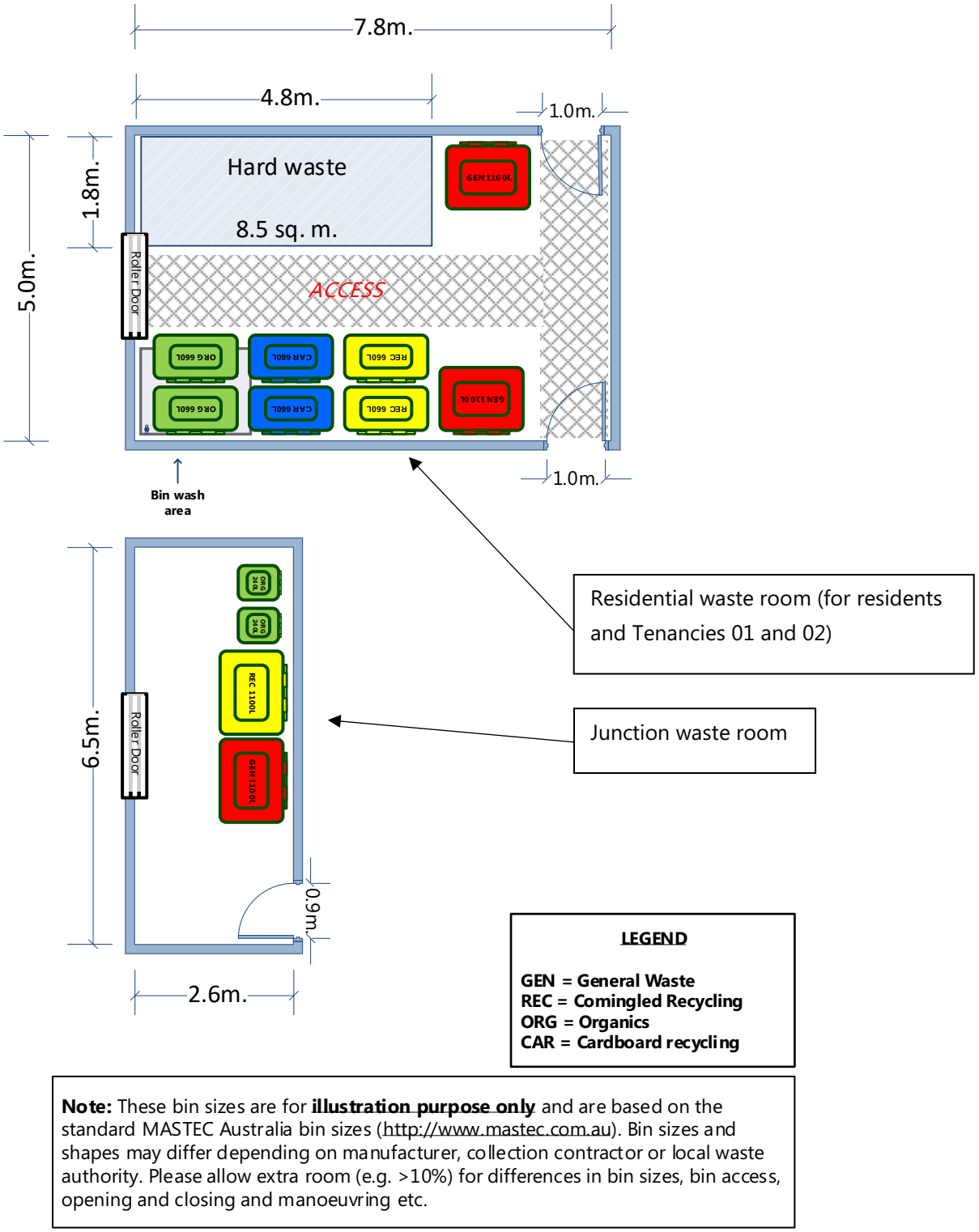

Figure 1 Preliminary waste storage area

3. Waste management system

A Waste Management System has been developed to effectively manage the waste generated at the development. The WMS outlined in Table 6 addresses each land use within the development and considers the appropriate policies for waste management (see Appendix 1).

Table 6 Waste Management System for the Development

Proposed waste management system		
Commercial (ground floor and Junction)	Waste/recycling services	• General waste • Comingle recycling • Organics recycling • Cardboard recycling
	WMS step	**WMS notes**
	1. User storage	• Each ground floor tenancy and serviced apartment would have its own bin stations to store their own waste and recycling (e.g. 60-120 litre bins). • Large cardboard items would be taken directly to the waste room.
	2. Transfer pathways	• Tenancy staff or cleaners would exit the tenancies and walk to the 'residential waste' room on the ground floor. Staff from Tenancy 01 would exit at the rear and enter the waste room from the door near the residential car park. Staff from Tenancy 02 would access the waste room via the entry court and access way. • Cleaners for the serviced apartments would use lift one and walk to the Junction waste room.
	3. Aggregation & storage	• Waste and recycling from the tenancies would be stored within the 'residential waste' room on the ground floor. • Junction apartment waste and recycling would be stored within the bins in the Junction waste room.
	4. Bin collection	• Bins would be serviced via a pull in/pull out service. The waste collection contractor would park in the carpark, move the bins from the waste room to the rear of the truck and return them when empty. • It is recommended that the Traffic Consultant draw swept paths demonstrating that the waste collection vehicle can turn around in the carpark. This would allow the truck to enter and exit the site in a forward direction. Further detail on access requirements is outlined in Section 4.

Proposed waste management system		
Residential	Waste/recycling services	• General waste • Comingle recycling • Organics recycling
	WMS step	**WMS notes**
	1. User storage	• Each apartment would have its own bin stations to store their own waste and recycling (e.g. 10-80 litre bins). Council may provide kitchen caddies and compostable bags to residents for food organics.
	2. Transfer pathways	• Residents would transfer their waste and recycling via lift 02, lift 03 or the stairwell. They would access the waste room via the door in the accessway.
	3. Aggregation & storage	• Waste and recyclables would be stored within the bulk bins in the residential waste room. • Hard waste would also be aggregated and stored in the 'residential waste' room on the ground floor.
	4. Bin collection	• Bins would be serviced via a pull in/pull out service. The waste collection contractor would park in the carpark, move the bins from the waste room to the rear of the truck and return them when empty. • It is recommended that the Traffic Consultant draw swept paths demonstrating that the waste collection vehicle can turn around in the carpark. This would allow the truck to enter and exit the site in a forward direction. Further detail on access requirements is outlined in Section 4.

4. Collection requirements

4.1. Vehicle movements per week

The number of collection vehicle movements has been estimated at 9 per week. This is based on the estimated waste and recycling volumes and service frequency as outlined in Table 5 and assumes all waste generated in the building will be collected by the same commercial waste contractor. This figure does not include E-waste and hard waste collections.

4.2. Collection vehicle

Approximate truck dimensions are provided to help the Traffic Consultant's analysis in Table 7. Please note:

- Collection vehicle dimensions and operating requirements vary between waste collection contractors.
- Rawtec does not offer assurance that the collection zone can accommodate waste collection vehicles.
- The Traffic Consultant must independently confirm there is sufficient space for the collection vehicle and that it can enter and exit the development safely.
- The client must ensure the preferred waste collection contractor can service the development before collection can begin.

Table 7 Truck dimensions for consideration

Collection vehicle dimensions[3]		
Vehicle type	Rear Lift	Pan-tech/Flat Bed
Collection type	Collection of bins up to 1100 L	At call waste streams
Dimensions	4m (h) x 2.5m (w) x 8.8m (l)	Up to 4.5m (h) x 2.5m (w) x 8.8m (l)
Rear loading space required	2m	-
Operational vehicle height	Up to 4m	Up to 4.5m
Vehicle turning circle	18-25m	10m

[3] Vehicle width dimensions are based on Australian MRV standard specifications - AS 2890.2-2002. Vehicle length and heights are based on common collection vehicles currently operating in the SA market. However, it should be noted that waste and recycling collection vehicles are custom designed and may differ from these specifications.

Appendix 1 - Policies

This WMP has been prepared in consideration of the following policies, design and operational requirements:

- The South Australian Environment Protection (Waste to Resources) Policy 2010 (W2REPP) (Government of South Australia, 2011):
  - Waste is subject to resource recovery processes, which can include source separation, before disposal to landfill.
- South Australian Better Practice Guide – Waste Management in Residential or Mixed-Use Developments (Green Industries SA (previously Zero Waste SA), 2014):
  - Identifies need for areas to store waste and recyclable materials. They must be appropriate to the size and type of development, screened from public, minimises disturbance to residents and provides access to service vehicles.

Appendix 2 - Additional waste management and design considerations

This table provides additional considerations and advice for the development. This information is based on the SA Better Practice Guide Waste Management for Residential and Mixed-Use Developments.

Area	Consideration
Bin/chute rooms	• Access to bin/chute rooms by mobility impaired persons must be considered. • Allocating chutes in closed waste rooms on each floor may prevent odours or spillage issues compared to providing access directly from a hallway.
Bin design, colours and signage	• Bins and signage should conform to the Australian Standard for Mobile Waste Containers (AS 4213).
Bin transfer routes	• The Better Practice Guide recommends transfer routes be at least 1.25m wide, free of obstructions and steps and a slope of no more than 1:10. • These should not pass through living areas or dwellings.
Bin washing	• A bin washing station must: – Slope to a drain leading to the sewer – Have a tap and a hose with mains supply – Be approx. 2m x 2m – Be slip resistant to prevent slippage during washing. • Note: – Line marking and bunding is not required around the bin wash area. – Bins can be stored on top of the bin wash area in the waste room. During washing, other bins can be placed outside the waste collection room while bins are washed in the waste room. Alternatively, the bin wash area can be installed outside the waste room. It may also be possible for the waste contractor to be contracted to provide this service (either on-site or off-site).
Detailed design and construction	• This WMP provides a high-level overview of waste management at the development. Appropriate design and construction advice should be sought during the detailed design phase to ensure equipment, infrastructure and building services can fulfil the functions proposed.
Education and training	• The developer should consider providing education and training for residents/tenants in the building's WMS to ensure appropriate waste management practices. • The inclusion of better practice waste management requirements within strata or commercial lease agreements should also be considered.

Area	Consideration
Hard waste	• An aggregation point for hard waste should be provided that is easy to access for collection vehicles. – This streamlines collection logistics. If stored in individual locations the building services manager, tenant and collection contractor will need to be present for collection. This may increase costs.
Health and amenity	• The Better Practice Guide stipulates effective WMS design should: – Minimise and mitigate odour and noise – Consider and preserve visual amenity for residents/tenants, neighbours and the public – Prevent waste spreading beyond the defined location – Specify washable services enabling periodic cleaning – Provide adequate ventilation.
Lid within a lid bin	• Bulk bins (e.g. 1100 litre) with a 'lid within a lid' system can be used to make waste and recycling disposal easier for tenants/residents. – A smaller, lighter lid reduces the weight and risk for people disposing of materials. • The larger lid can be locked, stopping oversize items being put into the bin.
Peak periods	• Peak periods during the year (e.g. Easter, Public Holidays, Christmas) can increase waste generation rates. Additional collections may need to be scheduled in these circumstances.
Waste collection timing	• Waste collection timing and frequency should be scheduled to minimise the impact of noise and traffic on residents, neighbours and the public.
Waste storage area	• A secure storage area should be provided to prevent interference with the bins and equipment from the public. • Residential – Waste storage areas should be external to all living areas and assigned to either locations within the dwelling or tenancy or in a designated area of the common property. – Better practice recommends this distance be no greater than 30 metres. This reduces inconvenience and the likelihood of spillage.
Waste streams	• The SA Better Practice Guide indicates that organics (food and/or garden) is a required/expected service for residents in South Australia. • It is beneficial for disposal points of all three streams (general waste, comingled recycling and food organics) located together.

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OFFICE FOR DESIGN + ARCHITECTURE SA

File No:
2014/11235/01

Ref No:
13122679

14 September 2018

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Principal Planner
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For the attention of the State Commission Assessment Panel

244-248 Churchill Road, Prospect

Further to the referral 050/M009/17 received 9 November 2017 and the revised documents received 3 September 2018 pertaining to the development application at the above address and in my capacity as a statutory referral in the State Commission Assessment Panel, I would like to offer the following comments for your consideration.

The project was not presented to the Design Review panel.

In principle, I support the project team's aspiration to deliver a mixed use development with a residential focus including a component of social housing on this site. However, I am of the view that the proposal's presentation to the Gurr Street frontage requires further consideration to improve the contribution to the public realm and optimise pedestrian amenity.

The subject site, of approximately 1,940 square metres is an amalgamation of three residential allotments on the northern corner of Prospect Road and Gurr Street. The site is currently surrounded by single storey commercial and residential buildings, however the area is located within the Boulevard Policy Area of the Urban Corridor Zone, which envisages developments up to four storeys. Some three and four storey townhouses and apartment buildings have been recently approved in the local area, including a three storey townhouse development under construction at the western end of Gurr Street and an approved three storey townhouse development directly across Churchill Road.

A large scale urban redevelopment project is currently under construction immediately adjacent to the north of the subject site. It is anticipated that the redevelopment will include townhouses, apartments and commercial properties. This redevelopment site is identified in the Concept Plan (UrC/1) in the Development Plan, where three to eight storey built forms are envisaged for the majority of the redevelopment site. However, the southern edge of the redevelopment site, which directly adjoins the subject site has a height limit of two to four storeys. A Planning Consent has been granted for a row of 14 three storey town houses along its

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southern boundary and an open at grade car parking area for 16 cars at the site's south east corner, directly adjoining the subject land. At present, civil and infrastructure works are underway.

The proposal is for a five storey mixed use building with an overall above ground height of 17.82 metres excluding lift overrun, which is above the maximum envisaged height of four storeys and 15 metres for the site. Given the site's proximity to a large redevelopment site where buildings up to eight storeys are envisaged, and the unique opportunity offered by the size of this amalgamated site, I support the proposed height in principle. My ongoing support however is contingent on delivery of significant merits to justify over height, such as positive public realm contribution and high quality apartment amenity. I acknowledge that the provision of social housing through a registered community housing provider is one of merits offered by this proposal.

The proposal does not include a podium form as envisaged by the Development Plan for buildings over five storeys. The ground floor built form is set back by approximately three metres from the Churchill Road and no setback is proposed along the northern boundary. Along the Gurr Street frontage, the setbacks vary, however some built forms encroach into the prescribed two metre minimum setback zone. Above the ground floor, the main facades of the building are set back by approximately three metres from the north and west boundaries. In this instance, I support the proposed treatment along the Churchill Road frontage and design approach to define base, middle and top elements as an alternative to providing a podium. In my view the proposed permeable ground floor treatment along Churchill Road is responsive to human scale and encourages engagement with the public realm. However, I am concerned about the reduced setback along Gurr Street. In my opinion, respecting the setback requirement along Gurr Street is important given the built form pattern set by the existing residential properties. In addition, this proposal has a potential to set a precedent for future built form pattern along Gurr Street as other sites also located within the Urban Corridor Zone are redeveloped. I recommend review of the built form composition along the Gurr Street and respect the minimum setback requirements.

The top apartment floor is set back along the Churchill Road frontage by a further four metres to reduce the visual impact of the over height element. I support this intent and recommend a similar approach is applied along the south and west boundaries to reduce the visual impact on adjoining properties.

The ground floor is set approximately 400mm above the footpath level. While I acknowledge that this is a result of satisfying the flood risk requirements for the basement floor level, the raised ground floor poses challenges for successfully managing the public realm interface. I support the early engagement of a landscape architect, and encourage the continuing development of boundary interfaces, informed by universal access and urban design principles.

I support the provision of commercial tenancies on the ground floor along the Churchill Road frontage. I also support the provision of car parks in the basement. However, I am concerned that the majority of the ground floor is dedicated to car parking and back of house functions. I am particularly concerned about the presentation to Gurr Street, which includes two two-lane crossovers and standalone services infrastructure. While the car parking spaces and the transformer are screened, the width of driveway is such that at-grade car parking area is highly visible from the street through the western

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crossover. I recommend review of the ground floor configuration to increase the extent of active use spaces along Gurr Street to positively contribute to the public realm. I also recommend exploration of opportunities to consolidate crossovers to reduce the detrimental effect on pedestrian safety. I acknowledge and support the project team's commitment to develop the footpaths along the southern and eastern boundaries and encourage continuing discussions with the relevant authorities to achieve a mutually appropriate outcome.

I support the inclusion of deep soil planting zones, particularly within the small site protrusion on the northwest corner, which provides a buffer and screening for the rear private open space of the adjoining residential property.

Separate residential entries are proposed for the private apartments and Junction Australia's social housing units. While I acknowledge that the operational issues may exist to support the separation of the entrances, I am concerned that the social housing entry appears secondary and does not offer a clear sense of address. I am also concerned that the location of the social housing entry between two driveways has resulted in compromised pedestrian entry sequences. I recommend further consideration of the Gurr Street pedestrian entry arrangement, as a part of the overall ground floor configuration and the street frontage treatment, to create a clear entry sequence that ensures user amenity and safety for all residents. I support the generous width of the entry court and pedestrian access way off the Churchill Road frontage. However I am concerned about the conflict between the pedestrian movement and the two-way driveway at the end of the access way. I recommend development of the building management strategy to ensure pedestrian safety.

I support the general approach to define base, middle and top elements through the use of articulation and materials. The base of the building is expressed as a highly permeable facade on the Churchill Road elevation and darker coloured walls on others. The middle section of the building is horizontally expressed with bold three storey solid frames that surround dark coloured balconies and protruding rooms. The south eastern corner of the middle section has a solid expression with a built form recess. The top floor of the building is visually distinctive from the built form below, as it is set back on all the boundaries and finished in contrasting dark coloured cladding. I support the built form composition of the proposal, including the expression of an extensive canopy along the Churchill Road frontage. I also support the three dimensional articulation provided with recessed balconies and tapered walls. However, I am concerned about the use of materials with paint finish to the high level walls that are not accessible from balconies, due to longevity and maintenance issues. I recommend consideration of materials with finish and colour integral to their fabric.

On levels one to four, the apartments are positioned on edges of the rectangular floor plate around the communal courtyard and the central atrium above. The atrium is approximately 17 metres by eight metres, spanning over four floors and is open to the sky. While I am concerned that the proposed configuration has contributed to the large footprint and the massing of the building, I support the general layout on balance as it includes a variety of landscape elements in the communal area that can offer high quality residential amenity. My ongoing support is contingent on the resolution of the design details during the upcoming phases of design development to ensure the full delivery of all the landscape ambitions, including effective stormwater drainage. In my opinion, an opportunity exists to allocate the southern

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Ref No:
13122679

end of the communal courtyard for the Junction Australia residents, to provide residential amenity beyond the apartments for all residents and protect the privacy for the adjoining social housing apartments.

Generally, I support the mix of apartment types proposed. While the apartments and balconies are convincing in terms of size and functional layouts, I am concerned about the shared light well at the south west internal corner, as it poses amenity, privacy and fire separation issues between adjoining residents. I am also concerned about the provision of bedroom windows to the communal courtyard for natural light and ventilation, as I am of the view that the arrangement compromises acoustic privacy and residential amenity. While I acknowledge the elevated window sill height and the provision of deep awning surrounds will assist with privacy for the apartments, I am yet to be convinced that the proposed measures successfully mitigate overlooking from the communal circulation spaces on upper floors across the atrium. I recommend review of the apartment layout at the south west corner to provide optimum residential amenity by ensuring privacy and affording quality access to natural light and ventilation to all habitable rooms.

The key issues relating to this proposal are summarised below. In my view, these matters warrant further review and resolution prior to consideration by the State Commission Assessment Panel in order to achieve the most successful design outcome.

- Review and increase of the southern setbacks.
- Review of the top floor setbacks along the south and west boundaries.
- Review of the presentation to Gurr Street with the view to increase the extent of active use space.
- Consideration of crossover consolidation.
- Review of Junction Australia apartment entry arrangement.
- Development of building management strategy to ensure pedestrian safety.
- Consideration of materials with finish and colour integral to their fabric.
- Review of the apartment layout at the south west corner, with the view to eliminate the shared light well, and provide optimum residential amenity by ensuring privacy and affording quality access to natural light and ventilation to all habitable rooms.

Yours sincerely

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Government of South Australia
Department of Planning, Transport and Infrastructure

DEVELOPMENT DIVISION
Transport Assessment and Policy Reform

GPO Box 1533
Adelaide SA 5001

ABN 92 366 288 135

18 September 2018

State Commission Assessment Panel
C/- Ms Janaki Benson
Department of Planning, Transport and Infrastructure
GPO Box 1815
ADELAIDE SA 5001

Dear Ms Benson

SCHEDULE 8 - REFERRAL RESPONSE

Development No.	050/M009/18
Applicant	Gamma Illumication Pty Ltd / Graham Burns
Location	Churchill Road / Gurr Street, Prospect
Proposal	5 storey mixed use development

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

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

CONSIDERATION

The application proposes a 5 storey mixed use development located at the corner of Churchill Road (an arterial road) and Gurr Street (a Council road). A previous referral to the CoH has been undertaken (referral response dated 11 December 2017). The proposal has since been amended, resulting in a reduced dwelling yield, increased setbacks and relocated access to/from Gurr Street. There remains no vehicular access to/from Churchill Road.

Setbacks

The department's previous referral response provided detailed commentary regarding a requirement currently shown on the Metropolitan Adelaide Road Widening Plan (MARWP) for a strip of land up to 2.13 metres in width from the Churchill Road frontage of the northern allotment. In accordance with the previous commentary, it has been determined that the site is no longer affected by the 2.13 metres strip requirement shown on the MARWP.

Notwithstanding the above, MARWP makes provision for a 4.5 x 4.5 metres corner cut-off at the Churchill Road / Gurr Street corner for future road purposes. The consent of the Commissioner of Highways under the Metropolitan Adelaide Road Widening Plan Act is required to all building works on or within 6.0 metres of the possible requirement. This corner cut-off must be kept clear of all development including, but not limited to, fencing, retaining

walls and overhanging balconies. Low level landscaping within the property boundaries is acceptable.

It is further noted that the development is now proposed to be set back 3 metres from the Churchill Road frontage. The department supports this proposed setback as it is consistent with the previous referral response.

Access

It is proposed that the on-site car parking be accessed via two separate two-way access points located on Gurr Street. It is noted that the eastern access achieves minimal separation from the Churchill Road / Gurr Street corner. It is noted that the traffic report by CIRQA identifies minimal delays for vehicles on Churchill Road resulting from the development.

It is noted that no area is identified on the proposal plans for deliveries. Loading and unloading activities associated with commercial developments should not occur on-street, particularly along arterial roads. It is recommended that appropriate on-site loading facilities are provided to cater for the commercial tenancies. It is further noted that the traffic report demonstrates that a MRV (per AS 2890.2:2002) can enter and exit the site in a forward direction for on-site refuse collection.

It is noted that car parking is currently permitted on both sides of Gurr Street adjacent the site. Given the relatively narrow width of the road, it is recommended that parking be banned between the Churchill Road / Gurr Street junction and the westernmost access to the development in order to ensure that unimpeded simultaneous two-way vehicle movements can occur at this location and thus minimise the potential for interference with the traffic flow on Churchill Road.

ADVICE

The CoH does not object in-principle to the proposed development and provides the following directed and recommended conditions to for appending to any approval granted:

Directed Condition

1. The 4.5 x 4.5 metres corner cut-off at the Churchill Road / Gurr Street corner shall be kept clear of all development including, but not limited to, fencing, retaining walls and overhanging balconies. Low level landscaping within the property boundaries is acceptable.

Recommended Conditions

2. All vehicular access to the site shall be via Gurr Street only.

3. No stormwater from this development shall be permitted to discharge on-surface to the adjacent roads. In addition, any existing drainage of the roads is to be accommodated in the development and any alterations to road drainage infrastructure as a result of this development are to be at the expense of the applicant.

The following note provides important information for the benefit of the applicant and is required to be included in any approval:

- The Metropolitan Adelaide Road Widening Plan identifies a possible requirement for a 4.5 x 4.5 metres cut-off at the Churchill Road / Gurr Street corner of this site for future road purposes. The consent of the Commissioner of Highways under the Metropolitan

Adelaide Road Widening Plan Act is required to all building works on or within 6.0 metres of the possible requirement. It has been determined that the full possible requirement is required to be kept clear of all development.

Should the development encroach within the above consent area, the applicant should return the attached form to DPTI, along with three copies of the stamped plans, for consent purposes.

Yours sincerely

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

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

AGENDA ITEM:	**5.5**
To:	Council Assessment Panel (DAP) on 11 December 2017
From:	Susan Giles, Development Officer, Planning
Proposal:	Five Storey Mixed Use Building comprising 55 dwellings, two retail tenancies, basement car parking, associated landscaping and fencing (DA 050/482/2017)
Address:	244-248 Churchill Road, Prospect (CT 5795/979, CT 5795/980, CT 5095/823)

SUMMARY:

Applicant:	Gamma Illumination Pty Ltd and Junction & Women's Housing Association Inc
Owner:	Masterplan Town SA Pty Ltd on behalf of Gamma Illumination Pty Ltd
Planning Authority:	**State Commission Assessment Panel (SCAP)**
Mandatory Referrals:	Department of Planning, Transport and Infrastructure (Transport Division) Government Architect
Public Notification:	Category 1
Representations:	Not applicable
Respondent:	Not applicable
Development Plan Version:	Consolidated 30 May 2017
Zone and Policy Area:	Urban Corridor Zone (Boulevard Policy Area)
Issues:	Setbacks, Design and Appearance, Private Open Space, Visual Privacy, Landscaping, Finished Floor Levels, Stormwater Disposal, Affordable Housing

ATTACHMENTS:

Attachment 1	Development Application Form
Attachments 2-7	Certificate of Titles
Attachments 8-9	Site and Locality plans
Attachments 10-23	Proposal plans
Attachment 24	Shadow diagrams
Attachments 25-28	Perspective plans
Attachments 29-32	Landscaping plan prepared by Outerspace
Attachments 33-60	Planning report prepared by Masterplan SA Pty Ltd
Attachments 61-76	Waste management plan prepared by Rawtec Pty Ltd
Attachments 77-95	Traffic and parking report prepared by Cirqa Pty Ltd
Attachments 96-104	Stormwater management report and calculations prepared by PT Design

1. RECOMMENDATION

1.1 The State Commission Assessment Panel (SCAP) be provided with a copy of this report and that it be advised of Council's comments, through its Council Assessment Panel, in relation to the matters described herein, noting that there may be additional matters that have not been assessed or considered in this brief commentary. Overall, Council's planning staff do not support the proposal in its current form, and strongly recommends that SCAP has consideration of, and seeks further clarification from the applicant with regard to:

- The setback of the development to all property boundaries, inclusive of the requirements for the Metropolitan Adelaide Road Widening Plan;
- The bulk and massing of the southern and eastern facades. Development on corner sites should create prominent buildings, addressing both primary and secondary street frontages. The building should reinforce corners through changes in setbacks, materials, colours, roof form or height;
- Ensuring that sufficient landscaping (deep soil zone) is provided for the proposal, particularly on Churchill Road and Gurr Street frontage. The proposed landscaping is of limited extent, height, quality and is poorly integrated within the overall design;
- Ensuring that there is adequate off-set and separation between courtyards, balconies and windows, with particular regard to visual privacy for the internal courtyards on Level 1 from windows and balconies on Levels 2-4;
- The configuration of dwellings, inclusive of providing a variety of dwelling sizes and internal designs that would facilitate adaptive reuse.
- Ensuring the post-development stormwater discharge flow rates do not exceed the pre-development discharge flow rates;
- Ensuring that the finished floor level and stormwater disposal be appropriately designed to mitigate the risk of localised flooding;
- Adequate storage for the refuse is accommodated on site and that the area is kept clean and maintained; and
- Ensuring that the development comprises adequate Affordable Housing to support diversity and to meet project sustainability objectives.

1.2 However, in the event that SCAP supports the proposal, it is recommended that the following conditions and notes are included within the Development Plan Consent:

Conditions:

1. 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.

2. 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.

Notes:

1. National Broadband Network (NBN): The National Broadband Network is being rolled out across the City of Prospect. It is recommended that you consider your future connection to the optical fibre network prior to commencing works. Please visit www.nbnco.com.au for further details on how to get connected.

2. 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.

2. PLANNING COMMENTARY

2.1 Pursuant to Section 34 of the Development Act 1993, Regulation 38 and Schedule 10 Clause 1(a) of the Development Regulations 2008; the State Commission Assessment Panel (SCAP) is the relevant authority with respect to the determination of development plan consent in relation to the subject proposal as it comprises building work within the Urban Corridor Zone in excess of 4 storeys in height.

2.2 As the SCAP is the relevant authority in relation to the subject proposal, many tasks for which the CAP is ordinarily responsible must be undertaken instead by the SCAP. These tasks include, but are not limited to; determining the nature of the application (pursuant to Regulation 16), determining the category of development (pursuant to Section 38), determining relevant referral authorities (pursuant to Schedule 8) and determining whether the proposal is seriously at variance with the Development Plan (pursuant to Section 35(2)).

2.3 It is noted that Regulation 38(2)(b) requires SCAP to provide Council with an opportunity to provide a report or commentary on the proposal, within 6 weeks of being notified of the application.

2.4 For clarity, this report, and by extension Council's role in the assessment process, is not to conduct an assessment of the proposal against the Development Plan and provide a recommendation for or against the proposal to the SCAP. Rather, Council and the CAP should utilise its local knowledge to provide technical information or key points of concern to best inform the full assessment being undertaken by the SCAP.

2.5 It is noted that the proposal is neither a complying nor a non-complying development with reference to Principles of Development Control 20 and 21 of the Urban Corridor Zone, and will therefore be considered by the SCAP on its merits against the relevant provisions of Council's Development Plan.

3. LOCALITY AND SUBJECT LAND

3.1 Locality

3.1.1 The locality comprises a mix of residential and commercial land uses. The types of dwellings vary in building height and density and the commercial land uses include Advanced Chemist, a medical centre, cafes, and several offices.

3.1.2 North- and south-bound bus stops are located on Churchill Road within close proximity to the subject land. To the west of the subject land is a passenger and freight train corridor, a linear north-south bike and pedestrian pathway, and a range of commercial and industrial uses located in the City of Port Adelaide Enfield Council.

3.1.3 Directly north of the subject land is 250 Churchill Road, where the DAP granted consent to 60 three-storey town houses at its 9 September 2017 meeting. Additionally, several 3-5 storey residential buildings are either under assessment with Council or have been approved, in close proximity to the subject land.

3.1.4 The broader locality, indicating the location of the subject land within the relevant Zone and Policy Area as described in Council's Development Plan, is described in **Attachment 8**.

3.2 Subject Land

3.2.1 The subject land is located on the western side of Churchill Road, on the corner of Churchill Road and Gurr Street. The land comprises three allotments with a total area of 1957m², with a combined frontage of 45.72m to Churchill Road and a combined frontage of 41.05m to Gurr Street. One of the allotments (248 Churchill Road) is affected by the Metropolitan Adelaide Road Widening Plan (MARWP), where a strip of land up to 2.13 metres in width from the Churchill Road property boundary would be required by the Department of Planning, Transport and Infrastructure (DPTI).

3.2.2 Existing site improvements include three single storey dwellings, comprising semi-detached dwellings at 244-246 Churchill Road, and one detached dwelling at 4 Gurr Street. A vacant office and associated warehouse is located at 248 Churchill Road. The subject land is relatively flat. There are several mature trees located on two of the allotments, however they are not regulated or significant trees. There are three mature street trees adjacent the site on Gurr Street, and one mature street tree and a stobie pole on Churchill Road.

3.2.3 The subject land, together with the location of similar 3-5 storey residential buildings that are under assessment and/or approved, are illustrated on **Attachment 9.**

4. PROPOSAL

4.1 The application proposes the demolition of all existing structures, and the construction of a five storey mixed use building and basement car park. The development would comprise 55 dwellings, two commercial tenancies, 81 car parks and 24 bicycle parks. The two commercial tenancies would be located on the ground floor adjacent Churchill Road. Eight of the dwellings would be for special needs housing and comprise two-bedrooms. The remainder of the dwellings would comprise of 15 one-bedroom dwellings, 21 two-bedroom dwellings and 11 three-bedroom dwellings. Each dwelling would have its own courtyard or private balcony and a communal terrace would be located on the roof top, adjacent the lift.

4.2 The building would be adjacent Churchill Road, Gurr Street and a portion of the rear (western) and side (northern) boundaries. Two double crossovers are proposed to Gurr Street, providing two car parking areas. One of the car parks would be secured with a roller door, setback 2.5m from Gurr Street and designated for providing secured car parking for special needs housing only. The second crossover would be unrestricted and provide access to the ground floor and basement car parking spaces, the bicycle parking spaces, the storage areas and the waste storage area.

4.3 The proposal plans are attached (refer **Attachments 10-23**). Supporting documentation including shadow diagrams (refer **Attachment 24**), perspective plans (refer **Attachments 25-28**), landscaping plans prepared by Outerspace (refer **Attachments 29-32**), a planning report prepared by Masterplan SA (refer **Attachments 33-60**), a waste management report prepared by Rawtec Pty Ltd (refer **Attachments 61-76**), a traffic and parking report prepared by Cirqa Pty Ltd (refer **Attachments 77-95**), a stormwater management report and calculations prepared by PT Design (refer **Attachments 96-104**), is attached.

5. PUBLIC NOTIFICATION

5.1 The application is a Category 1 form of development pursuant to Section 38 of the *Development Act 1993*, Schedule 9 of the *Development Regulations 2008* and Urban Corridor Zone Principle of Development Control 22. Therefore no public notification in relation to the proposal is required to be undertaken by SCAP.

6. REFERRALS

6.1 Referrals to the Department of Planning, Transport and Infrastructure (DPTI) and the Government Architect are required pursuant to Schedule 8. As the application was 'cold-lodged' with the Development Assessment Commission, the responses from these referral agencies are presently unavailable.

7. PLANNING CONSIDERATIONS

Setbacks:

7.1 To reinforce the desired boulevard character of Churchill Road and maintain front setbacks, 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. It is anticipated that shelter will be provided over pedestrian areas at the front of buildings and when land is required for road widening, such shelter should be constructed in a manner that allows it to be demountable (Boulevard Policy Area Desired Character Statement).

7.2 The minimum setback of buildings (excluding verandahs, porticos and the like) from the primary road within the Boulevard Policy Area is 3m (UCZ PDC 14). This setback is in addition to any setback requirements pursuant to the Metropolitan Adelaide Road Widening Plan.

7.3 The Metropolitan Adelaide Road Widening Plan (MARWP) outlines that a strip of land up to 2.13 metres in width from Churchill Road boundary would be required at 248 Churchill Road, for road widening purposes. Therefore, the minimum setback desired for a building on 248 Churchill Road would be 5.13m. The minimum setback desired for a building on 244-246 Churchill Road would be 3m.

7.4 All five levels, including the basement car park, are proposed to be adjacent the Churchill Road boundary, with the entry canopy proposed to overhang the footpath.

7.5 The minimum setback of buildings to a secondary street should be 2m (UCZ PDC 15), and the minimum setback of buildings from the rear allotment boundary is 3m (UCZ PDC 16). The building is proposed to be adjacent Gurr Street, and for the most part, built adjacent the rear (western) boundary.

7.6 Irrespective of the building height, there is no minimum setback for a building from a side boundary (where not on a street or different zone boundary) within 18m from the front property boundary. When more than 18m from the front boundary, the minimum setback should be 2m. There is no minimum setback for the ground level (UCZ PDC 16).

7.7 The building proposes a boundary wall adjacent the side (northern) boundary. The wall would be 17m high and approximately 9m in length. The entire ground floor and courtyards for level 1 would also be adjacent the side (northern) boundary, comprising a total height of approximately 6m. Levels 2, 3 and 4 would be setback approximately 3m from the side (northern) boundary.

7.8 Accordingly, the proposal would not satisfy the front, rear and side setback provisions for Council's Development Plan, the Boulevard Policy Area Desired Character Statement or the MARWP.

Design and Appearance:

7.9 Given that the building would present to Churchill Road as a building that is greater in height than the maximum anticipated by the Development Plan, it is relatively more important that SCAP is satisfied that the bulk and massing of this façade is managed appropriately. It is desired that new buildings:

a) achieve a comfortable human scale at ground level through the use of elements such as variation in materials and form, building projections and elements that provide shelter (for example awnings, verandas, and tree canopies)

b) be designed to reduce visual mass by breaking up the building façade into distinct elements

c) ensure walls on the boundary that are visible from public land include visually interesting treatments to break up large blank façades (Council-wide PDC 161).

7.10 Materials and finishes should be selected to be durable and age well to minimise ongoing maintenance requirements. This may be achieved through the use of materials such as masonry, natural stone, prefinished materials that minimise staining, discolouring or deterioration, and avoiding painted surfaces particularly above ground level (Council-wide PDC 163).

7.11 The ground floor is proposed to have 3.7m floor to ceiling heights and shop-front windows and doubled glazed entrance doors facing Churchill Road. A 7m high (approximately) canopy is proposed at the entrance to the building. The building is proposed to be articulated with recessed walls, glazing, balconies and a variety of materials and finishes. Not all materials and finishes are listed however it is noted that external cladding would predominately comprise precast concrete panels, James Hardie Scyon Axon Panels, Composite Aluminium Panels and Maxline Metal, comprising light and dark shades of grey, white, black. Vertical steel angled balustrades painted dark grey/brown tones are proposed on the balconies and courtyard walls.

7.12 Walls built on or in close proximity to boundaries should display attractive and interesting qualities, such as recessed walls and wrapping around elements of façade detailing (BPA Desired Character Statement). While the building configuration would wrap around the corner of Churchill Road and Gurr Street, the façades would comprise solid walls that would have limited articulation and fenestration. Additionally, as the building would be in alignment with the allotment boundaries, excluding the corner-cut-off, the built form would display an excessive height and mass when viewed from either road. Accordingly,

the proposed design is not considered to successfully address both Churchill Road and Gurr Street frontages.

7.13 It is also anticipated that dwellings with 3 or more bedrooms should, where possible, have the windows of habitable rooms overlooking internal courtyard space or other public space (Council-wide PDC 175). Seven of the three bedroom dwellings would be provided with 13-19m². The balconies and windows of those dwellings would be east facing, and face Churchill Road. This is considered to be an undesirable configuration of the dwellings.

7.14 It is acknowledged that the application will undergo design review from the Government Architect. However, it is considered that the overall design of the building would provide excessive mass and bulk to Churchill Road and Gurr Street and the configuration of dwellings could be improved.

Private Open Space:

7.15 Dwellings above ground level with one bedroom should have a minimum of 8m², and dwellings with two bedrooms should have a minimum of 11m² and dwellings with three or more bedrooms have a minimum of 15m². The area should have a minimum dimension of 2m and be directly accessible from a habitable room (Council-wide PDCs 153 and 154).

7.16 The private open space for the dwellings would largely satisfy the above provisions with the dwellings being provided with courtyards or balconies that have an area ranging between 9m²-47m² which have a minimum dimension of 2m in width. It is noted that three of the 2-bedroom dwellings would have a 2m² shortfall, and six 3-bedroom dwellings would have a shortfall between 2-4m². A communal court yard (approximately 74m² in area) is proposed on the roof top adjacent the lift which would provide additional space for occupants.

Building Separation and Outlook

7.17 It is anticipated that habitable rooms, windows and balconies be designed and positioned with adequate separation and screening from one another to provide visual and acoustic privacy and allow for natural ventilation and the infiltration of daylight into interior and outdoor spaces.

7.18 One way of achieving this is to ensure any habitable room windows and/or balconies are separated by at least 6 metres from one another where there is a direct 'line of sight' between them and be at least 3 metres from a side or rear property boundary (Council-wide PDC 171). No detail has been provided regarding how visual privacy would be provided for the internal courtyards on Level 1. Accordingly, it is recommended that SCAP give consideration to the off-set and separation of balconies and windows.

Landscaping:

7.19 It is anticipated that developments would incorporate landscaping that enhances the built form, contributes to a pleasant pedestrian environment and provide an attractive transition between the public and private realms (UCZ BPA Desired Character Statement).

7.20 To achieve this, it is desired that deep soil zones be provided on site to retain existing vegetation or provide areas that can accommodate new deep root vegetation, including tall trees with large canopies. When development is undertaken on a site greater than 1500m², a minimum of 7% of the overall site area should be designated, which has a minimum dimension of 6m x 6m. It is anticipated that 1 large-medium tree, which has a

mature height of 6-12+ metres be provided within the deep soil zones (Council-wide PDC 180).

7.21 The subject land would have an overall site area of approximately 1957m², thus 137m² of the site should be designated as a deep soil zone, of which has a minimum dimension of 6m x 6m.

7.22 A detailed landscaping plan has been provided which illustrates landscaping proposed for the Council road reserve adjacent Churchill Road and Gurr Street, and within the private courtyards and communal garden on the roof top (refer **Attachments 29-32**).

7.23 As a result of the building footprint, the site would rely solely on landscaping of the Council road reserve as there would be no opportunity for landscaping to be accommodated at the front, rear or side of the subject land. Accordingly, the proposed landscaping would not achieve the desired outcome as outlined above.

Car and Bicycle Parking:

7.24 Table Pr/5 of Council's Development Plan would anticipate 79 car parking spaces be provided, providing 58 for occupants and 14 for visitors for the dwellings, and 7 for the retail tenancies. Table Pr/6 would anticipate approximately 20 bicycle parks be provided.

7.25 A total of 81 car parking spaces and 24 bicycle parking spaces would be provided within the ground floor and basement level car parking, therefore providing sufficient on-site parking for the proposal.

Waste Management:

7.26 A Waste Management Plan has been prepared by Rawtec Pty Ltd on behalf of the applicant (refer **Attachments 61-76**). A communal waste storage area is proposed in a secured area within the ground level car park. It is noted that provision for fifteen 660L Mobile Garage Bins (MGBs) are proposed and a designated hard waste storage area (refer **Attachment X**). The waste would be collected approximately 6 times a week by a commercial waste contractor.

7.27 It is recommended that the SCAP ensure, through an imposed condition of approval, that the community strata corporation cleans and maintains all waste storage areas to the satisfaction of Council.

Stormwater Management:

7.28 Modelling undertaken by Council suggests that during 1 in 100 year (ARI) flood events, the subject site may experience flooding up to 300mm above existing natural ground level. The adjacent western site may experience up to 200mm and the adjacent eastern sites between 400-500mm is predicted. The allotment to the south is anticipated to experience less severity of flooding in a 1 in 100 year event (i.e. up to 100mm). Thus, any redevelopment of those sites would also require build-up to appropriately mitigate this risk.

7.29 A Stormwater Management Plan which is inclusive of proposed finished floor levels, has been provided (refer **Attachments 96-104**), however it is noted that it does not take into consideration any anticipated localised flooding. To this end, it is recommended that SCAP give further consideration be given to the finished floor levels and stormwater design.

Affordable Housing

7.30 In addition to the objectives and principles applicable Council Wide, there are requirements for designated areas within the Urban Corridor Zone to satisfy affordable housing (Affordable Housing Overlay).

7.31 Affordable Housing is targeted at households whose income is described as low to moderate. Housing affordability indicators are updated annually and provide maximum purchase prices for Affordable Homes. A price variance of up to 15% above that price can be approved for properties within 400m of key transport nodes.

7.32 It is anticipated that Affordable Housing will include a mix of affordable purchase, rental and social housing to support diversity and will meet project sustainability objectives. Development within the Urban Corridor Zone which proposes 20 or more dwellings should have a minimum of 15% affordable housing (Affordable Housing Overlay PDC 1).

7.33 The applicant has advised that the 8 two-bedroom dwellings designated for special needs housing (Junction Australia's clients) would represent 14.5% of the target (refer **Attachments 55-56**). No detail has been provided if the developer has a formal agreement with Renewal SA. To this end, it is recommended that SCAP give further consideration to the objectives for Affordable Housing.

8. CONCLUSION

A full planning assessment of the proposal has not been undertaken, as this is not Council's role with respect to this proposal.

Notwithstanding this, concerns are highlighted in relation to several technical and assessment matters in the context of the CAP's experience with high density mixed use development since the inception of the Urban Corridor Zone in October 2013.

Boulevard Policy Area

The Objectives and Principles of Development Control that follow apply in the Boulevard Policy Area shown in Maps Pr/8 and 11. They are additional to those expressed for the whole of the council area.

OBJECTIVES

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

Objective 2: A streetscape edge that is setback from the street boundary to allow for landscaping and framed by tall, articulated building façades.

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

Objective 4: Development that contributes to the desired character of the policy area.

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.

Areas adjacent Churchill Road (as described below) are potentially contaminated because of previous activities. Due to these circumstances, development is expected to occur on a precautionary basis where a site contamination audit verifies that a site or sites are suitable and safe for the intended use, particularly where it involves sensitive uses like residential development.

Mixed Use Churchill Area

The land at the intersection of Regency and Churchill Roads as shown on Concept Plan Figure UrC/1 will be developed at a greater intensity than the Boulevard Policy Area generally, containing an innovative mix of medium to high density residential development, community and non-industrial employment land uses, which together create a people-orientated living environment. The arrangement of streets and buildings will maximise pedestrian and cyclist movements through the precinct and create strong connections to public transport.

Medium and high density housing, primarily in the form of apartment and terrace style accommodation and mixed-use buildings, will accommodate a range of dwelling sizes to encourage diversity in household types within the Area. This substantial housing focus for the Area will be supported by retail and commercial development, providing a strong presence to Churchill and Regency Roads and a positive connection to the railway station.

The pattern of land division will support medium and high density residential development, with public and/or private roads creating a permeable movement network to underpin safe and convenient pedestrian, cyclist and vehicle movements within the precinct. The allotment pattern within the Area will create highly walkable links between open space areas, the Islington Railway Station, shops/community facilities and residential development.

Large scale development in the Area will facilitate the establishment of a substantial public open space network. This will include an area of open space located away from noise generated on the adjacent arterial roads and railway line. This area will be well-used, being easily accessible from residential development and located close to the Islington Railway Station and non-residential land uses. Development adjoining this space will be designed to integrate with the public realm and provide passive surveillance to enhance safety and a sense of community.

As one of the key precincts in the Boulevard Policy Area where there will be transformation in built form, new buildings will be recognised for their design excellence. Large buildings of up to eight storeys in height will be accommodated on most of the site, and will transition down to a maximum of four storeys in height along the Churchill Road frontage and the southern end of the site. This will be supported through careful building articulation and fenestration, with integrated verandas, balconies, canopies and landscaping.

Where buildings are set back from Churchill and Regency Roads, landscaping will contribute to a pleasant pedestrian environment and provide an attractive transition between the public and private realms. Front fencing will be kept low and/or visually permeable, or shall be well-articulated with appropriate landscaping treatments if required for noise attenuation.

Vehicle access points off Churchill and Regency Roads will be minimised to maintain vehicle flows and safety on these arterial roads.

Cane Reserve Area

Cane Reserve will act as a focal point for development within the Boulevard Policy Area, with an increase in building heights and residential densities surrounding this open space to invigorate the public realm and support a range of activities within the reserve (as shown on Concept Plan Figure UrC/6).

Uses that generate a high frequency of pedestrian activity and activate the street, such as shops and restaurants, will be located on the ground floor, with offices and apartment-style residential development located on upper floors overlooking the reserve and providing views to the east and west.

The ground floor of buildings will abut the footpath and support a variety of tenancies with a range of frontage widths. Portions of the ground floor will be set back in some locations to create spaces for outdoor dining.

Balconies overlooking the streets and reserve are encouraged, to provide for passive surveillance to the streetscape and public open spaces, with sufficient and varied screening to provide privacy for occupiers.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 Development should predominantly comprise mixed use buildings and wholly residential buildings.

2 In a mixed use building, non-residential development should be located on the ground floor and lower levels, and residential development should be located on the upper levels.

3 Shops or groups of shops contained in a single building, other than a restaurant, should have a maximum gross leasable area in the order of 2000 square metres.

Form and Character

4 Development should be consistent with the desired character for the policy area.

5 The finished ground floor level should be approximately at grade and level with the footpath for non-residential ground level developments, however, where habitable rooms are proposed at ground level floor areas can increase to 1.2 metres to ensure greater privacy to residents.

6 The ground floor (including undercover car parking areas) of buildings should be built to having minimum floor to ceiling floor height of at least 3.5 metres to allow for adaptation to a range of land uses including retail, office and residential without the need for significant change to the building.

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

URBAN CORRIDOR ZONE

Introduction

The objectives and principles of development control that follow apply in the Urban Corridor Zone shown on Maps Pr/3, 4, 6 and 7. They are additional to those expressed for the whole of the council area.

The Urban Corridor Zone is divided into a number of Policy Areas. Each policy area has been defined according to the existing and desired character of the area, the type and nature of development considered appropriate and other features that differentiate one area from another. The policy areas are shown on Maps Pr/8, 9, 11 and 12.

The policies for development in the Urban Corridor Zone are expressed both as general policies applying throughout the zone, and more specific provisions for each of the policy areas.

OBJECTIVES

Objective 1: A mixed use zone accommodating a range of compatible non-residential and medium and high density residential land uses orientated towards a high frequency public transport corridor.

Objective 2: 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.

Objective 3: A mix of land uses that enable people to work, shop and access a range of services close to home.

Objective 4: Adaptable and sustainable building designs that can accommodate changes in land use and respond to changing economic, social and environmental conditions.

Objective 5: Amalgamation of sites to provide opportunity to better accommodate envisaged development, design flexibility, diverse building types and dwelling sizes.

Objective 6 A built form that provides a transition down in scale and intensity at the zone boundary to maintain the amenity of residential properties located within adjoining zones.

Objective 7: Noise and air quality impacts mitigated through appropriate building design and orientation.

Objective 8: Development that contributes to the desired character of the zone.

DESIRED CHARACTER

The Zone will enable the development of a mixed use urban environment that contributes to the economic and community vitality of the City by increasing the density and diversity of housing, businesses and other services offered to residents and the wider community.

Residential land uses within the Zone will be developed with a diversity of housing (eg row dwellings, residential flat buildings and multi-storey buildings) and sizes (eg studios and one to three or more bedroom dwellings) that incorporate affordable housing opportunities for families, students and other household types in areas with frequent public transport provision.

As one of the key Zones in the City where there will be transformation in built form, new buildings and associated landscaping and open space areas will be recognised for their design excellence by demonstrating good design principles, including:

(a) Contextual and Desired Character – development that responds to its place, recognises and carefully considers surrounding built form, linkages and landscaping, and positively contributes to the Desired Character.

(b) Responsive and Durable – development that is fit for purpose, adaptable and incorporates long lasting materials.

(c) Inclusive – development that integrates the public and private realms through street activation, enhancing quality views and passive surveillance into and out of sites.

The balanced consideration of qualitative and quantitative Development Plan provisions is fundamental to achieving design excellence.

Future development in the Zone will comprise an evolving transformation of land uses, built form and scale to accommodate urban growth along transit corridors and accord with the following key elements/attributes:

(a) The use of a predominant 2 to 4 storey building scale that will create a linear corridor that frames the main roads.

(b) The establishment of greatest height, mass and intensity of development 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.

(c) The use of designs that consider the local topography that slopes from east to west, such as raised ground floor levels on the east side of roads, lowered ground floor levels and/or car parking underneath buildings on the west side of roads, and stepping the building form across the site on properties facing north and south.

(d) The use of building articulation and fenestration to all visible sides of buildings and supported by integrated landscaping to enhance the built form, contribute to a pleasant pedestrian environment and provide an attractive transition between the public and private realms.

(e) The use of active frontages at ground level to contribute to the liveliness, vitality and security of the public realm.

(f) The use and combination of natural and durable materials and finishes (self-finished or pre-finished) that respond to the predominant attributes of the area, such as brick, stone and rendered finishes and architectural elements addressing entrances, windows and eaves. Contemporary buildings and expressions are envisaged that complement the solid and lasting styles of the traditional built form of the area.

(g) Appropriate site design, building separation, orientation and transition of building heights to address the potential for overlooking, overshadowing and noise impacts.

(h) The use of consolidated parking areas (where possible), screened and located away from public spaces or underneath buildings and minimise access ways (number and frontage widths) and sited to retain public realm benefits.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following types of development, or combination thereof, are envisaged in the zone:

Affordable housing
Aged persons accommodation
Community centre
Consulting room
Dwelling
Educational establishment
Entertainment venue
Licensed premises
Office
Pre-school Primary school
Residential flat building
Retirement village
Shop or group of shops
Supported accommodation
Tourist accommodation.

2 Development listed as non-complying is generally inappropriate.

Form and Character

3 Development should be consistent with the desired character for the zone.

4 Development should be in accordance with Concept Plan Figures UrC/1 to 6.

5 Residential development in a building largely for residential living should aim to achieve a target minimum net residential site density in accordance with the following:

Policy Area	Minimum net residential site density

Boulevard	100 dwellings per hectare net; except where varied by Concept Plan Figure UrC/1.
High Street	70 dwellings per hectare net
Transit Living	45 dwellings per hectare net
Business	No minimum

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

Design and Appearance

7 Buildings should provide visual interest to the street and promote pedestrian activity with active building spaces, particularly at the ground level, in association with high quality landscaping and other community benefits such as public art.

8 To maintain sight lines between buildings and the street, and to improve street activation and safety through passive surveillance, solid fencing should not be constructed between the front building line and the primary or secondary street, unless providing visual privacy to ground floor habitable rooms, in which case a combination of solid fencing, screening and landscaping should be used.

9 Development should minimise the number of access points onto an arterial road, by providing vehicle access:

(a) from side streets or rear access ways;

(b) via co-ordinated through-property access rights of way or common rear vehicle parking areas.

10 Vehicle access points on side streets and rear access ways should be located and designed to:

(a) minimise the impacts of headlight glare and noise on nearby residents;

(b) avoid excessive traffic flows into residential streets

COUNCIL WIDE

Development in Mixed Use, Urban Corridor, and Centre Zones

Design and Appearance

1 Buildings should reflect the desired character of the locality while incorporating contemporary designs that have regard to the following:

(a) building height, mass and proportion

(b) external materials, patterns, colours and decorative elements

(c) roof form and pitch

(d) façade articulation and detailing

(e) verandas, eaves, parapets and window screens.

2 Where a building is sited on or close to a side or rear boundary, the boundary wall should minimise:

(a) the visual impact of the building as viewed from adjacent properties

(b) overshadowing of adjacent properties and allow adequate sunlight access to neighbouring buildings.

3 The external walls and roofs of buildings should not incorporate highly reflective materials which will result in glare to neighbouring properties, drivers or cyclists.

4 Structures located on the roofs of buildings to house plant and equipment should be screened from view and should form an integral part of the building design in relation to external finishes, shaping and colours.

5 Balconies should:

(a) be integrated with the overall form and detail of the building

(b) include balustrade detailing that enables line of sight to the street

(c) be recessed where wind would otherwise make the space unusable

(d) be self-draining and plumbed to minimise runoff.

Development Adjacent Heritage Places

6 The design of multi-storey buildings should not detract from the form and materials of adjacent State and local heritage places listed in Table Pr/2 - State Heritage Places *or in* Table Pr/1 - Local Heritage Places.

7 Development on land adjacent to a State or local heritage place, as listed in Table Pr/2 - State Heritage Places *or in* Table Pr/1 - Local Heritage Places, should be sited and designed to reinforce the historic character of the place and maintain its visual prominence.

Overshadowing

8 The design and location of buildings should enable direct winter sunlight into adjacent dwellings and private open space and minimise the overshadowing of:

(a) windows of habitable rooms

(b) upper-level private balconies that provide the primary open space area for a dwelling

(c) solar collectors (such as solar hot water systems and photovoltaic cells).

Visual Privacy

9 Development should minimise direct overlooking of habitable rooms and private open spaces of dwellings through measures such as:

(a) appropriate site layout and building orientation

(b) off-setting the location of balconies and windows of habitable rooms with those of other buildings so that views are oblique rather than direct to avoid direct line of sight

(c) building setbacks from boundaries (including building boundary to boundary where appropriate) that interrupt views or that provide a spatial separation between balconies or windows of habitable rooms

(d) screening devices (including fencing, obscure glazing, screens, external ventilation blinds, window hoods and shutters) that are integrated into the building design and have minimal negative effect on resident's or neighbour's amenity.

10 Permanently fixed external screening devices should be designed and coloured to complement the associated building's external materials and finishes.

Relationship to the Street and Public Realm

11 Buildings (other than ancillary buildings, group dwellings or buildings on allotments with a battle axe configuration) should be designed so that the main façade faces the primary street frontage of the land on which they are situated.

12 Buildings, landscaping, paving and signage should have a coordinated appearance that maintains and enhances the visual attractiveness of the locality.

13 Buildings should be designed and sited to avoid extensive areas of uninterrupted walling facing areas exposed to public view.

14 Building design should emphasise pedestrian entry points to provide perceptible and direct access from public street frontages and vehicle parking areas.

15 **I**n mixed use and medium and high density residential areas, development facing the street should be designed to provide interesting and pedestrian friendly street frontage(s) by:

(a) including features such as frequent doors and display windows, retail shopfronts and/or outdoor eating or dining areas

(b) minimising the frontage for fire escapes, service doors, plant and equipment hatches

(c) avoiding undercroft, semi-basement or ground floor vehicle parking that is visible from the primary street frontage

(d) using colour, vertical and horizontal elements, roof overhangs and other design techniques to provide visual interest and reduced massing.

16 Where zero or minor setbacks are desirable, development should incorporate shelter over footpaths to enhance the quality of the pedestrian environment.

Outdoor Storage and Service Areas

17 **Outdoor storage, loading and service areas should be:**

(a) screened from public view by a combination of built form, solid fencing and/or landscaping

(b) conveniently located and designed to enable the manoeuvring of service and delivery vehicles

(c) sited away from sensitive land uses.

Private Open Space

18 Private open space (available for exclusive use by residents of each dwelling) should be provided for each dwelling and should be sited and designed:

(a) to be accessed directly from the internal living areas of the dwelling;

(b) to be generally at ground level (other than for residential flat buildings) and to the side or rear of a dwelling and screened for privacy;

(c) to take advantage of, but not adversely affect, natural features of the site;

(d) to minimise overlooking from adjacent buildings;

(e) to achieve separation from bedroom windows on adjoining sites;

(f) to have a northerly aspect to provide for comfortable year round use;

(g) not to be significantly shaded during winter by the associated dwelling or adjacent development;

(h) to be partly shaded in summer;

(i) to minimise noise or air quality impacts that may arise from traffic, industry or other business activities within the locality; and

(j) to have sufficient area and shape to be functional, taking into consideration the location of the dwelling, and the dimension and gradient of the site.

19 Dwellings at ground level should provide private open space in accordance with the following table:

Site area per dwelling (square metres)	**Minimum area excluding any area at ground level at the front of the dwelling (square metres)**	**Minimum dimension (metres)**	**Minimum area provided at the rear or side of the dwelling, directly accessible from a habitable room (square metres)**
>500	80, of which 10 may comprise balconies, roof patios and the like, provided they have a minimum dimension of 2 metres	4	24
300-500	60, of which 10 may comprise balconies, roof patios and the like, provided they have a minimum dimension of 2 metres	4	16
<300	24, of which 8 may comprise balconies, roof patios and the like, provided they have a minimum dimension of 2 metres	3	16

20 Private open space should not include driveways, effluent drainage areas, rubbish bin storage areas, sites for rainwater tanks and other utility areas, and common areas such as parking areas and communal open space.

21 Private open space at ground level should be designed to provide a consolidated area of deep soil (an area of natural ground which excludes areas where there is a structure underneath, pools and non-permeable paved areas) to:

(a) assist with ease of drainage;

(b) allow for effective deep planting; and

(c) reduce urban heat loading and improve micro-climatic conditions around sites and buildings.

22 Except where varied by zone and/or policy area provisions, dwellings located above ground level should provide private open space in accordance with the following table:

Dwelling type	**Minimum area of private open space**
Studio (where there is no separate bedroom)	No minimum requirement
One bedroom dwelling	8 square metres

Dwelling type	Minimum area of private open space
Two bedroom dwelling	11 square metres
Three + bedroom dwelling	15 square metres

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

24 Private open space may be substituted for the equivalent area of communal open space where:

(a) at least 50 percent of the communal open space is visually screened from public areas of the development;

(b) ground floor communal space is overlooked by habitable rooms to facilitate passive surveillance; and

(c) it contains landscaping and facilities that are functional, attractive and encourage recreational use.

Communal Open Space

25 Communal open space should be shared by more than one dwelling, not be publicly accessible and exclude:

(a) private open space;

(b) public rights of way;

(c) private streets;

(d) parking areas and driveways;

(e) service and storage areas; and

(f) narrow or inaccessible strips of land.

26 Communal open space should only be located on elevated gardens or roof tops where the area and overall design is useful for the recreation and amenity needs of residents and where it is designed to:

(a) address acoustic, safety, security and wind effects;

(b) minimise overlooking into habitable room windows or onto the useable private open space of other dwellings;

(c) facilitate landscaping and food production; and

(d) be integrated into the overall façade and composition of buildings.

Medium and High Rise Development (3 or More Storeys)

Note: Some of the following Principles of Development Control (PDC) prescribe a measurable design solution as one way of achieving the intent of the PDC. Where this solution is met, it should be taken as meeting the intent of the principle. Alternative design solutions may also achieve the intent of the PDC and, when proposed, should be assessed on their merits.

Design and Appearance

27 Buildings should be designed to respond to key features of the prevailing local context within the same zone as the development. This may be achieved through design features such as vertical

rhythm, proportions, composition, material use, parapet or balcony height, and use of solid and glass.

28 In repetitive building types, such as row housing, the appearance of building façades should provide some variation, but maintain an overall coherent expression such as by using a family of materials, repeated patterns, façade spacings and the like.

29 Windows and doors, awnings, eaves, verandas or other similar elements should be used to provide variation of light and shadow and contribute to a sense of depth in the building façade.

30 Buildings should:

(a) achieve a comfortable human scale at ground level through the use of elements such as variation in materials and form, building projections and elements that provide shelter (for example awnings, verandas, and tree canopies)

(b) be designed to reduce visual mass by breaking up the building façade into distinct elements

(c) ensure walls on the boundary that are visible from public land include visually interesting treatments to break up large blank façades.

31 Buildings should reinforce corners through changes in setback, materials or colour, roof form or height.

32 Materials and finishes should be selected to be durable and age well to minimise ongoing maintenance requirements. This may be achieved through the use of materials such as masonry, natural stone, prefinished materials that minimise staining, discolouring or deterioration, and avoiding painted surfaces particularly above ground level.

33 Balconies should be integrated into the overall architectural form and detail of the development and should:

(a) utilise sun screens, pergolas, louvres and openable walls to control sunlight and wind

(b) be designed and positioned to respond to daylight, wind, acoustic conditions to maximise comfort and provide visual privacy

(c) allow views and casual surveillance of the street while providing for safety and visual privacy of nearby living spaces and private outdoor areas

(d) be of sufficient size, particularly depth, to accommodate outdoor seating.

Street Interface

34 Development facing the street should be designed to provide attractive and pedestrian friendly street frontage(s) by:

(a) incorporating active uses such as shops or offices, prominent entry areas for multi-storey buildings (where it is a common entry), habitable rooms of dwellings, and areas of communal public realm with public art or the like

(b) providing a well landscaped area that contains a deep soil zone space for a medium to large tree in front of the building (except in a High Street Policy Area or other similar location where a continuous ground floor façade aligned with the front property boundary is desired). One way of achieving this is to provide a 4 metre x 4 metre deep soil zone area in front of the building

(c) designing building façades that are well articulated by creating contrasts between solid elements (such as walls) and voids (for example windows, doors and balcony openings)

(d) positioning services, plant and mechanical equipment (such as substations, transformers, pumprooms and hydrant boosters, car park ventilation) in discreet locations, screened or integrated with the façade

(e) ensuring ground, semi-basement and above ground parking do not detract from the streetscape

(f) minimising the number and width of driveways and entrances to car parking areas to reduce the visual dominance of vehicle access points and impacts on pedestrian areas.

35 Common areas and entry points of the ground floor level of buildings should be designed to enable surveillance from public land to the inside of the building at night.

36 Entrances to multi-storey buildings should:

(a) be oriented towards the street

(b) be visible and clearly identifiable from the street, and in instances where there are no active or occupied ground floor uses, be designed as a prominent, accentuated and welcoming feature

(c) provide shelter, a sense of personal address and transitional space around the entry

(d) provide separate access for residential and non-residential land uses

(e) be located as close as practicable to the lift and/or lobby access

(f) avoid the creation of potential areas of entrapment.

37 The finished ground level of buildings should be no more than 1.2m above the level of the footpath to contribute to direct pedestrian access and street level activation, except for common entrances to apartment buildings which should be at ground level or universally accessible.

38 Dwellings located on the ground floor with street frontage should have individual direct pedestrian street access.

39 The visual privacy of ground floor dwellings within multi-storey buildings should be protected through the use of design features such as the elevation of ground floors above street level, setbacks from street and the location of verandas, windows porticos or the like.

One way of achieving this is for ground floor levels of multi-storey residential developments to be raised by up to 1.2 metres (provided access is not compromised where relevant).

Building Separation and Outlook

40 Residential buildings (or the residential floors of mixed use buildings) should have habitable rooms, windows and balconies designed and positioned with adequate separation and screening from one another to provide visual and acoustic privacy and allow for natural ventilation and the infiltration of daylight into interior and outdoor spaces.

One way of achieving this is to ensure any habitable room windows and/or balconies are separated by at least 6 metres from one another where there is a direct ‘line of sight’ between them and be at least 3 metres from a side or rear property boundary.

Where a lesser separation is proposed, alternative design solutions should be applied (such as changes to orientation, staggering of windows or the provision of screens or blade walls, or locating facing balconies on alternating floors as part of double floor apartments), provided a similar level of occupant visual and acoustic privacy, as well as light access, can be demonstrated.

41 Living rooms should have a satisfactory short range visual outlook to public or private open space.

Dwelling Configuration

42 Buildings comprising more than 10 dwellings should provide a variety of dwelling sizes and a range in the number of bedrooms per dwelling.

43 Dwellings located on the ground floor with street frontage should have habitable rooms with windows overlooking the street or public realm.

44 Dwellings with 3 or more bedrooms should, where possible, have the windows of habitable rooms overlooking internal courtyard space or other public space.

Adaptability

45 Multi-storey buildings should include a variety of internal designs that will facilitate adaptive reuse, including the conversion of ground floor residential to future commercial use (i.e. including floor to ceiling heights suitable for commercial use).

Environmental

46 Multi-storey buildings should:

(a) minimise detrimental micro-climatic and solar access impacts on adjacent land or buildings, including effects of patterns of wind, temperature, daylight, sunlight, glare and shadow

(b) incorporate roof designs that enable the provision of, photovoltaic cells and other features that enhance sustainability (including landscaping)

47 Green roofs (which can be a substitute for private or communal open space provided they can be accessed by occupants of the building) are encouraged for all new residential commercial or mixed use buildings.

48 Development of 5 or more storeys, or 21 metres or more in building height (excluding the rooftop location of mechanical plant and equipment), should be designed to minimise the risk of wind tunnelling effects on adjacent streets by adopting one or more of the following:

(a) a podium at the base of a tall tower and aligned with the street to deflect wind away from the street

(b) substantial verandas around a building to deflect downward travelling wind flows over pedestrian areas

(c) the placement of buildings and use of setbacks to deflect the wind at ground level.

49 Deep soil zones should be provided to retain existing vegetation or provide areas that can accommodate new deep root vegetation, including tall trees with large canopies.

One way of achieving this is in accordance with the following table:

Site Area	**Minimum Deep Soil Area**	**Minimum dimension**	**Tree Size/Deep Soil Zones**
<300m^2	10m^2	1.5 metres	1 small tree/10m^2 deep soil
300-1500m^2	7% site area	3 metres	1 medium tree/30m^2 deep soil
>1500m^2	7% site area	6 metres	1 large or medium tree/60m^2 deep soil

Tree size and site area definitions:	
Small tree:	<6 metres mature height and <4 metres canopy spread
Medium tree:	6-12 metres mature height and 4-8 metres canopy spread
Large tree:	>12 metres mature height and >8 metres canopy spread
Site area:	The total area for development site, not average area per dwelling

50 Deep soil zones should be provided with access to natural light to assist in maintaining vegetation health.

Site Facilities and Storage

51 Dwellings should provide a covered storage area of not less than 8 cubic metres in one or more of the following areas:

(a) in the dwelling (but not including a habitable room)

(b) in a garage, carport, outbuilding or an on-site communal facility and be conveniently located and screened from view from streets and neighbouring properties.

52 Development should provide a dedicated area for the on-site collection and sorting of recyclable materials and refuse, green organic waste and wash-bay facilities for the ongoing maintenance of bins. This area should be screened from view from public areas so as to not to detract from the visual appearance of the ground floor.

Where the number of bins to be collected kerbside is 10 or more at any one time provision should be made for on-site commercial collection.

53 The size of lifts, lobbies and corridors should be sufficient to accommodate bicycles, strollers, mobility aids and visitor waiting areas.

Vehicle Parking for Mixed Use and Corridor Zones

54 Development should provide off-street vehicle parking and specifically marked accessible car parking places to meet anticipated demand in accordance with Table Pr/5 – Off-street Vehicle Parking Requirements for the Urban Corridor Zones.

dispersion and takes into account the location of nearby sensitive uses.

Crime Prevention

Land use

55 Development should promote a range of complementary land use activities that extend the duration and level of intensity of public activity in particular areas by creating:

(a) a mix of residential, commercial, recreational and community uses;

(b) an appropriate and compatible land use mix that promotes a range of day and night-time activities in close proximity.

Sightlines

56 To enable legitimate users and observers to make an accurate assessment of the relative safety of a site, development should ensure that adequate lines of sight are maintained by:

(a) avoiding 'blind' corners or sudden changes of grade, especially on pathways or stairs or in corridors;

(b) where possible, ensuring that barriers along pathways, such as landscaping, fences and walls, are visually permeable to limit concealment opportunities;

(c) incorporate appropriate measures to enable users to identify what is ahead where lines of sight are otherwise impeded.

Surveillance

57 Development should be designed to maximise surveillance in frequently used public spaces by:

(a) orienting the fronts and entrances of buildings towards the public street;

(b) positioning the entrances of buildings opposite each other across a street; and

(c) grouping entrances of multiple dwelling developments to face a commonly visible area to provide maximum mutual surveillance;

(d) limiting the number of entrances and exits and ensuring that they are adequately lit and signposted and not obscured by landscaping;

(e) ensuring that development provides a secondary entrance or exit that has a direct relationship and link with car parking areas;

(f) providing physical and visual links that integrate and connect all parts of the site;

(g) providing direct access to building foyers from the street and positioning windows to provide clear views both into and out of foyers;

(h) avoiding screens, high walls, carports and landscaping that obscures direct views to public areas;

(i) arranging living and working areas, windows, access ways and balconies to overlook recreation areas and provide observation points to all areas of a site, particularly entrances and car parks.

Lighting

58 Development should provide adequate and appropriate lighting in frequently used public spaces, including:

(a) along dedicated cyclist and pedestrian pathways, laneways and access routes;

(b) around public facilities such as toilets, telephones, bus stops and car parks.

59 Lighting should be in accordance with Australian Standard AS 1158.1—1986.

60 The design and layout of lighting should consider the use and siting of:

(a) graded lighting that reduces the contrast between lit and surrounding areas, enabling people to see beyond the lit area;

(b) consistent lighting to reduce contrast between shadows and illuminated areas;

(c) vandal-resistant fittings;

(d) lighting that is easy to maintain;

(e) appropriate, adequate lighting to identify 'safe routes' and focus pedestrian activity after dark;

(f) streetlights that illuminate pedestrian routes, possible concealment areas and the road pavement, while avoiding light spill into the windows of adjacent housing;

(g) lighting that will not be obstructed by the mature height of landscaping and other potential impediments.

Landscaping

61 Vegetation should be used to assist in discouraging crime by:

(a) screening planting areas susceptible to vandalism;

(b) planting trees or ground covers, rather than shrubs, alongside footpaths;

(c) planting vegetation at a minimum distance of two metres from footpaths to reduce concealment opportunities.

(c) consolidate on-site circulation and provide minimal entry/exit points, unless connected to a suitable rear access way

(d) maintain appropriate distances from street intersections

(e) minimise impacts to on-street parking spaces

(f) minimise impacts on the public realm, including pedestrian circulation paths, mature street trees and public infrastructure

(g) maximise opportunities for the integration of landscaping.

Building Envelope

Building Height

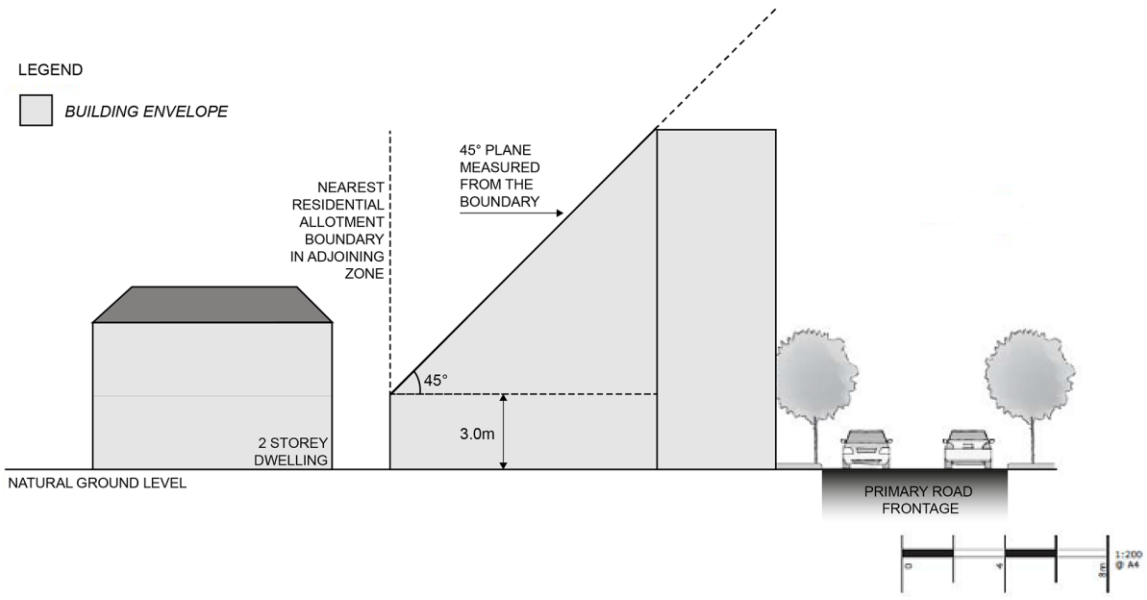
11 Except where airport building height restrictions prevail, the interface height provisions require a lesser height, or an alternative maximum building height is shown on Concept Plan Figures UrC/1 to 6, building heights (excluding any rooftop mechanical plant, equipment or roof top garden) should be consistent with the following parameters:

Policy Area	Minimum Building Height	Maximum Building Height
Boulevard	2 storeys	4 storeys and up to 15 metres
High Street	2 storeys	4 storeys and up to 15 metres
Transit Living	1 storey	3 storeys and up to 11.5 metres
Business	2 storeys	4 storeys and up to 15 metres, except on allotments fronting Highbury Street where a 2 storey maximum applies

Interface Height Provisions

12 To minimise building massing at the interface with residential development outside of the zone, buildings should be constructed within the following building envelopes provided by a 45 degree plane, measured from a height of 3 metres above natural ground level at the zone boundary (except where this boundary is a primary road frontage) as illustrated in Figure 1.

Figure 1: Typical Boundary



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).

Setbacks from Road Frontages

14 Buildings (excluding verandas, porticos, balconies and the like) should be set back from the primary road frontage in accordance with the following parameters, except where varied by the relevant Concept Plan Figures UrC/2, 4 and 6 and where additional land may be required to achieve landscaping requirements:

Policy Area	**Minimum setback from the primary road frontage**
Boulevard	3 metres
High Street	No minimum
Transit Living	3 metres
Business	3 metres

Note: These setbacks are in addition to any setback requirements pursuant to the Metropolitan Adelaide Road Widening Plan.

15 Buildings (excluding verandas, porticos, balconies and the like) should be set back from the secondary road frontage or a vehicle access way in accordance with the following parameters except where varied by the relevant Concept Plan Figures UrC/2, 4 and 6 and the allocation of land for quality landscaping:

Designated Policy Area	**Minimum setback from secondary road**	**Minimum setback from a rear access way**
Boulevard, Transit Living and Business	2 metres	(a) No minimum where the access way is 6.5 metres or more; or (b) Where the access way is less than 6.5 metres in width, the distance equal to the additional width required to make the access way 6.5 metres or more, to provide adequate manoeuvrability for vehicles
High Street	No minimum	As above

Other Setbacks

16 Buildings (excluding verandas, porticos, balconies and the like) should be set back in accordance with the following parameters:

Designated Policy Area	Minimum setback from rear allotment boundary within the Urban Corridor Zone	Minimum setback from rear allotment boundary on a zone boundary	Minimum setback from side boundaries (where not on a street or different zone boundary)*
Boulevard, High Street, Transit Living, and Business	3 metres	3 metres if closest portion of building is 2 storeys or less. 6 metres where: (a) the closest portion of building is more than 2 storeys (b) the closest portion of the building is 2 storeys or less and increases in height to 3 storeys or more storeys within 6 metres of the boundary	Irrespective of height, no minimum on boundary, within 18 metres from the front property boundary. No minimum for remaining length for the ground level only. More than 18 metres from the front property boundary, 1st level and above (ie above ground level) should be setback 2 metres).

* Assumes the building fronting the boundary has no window/s or balcony/s.

17 Unless abutting an existing building, walls (including attached structures) that have a height of greater than 4.5 metres, located on or within 2 metres of side allotment boundaries should provide attractive and interesting façades utilising techniques and combinations such as the following:

(a) including recessed sections of wall;

(b) continuing some façade detailing;

(c) integrated use of different building materials and finishes;

(d) include green landscaped walls/gardens;

(e) include public art, including murals.

Vehicle Parking

18 Vehicle parking should be provided in accordance with the rates set out in Table Pr/5 - Off Street Vehicle Parking Requirements for Designated Areas.

Land Division

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

PROCEDURAL MATTERS

Complying Development

20 Complying developments are prescribed in schedule 4 of the *Development Regulations 2008*.

In addition, the following forms of development (except where the development is non-complying) are complying:

(a) Subject to the conditions contained in Table Pr/5 - Off Street Vehicle Parking Requirements for Designated Areas and Table Pr/6 - Off-street Bicycle Parking Requirements for the Urban Corridor Zone:

(i) change in the use of land, from residential to office on the ground or first floor of a building;

(ii) change in the use of land from residential to shop less than 250 square metres on the ground floor of a building.

(b) A change of use to a shop, office, consulting room or any combination of these uses where all of the following are achieved:

(i) the area to be occupied by the proposed development is located in an existing building and is currently used as a shop, office, consulting room or any combination of these uses:

(ii) the development is located inside any of the following area(s):

- High Street Policy Area

(iii) the building is not a State heritage place;

(iv) it will not involve any alterations or additions to the external appearance of a local heritage place as viewed from a public road or public space;

(v) if the proposed change of use is for a shop that primarily involves the handling and sale of foodstuffs, it achieves either (A) or (B):

(A) all of the following:

a. areas used for the storage and collection of refuse are sited at least 10 metres from any Residential Zone boundary or a dwelling (other than a dwelling directly associated with the proposed shop);

b. if the shop involves the heating and cooking of foodstuffs in a commercial kitchen and is within 30 metres of any Residential Zone boundary or a dwelling (other than a dwelling directly associated with the proposed shop), an exhaust duct and stack (chimney) exists or is capable of being installed for discharging exhaust emissions;

(B) the development is the same or substantially the same as a development, which has previously been granted development approval under the *Development Act 1993* or any subsequent Act and Regulations, and the development is to be undertaken and operated in accordance with the conditions attached to the previously approved development;

(vi) if the change in use is for a shop with a gross leasable floor area greater than 250 square metres and has direct frontage to an arterial road, it achieves either (A) or (B):

(A) the primary vehicle access (being the access where the majority of vehicles access/egress the site of the proposed development) is from a road that is not an arterial road;

(B) the development is located on a site that operates as an integrated complex containing two or more tenancies (and which may comprise more than one building) where facilities for off-street vehicle parking, vehicle loading and unloading, and the storage and collection of refuse are shared;

(vii) off-street vehicular parking is provided in accordance with the rate(s) specified in Table Pr/5 - Off Street Vehicle Parking Requirements for Designated Areas to the nearest whole number, except in any one or more of the following circumstances:

(A) the building is a local heritage place;

(B) the development is the same or substantially the same as a development, which has previously been granted development approval under the *Development Act 1993* or any subsequent Act and Regulations, and the number and location of parking spaces is the same or substantially the same as that which was previously approved;

(C) the development is located on a site that operates as an integrated complex containing two or more tenancies (and which may comprise more than one building) where facilities for off-street vehicle parking, vehicle loading and unloading, and the storage and collection of refuse are shared.

Non-complying Development

21 Development (including building work, a change in the use of land or division of an allotment) involving any of the following is **non-complying**:

Industry, except light industry or service industry located in the Business Policy Area
Fuel depot
Petrol filling station, except where located in the Business Policy Area
Public service depot
Road transport terminal
Service trade premises, except where located in the Business Policy Area
Store, except where located in the Business Policy Area
Transport depot
Warehouse, except where located in the Business Policy Area
Waste reception storage treatment and disposal

Public Notification

22 Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008*. In addition, the following forms of development, or any combination of (except where the development is classified as non-complying), are designated:

Category 1

Advertisement
Aged persons accommodation
All forms of development that are ancillary and in association with residential development
Consulting room
Dwelling
Educational establishment
Office
Pre-school Primary school
Residential flat building Retirement village
Store in Business Policy Area Supported accommodation
Shop or group of shops with a gross leasable area of 2000 square metres or less located in the High Street, Business or Boulevard Policy Areas
Shop or group of shops with a gross leasable area of 500 square metres or less located in the Transit Living Policy Area
Tourist Accommodation
Warehouse in Business Policy Area

Category 2

All forms of development not listed as Category 1

Any development listed as Category 1 and located on adjacent land to a residential zone or Historic (Conservation) Zone that:

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

(b) exceeds the 'Building Envelope - Interface Height Provisions'.