



264-268 PENNANT HILLS ROAD CARLINGFORD

URBAN DESIGN REPORT

PREPARED FOR BAPTISTCARE

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01 INTRODUCTION

1.1 BAPTISTCARE

BaptistCare is a leading not-for-profit Christian based care organisation that support thousands of people across NSW and the ACT through more than 160 facilities and programs.

They are currently evaluating all sites and existing developments in and around Carlingford; and have identified that the existing development on 264 Pennant Hills Rd is ageing and does not meet current aged care requirements and community expectations.

1.2 THE SITE

The site, 264-268 Pennant Hills Road Carlingford, is situated approximately 22km north-west of the Sydney CBD and within the Parramatta City Council Local Government Area.

The site is bound by Pennant Hills Road to the north, Martins Lane to the east, Homelands Avenue to the south and by private properties along its other boundaries. It is currently occupied by a BaptistCare aged care development, which provides approximately 240 beds.

Site area: 28,286 m²

Total building footprint (existing): 8,955 m²

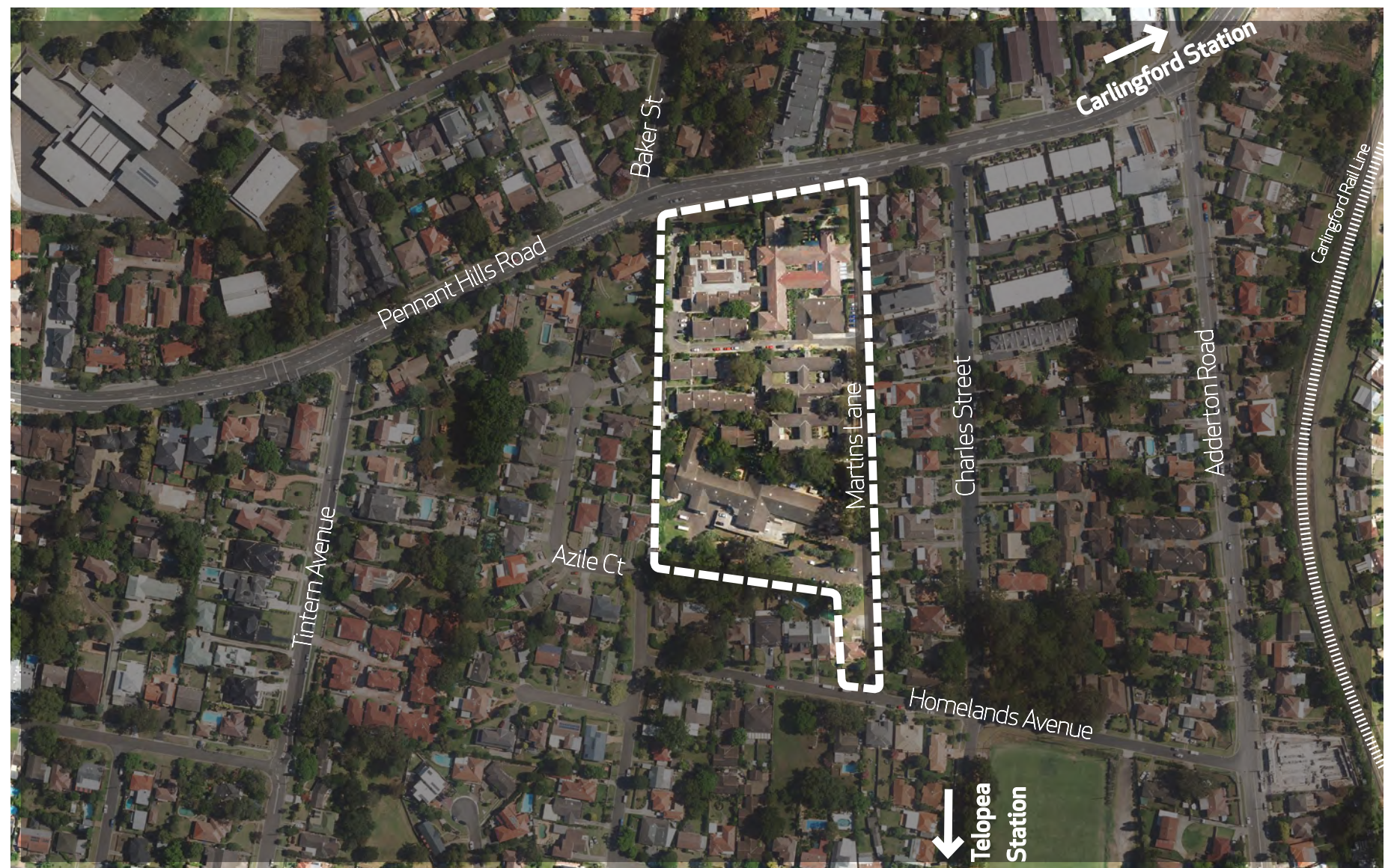
Site coverage (building footprint): 32%

Existing Controls - Parramatta LEP 2011

FSR: 0.5:1

Zoning: R2 - Low density residential

Height restriction: 9m



Site Location

01 INTRODUCTION

1.3 LOCAL CONTEXT

Land Use

The surrounding area is occupied by a number of existing land uses including: schools to the north and west; commercial uses along Pennant Hills Road at Carlingford Railway Station; open space; low density residential development to the west and south, comprising predominantly 1-2 storey houses; and medium to high density (developing) to the north and east of the site.

Public Transport

Approximately 10 minutes walking distance (750m), north-east of the site is Carlingford railway station. This station provides intermittent services, with only one early morning train connecting directly to Sydney Central Station. At other times of day passengers must change at Clyde to connect with other services. Telopea Railway Station is also close by, to the south of the site. Telopea is on the same service line (Carlingford Line) as Carlingford station where the line terminates.

Pennant Hills Road forms the northern boundary of the site and is a major arterial road, connecting Parramatta in the south-west with Hornsby in the north-east and linking with a number of other major routes in Sydney’s road network.

There are bus stops on both sides of the road adjacent to the site. Route 625 connects Parramatta with Pennant Hills via Carlingford and Route M54 is a cross regional service which connects Parramatta, Carlingford, Epping and Macquarie Park.

Carlingford Town Centre + Amenities

There is a small shopping strip near Carlingford Railway Station. New residential flat buildings up to 18 storeys high have been approved adjacent to the station. The major retail and commercial areas in Carlingford are located 1.5km from the site on Pennant Hills Road, approximately 20 minutes walk away. There are two medium sized shopping centres, Carlingford Court and Carlingford Village.



Carlingford Village



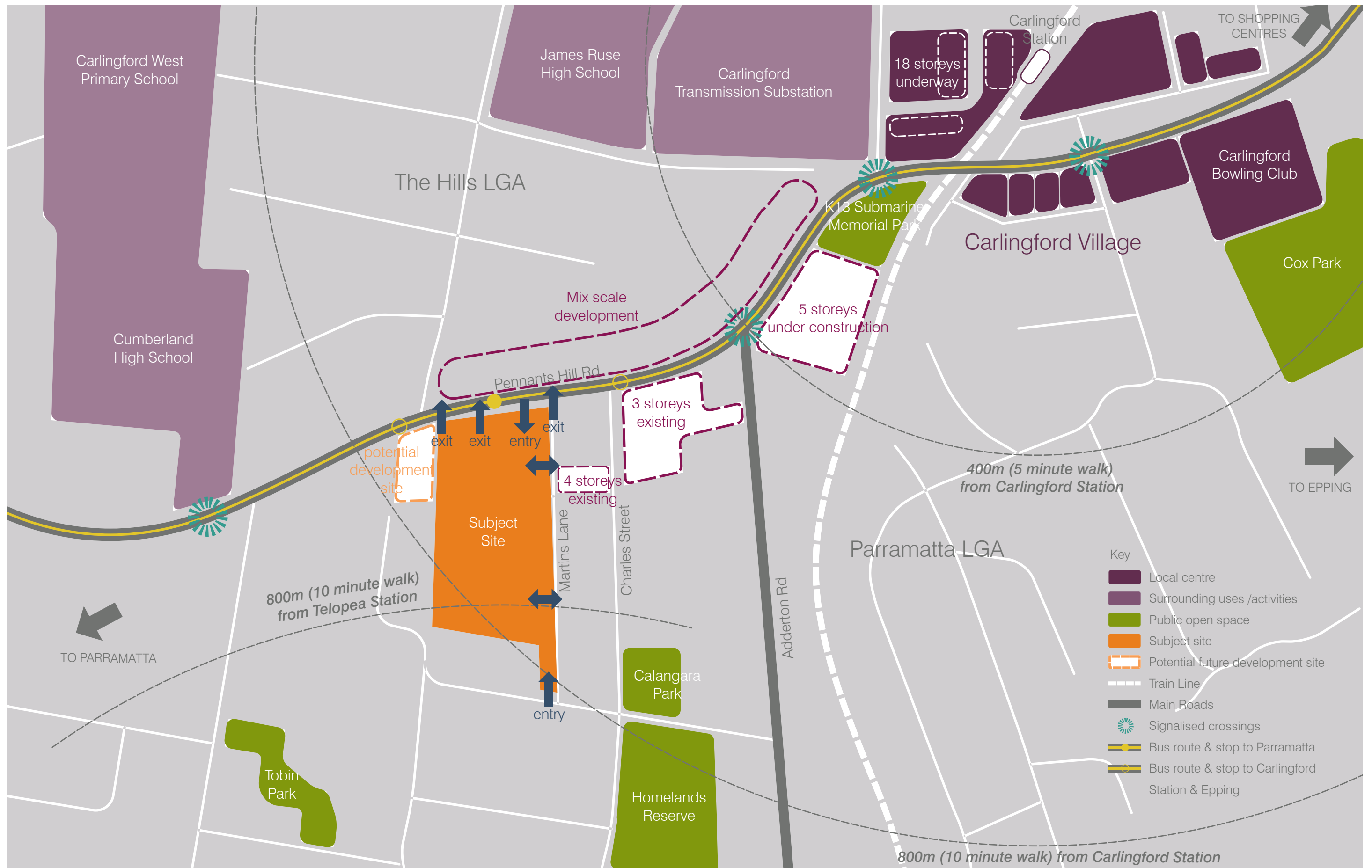
Charles Street looking west



Carlingford Court



Pennant Hills Road



Local Context

1.4 PLANNING CONTEXT

The site is subject to the provisions of Parramatta Local Environment Plan (LEP) 2011. The land to the north and west of Pennant Hills Road is located within The Hills Shire Local Government Area. The land use zoning plan, FSR plan and building height plan are a compilation of both the Parramatta LEP 2011 and The Hills LEP 2012 maps.

The following controls currently apply to the site:

LAND USE ZONING

R2 - Low Density Residential

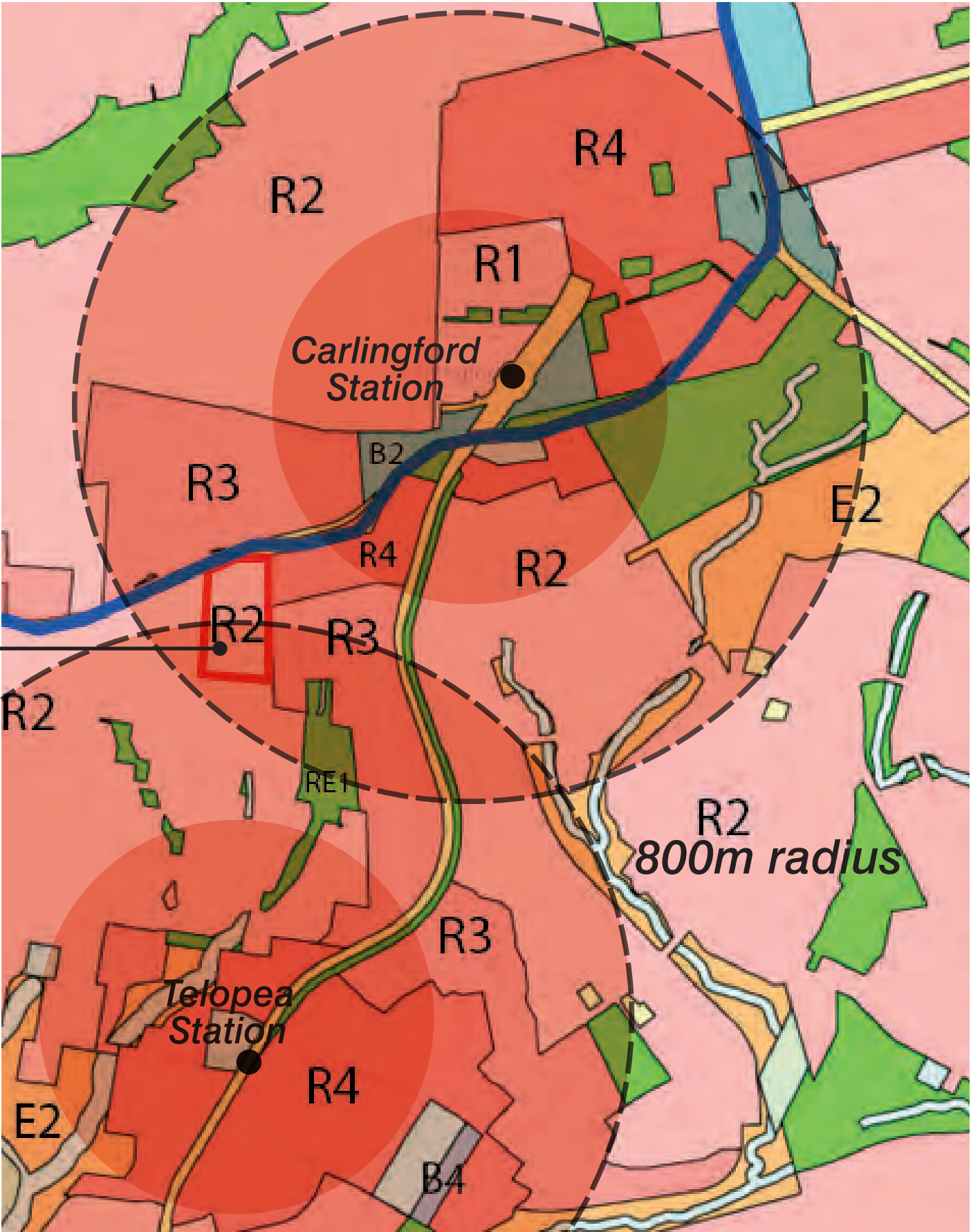
FSR

0.5:1

HEIGHT

9M

THE SITE



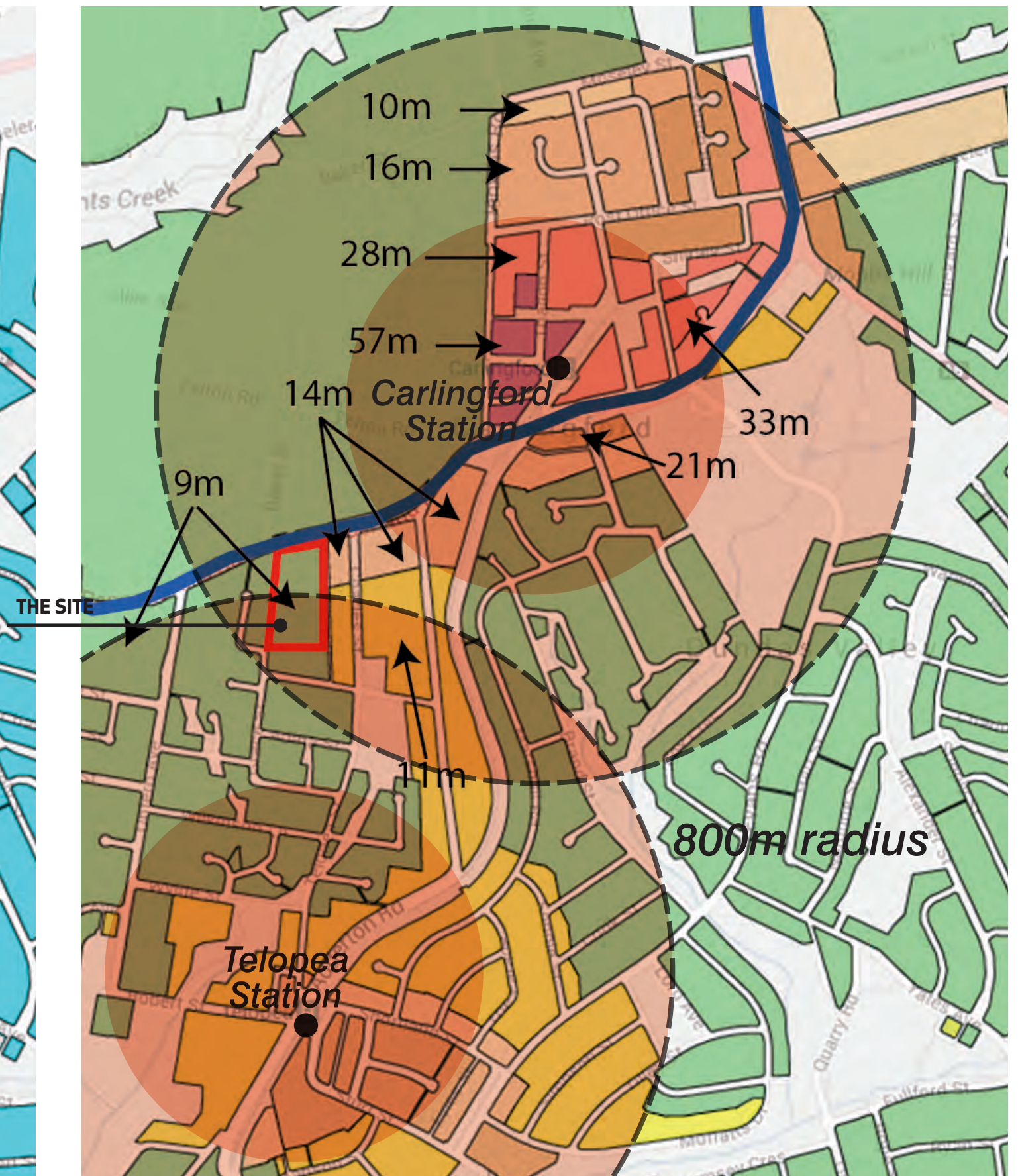
LAND USE ZONING PLAN

R2 - Low Density Residential



FSR PLAN

0.5:1



HEIGHT PLAN

9m



2.1 EXISTING DEVELOPMENT

The site currently houses an existing aged care facility. This accommodates approximately 240 beds and including workers and residents has a population of approximately 437 people on site.

The site area is approximately 28,286 m².

There are 10 buildings across the site ranging between 1 - 3 storeys in height. An initial assessment of the existing building footprints has determined that the approximate site coverage, excluding roads, is 32% (from survey, dated 18.06.2014, Mepstead & Associates).



Existing building footprints

2.2 TOPOGRAPHY

One of the site’s notable characteristics is its topography. There is a fall across the site of approximately 23m from Pennant Hills Road to Homelands Avenue.

The sloping nature of the site allows for district views to the south from development within the site.

Due to the slope of the site, storm water drainage has had to be managed to reduce the impact of run-off. There are a number of devices already in place throughout the site that accommodate overland flow in heavy storm conditions.

Through the middle of the site there is a large embankment. This has been formed through previous cut and fill earthworks. In addition, the ground level of dwellings to the west of the site is in the order of 5m above the ground level within the site.

Martins Lane, on the eastern edge of the site, rises from RL74.50 at Homelands Ave to approximately RL98.00 at Pennant Hills Road. This represents an average gradient of approximately 1 in 13.



Existing storm water management device on site



Embankments within site



Terraced and stepped nature of the site’s topography



Martins Lane near Village Road

- Key
- Subject site
 - Existing buildings
 - Land fall



2.3 EXISTING VEGETATION

BaptistCare commissioned McArdle Arboricultural Consultancy to assess the condition of existing trees within the site. A Tree Risk Assessment report was prepared, dated 8th July 2014, to “inspect trees in and around buildings and in areas where staff and public access; to give recommendation to the facilities manager of trees that pose a risk to human health and safety with professional opinion and management of these trees” [sic.]. The report has recommended the urgent and immediate removal of some of the trees on site and some of this work has already been undertaken.

The native vegetation is characterised by the Cumberland Plain Woodland, which is an endangered ecological community. There are approximately 200 trees on site, and they are located in areas which generally have a lower occupation rate. No heritage listed trees were found on site and there are no individual tree species identified on site that are listed as endangered, critically endangered or vulnerable under the TSC Act and EPBC Act. There is a significant group of *E. saligna* [*Eucalyptus Saligna* - blue gum] trees on the southern boundary of the site which may constitute blue gum high forest.

- Tree Risk Assessment Report, McArdle Arboricultural Consultancy, 8 July 2014

Trees within the site range up to 30-40m in height. The tallest of the trees within the site are predominantly Blue Gums. There are also a number of Tallowood trees along the eastern boundary of the site, on Martins Lane, that range 20-24m in height.





- Key
- Subject site
 - Existing buildings
 - Willow Peppermint
 - Blue Gum
 - Tallowood / Red Mahogany
 - Melaluca Tree
 - Trees to be removed (as per arborist report)
 - Other trees on site



Existing trees

2.4 VIEWS

The topography of the site allows for district views to the south interrupted only by the existing vegetation on site. Any proposed development should take advantage of these views to maximise outlook.

There are no district views from the existing adjoining properties across the site to the east or west.

Views of the site from Pennant Hills Road vary due to the undulating and winding nature of the road.



View 1 - Adjacent to western boundary looking south



View 2 - Village Rd looking east



View 3 - Pennant Hills Road from the east looking to the site



View 4 - Azile Ct



View 5 - View from drone on Village Rd looking north to Pennant Hills Rd



View 6 - View from drone on Village Rd looking north west



View 7 - Martins Lane looking north

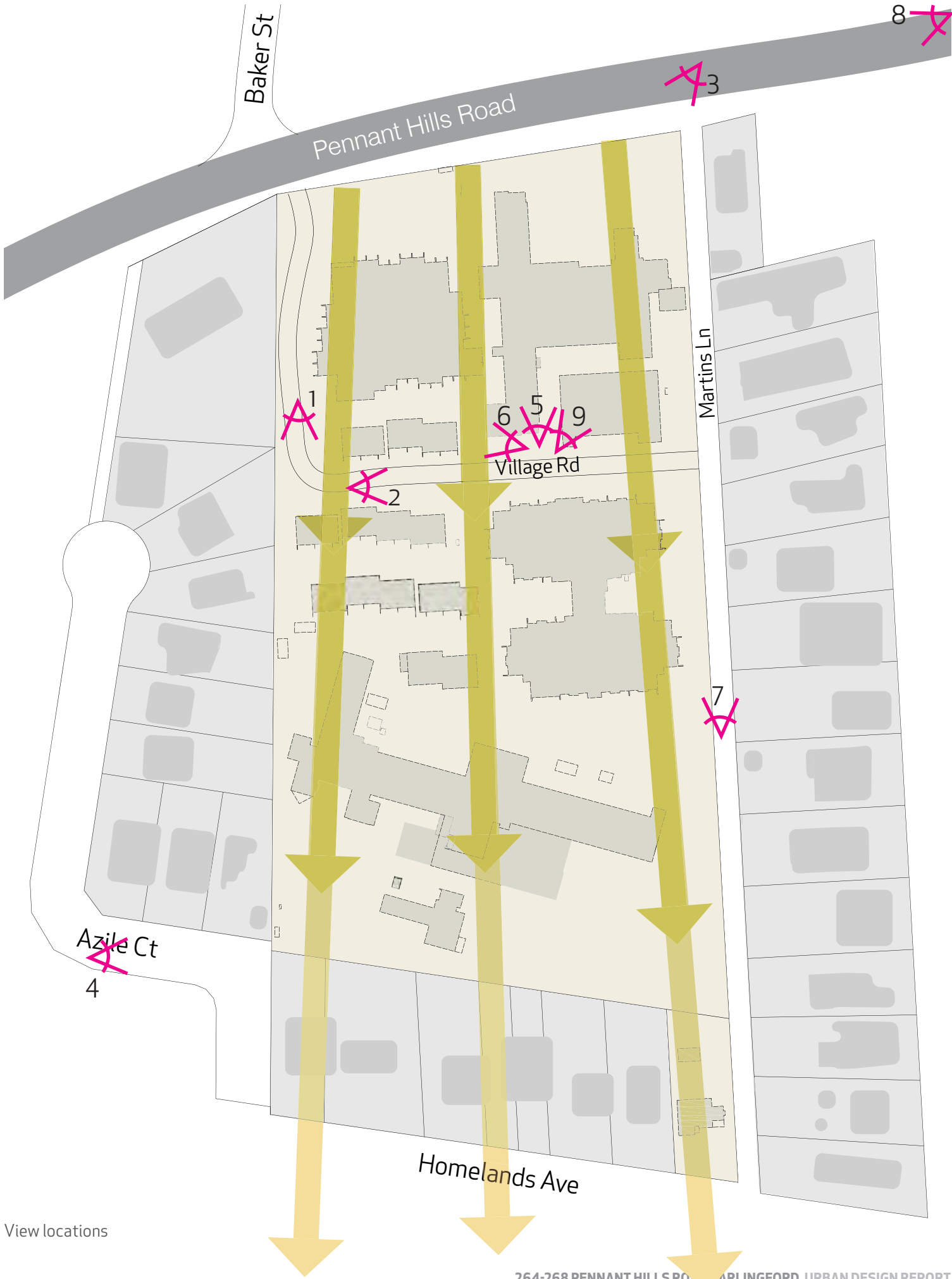


View 8 - Pennant Hills Rd near Adderton Rd looking toward site



View 9 - View from drone on Village Rd looking north east

- Key
- Subject site
 - Existing buildings
 - District views



2.5 ACCESS

The primary street address for the site is currently Pennant Hills Road. This road services the main access points to the development. The secondary address is to Martins Lane, a narrow lane way which runs along the eastern side of the site. There is also an additional frontage on Homelands Avenue.

The main vehicular access to the site is provided from Martins Lane. Martins Lane is a two-way street which runs the full length of the site and also provides access to a number of garages and properties to the east of the site. Martins Lane connects to Pennant Hills Road at t-intersection that is not signalised. This exit allow for left turns only from Martins Lane into Pennant Hills Road. As such, most of the traffic on Martins Lane travels northbound.

Vehicular access to the site is also provided from Pennant Hills Road via three driveways. The eastern two driveways provide entry and exit to a drop-off area at the front of the site and a small number of parking spaces. The western driveway aligns with Baker Street on the opposite side of Pennant Hills Road. This driveway links Village Road within the site to Pennant Hills Road.

Due to the prioritised vehicular traffic in the area there is reduced connectivity for pedestrians. This reliance on vehicles is evident in the narrow footpaths or entire lack thereof. The main pedestrian access to the site is from Pennant Hills Road. There are secondary access points from Homelands Avenue and an informal access from Azile Court at the south-western corner of the site.



Pennant Hills Road looking toward north east corner of the site and Martins Lane



South western corner of the site near Azile Ct



Martins Lane intersection with Pennant Hills Road



Village Road at its intersection with Martins Lane looking west



Pennant Hills Road looking west



Pennant Hills Road looking east

Key

- Subject site
- Existing buildings
- Bus stop
- Existing vehicular access
- Existing connection to Azile Court



Existing access

2.6 NEIGHBOURHOOD

The surrounding neighbourhood is characterised by single and two storey dwellings to the west and south of the site. However, the land to the east and north of the site is zoned for more intensive development with some areas already occupied by medium to high density development.

The north western neighbour, 262 Pennant Hills Rd, is a large site of 2400 m2 that is currently occupied by a single dwelling. Due to the surrounding zoning and the nature of this site, it has development potential and is well placed to act as a transition site between the subject site and low density development to the west.



Azile Court



Telopea Street south of Homelands Avenue



Charles Street (R4 zoning - high density residential)



Megan St



Pennant Hills Road near Tintern Ave



Azile Court

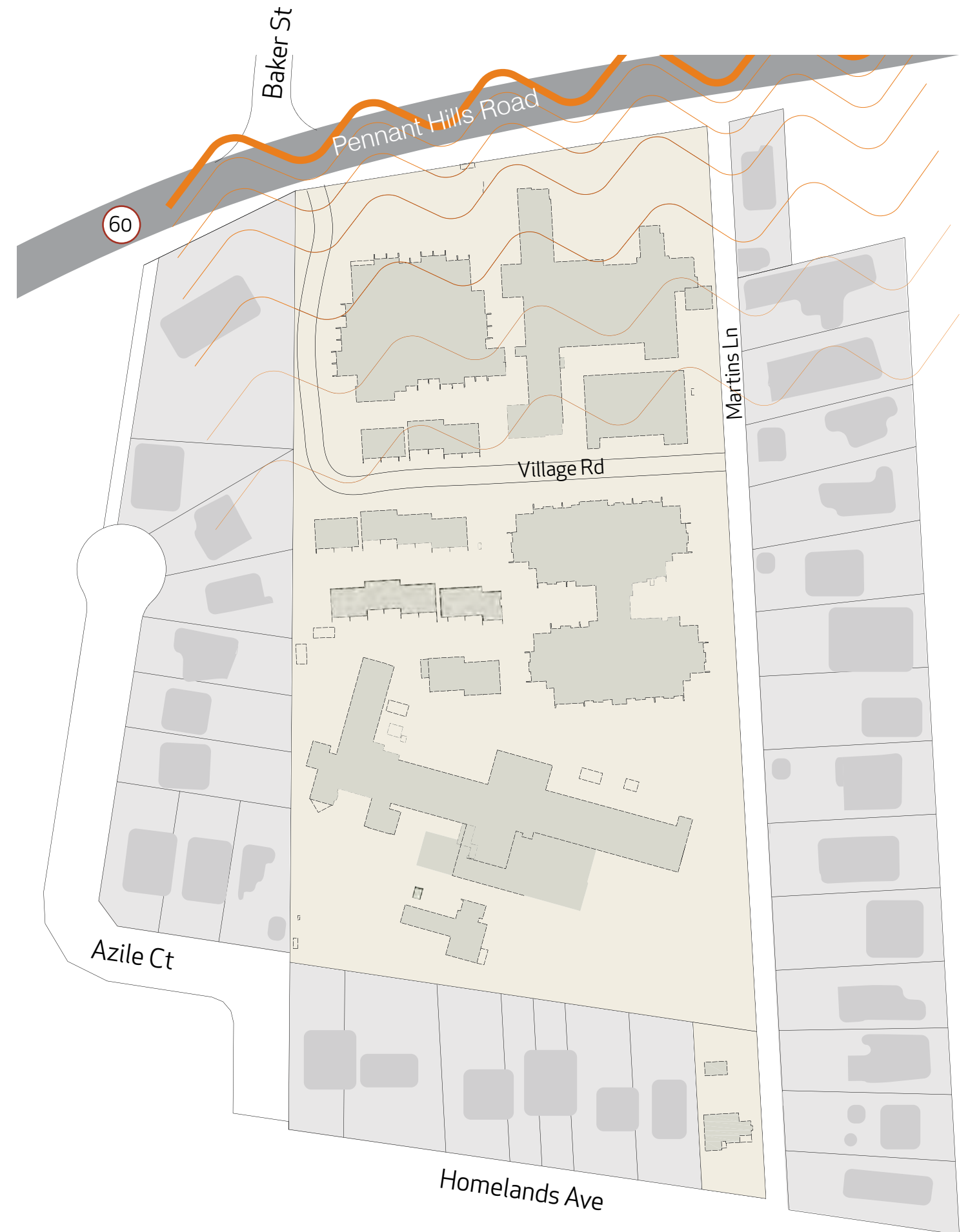
2.7 NOISE

Pennant Hills Road is a major arterial road. In this area it has a speed limit of 60km per hour and currently carries approximately 14500 cars per day on average (RMS 2012 AADT).

An acoustic report was commissioned by BaptistCare. A study was undertaken by Acoustic Logic, dated 9 January 2015, detailing results of attended and unattended traffic and background acoustic measurements. The report indicated that the traffic noise levels measured on Pennant Hills Rd are very high and require design strategies to mitigate noise. Recommendations include setbacks from Pennant Hills Road of approximately 15m and acoustically appropriate glazing and wall construction systems.

Key

- Subject site
- Existing buildings



Noise



3.1 DESIGN PRINCIPLES

Neighbourhood Amenity + Streetscape

MAINTAIN REASONABLE NEIGHBOURHOOD AMENITY AND APPROPRIATE RESIDENTIAL CHARACTER BY:

- + Providing appropriate building setbacks from side and rear boundaries to achieve reasonable privacy, landscaped buffers and prevent overshadowing
- + Providing increased setbacks to Pennant Hills Road to reduce the impact of road noise nuisance and to enable a significant landscaped buffer and appropriate streetscape presentation
- + Using building form and siting that relates to and respects the site's land form
- + Considering, the relationship of buildings on the boundary, with their neighbours

Landscape

BUILD ON THE EXISTING SITE'S NATURAL AND CULTURAL FEATURES IN RESPONSIBLE + CREATIVE WAYS

- + Retain and protect existing native trees where possible
- + Promote indigenous plant species that reflect the regions character of Turpentine-Ironbark Forest and Blue Gum High Forest
- + Provide habitat and biodiversity for local endemic flora and fauna through local endemic plant material
- + Through planting, provide form, enclosure, texture and colour within the public and private domain
- + Link the new buildings and public domain through Water Sensitive Urban Design initiatives
- + Provide good design in open spaces with a unique character, amenity and diverse opportunities for active and passive recreation
- + Provide deep soil zones within 6m of the Pennant Hills Road frontage and provide native planting as a visual buffer to apartment frontages
- + Provide deep soil zones within 3m of side and rear boundaries and provide native planting on boundaries as visual buffers between adjoining properties

Solar Access

ENSURE ADEQUATE DAYLIGHT TO MAIN LIVING AREAS OF RESIDENTS AND ADEQUATE SUNLIGHT TO SUBSTANTIAL AREAS OF PRIVATE + COMMUNAL OPEN SPACE

- + Comply with the rules of thumb set out in the RFDC
- + Position buildings to minimise or eliminate overshadowing onto adjoining properties

Accessibility

ENSURE A SAFE AND ACCESSIBLE DEVELOPMENT

- + Have obvious and safe pedestrian links from the site that provide convenient access to public transport services and local facilities, and
- + Widen the street reserve to Martins Lane to provide an attractive, and safer environment for pedestrians and motorists with convenient access for residents and visitors.

Crime Prevention

THE PROPOSED DEVELOPMENT SHOULD PROVIDE SECURITY FOR RESIDENTS AND VISITORS AND MINIMISE OPPORTUNITIES FOR CRIME

- + Site planning that allows observation of the approaches to a dwelling entry from inside each dwelling and general observation of public areas, driveways and streets from a dwelling that adjoins any such area, driveway or street, and
- + Where shared entries are required, providing shared entries that serve a small number of dwellings and that are able to be locked, and
- + Providing dwellings designed to allow residents to see who approaches their dwellings without the need to open the front door.



Access links and relationships



Green space links

3.2 STRUCTURE PLAN

Following the analysis of constraints and opportunities for the site an indicative master plan was proposed based on the design principles shown in the attached Structure Plan.

Desired Future Character

Residential development for 264-268 Pennant Hills Road, Carlingford will be generally in the form of residential flat buildings and multi-dwelling housing.

Buildings will be well setback from Pennant Hills Road and screened from the roadway with a suitable landscaped buffer. Taller buildings will be located in the centre of the site and will transition downward in scale at the site perimeters toward the surrounding lower density residential areas. Where buildings adjoin low density residential zones a maximum 4 storey building height will apply, with upper level setbacks to the building envelope where it has frontage to a boundary.

Buildings will be designed to respect the topography of the land and the protrusion of basement car parking above ground level is to be minimised. Stands of mature native trees that contribute to the quality of the landscape will be protected where possible or replaced with suitable species in the redevelopment of the site.

A large, single parcel of communal open landscaped space is to be provided with opportunities for passive recreation, adequate solar access in mid-winter and good connectivity to the street network and pedestrian links to the existing bus stop in Pennant Hills Road.

The road reserve to Martins Lane is to be widened to enable an improved landscaped pedestrian link to be provided between Homelands Avenue and Pennant Hills Road and left turn in to Martins Lane from Pennant Hills Road. The orientation and layout of the future development on the site will ensure that every building entry lobby can be seen from street frontages. Street/mews frontages are to be activated with individual garden entries to ground floor apartments maximising opportunities for passive surveillance.

The design of the buildings will ensure that solar access is achieved within the development to enable an appropriate level of amenity to be achieved for future occupants. The design will incorporate opportunities for natural ventilation to contribute to the environmental efficiency of the development.

- ① Provide a generous setback to Pennant Hills Road. To be landscaped to mitigate noise impacts and allow for taller built form
- ② Widen Martins Lane to accommodate pedestrian access, and an adequate landscape buffer to neighbours. Existing mature trees to be retained
- ③ Provide new private roads to give adequate address to all buildings
- ④ Provide large communal open space to enhance amenity and preserve scenic quality
- ⑤ Strategically locate taller built form away from boundaries to minimise visual and shadow impacts to neighbours and allow for larger communal open space
- ⑥ Retain where possible all significant trees and vegetation particularly endangered species
- ⑦ Work with existing topography to provide an integrated design
- ⑧ Provide a minimum 6m setback that increases to 9m in zones of critical proximity
- ⑨ Modify existing road configuration to enable vehicles to turn left in and left out at Pennant Hills Road
- ⑩ Provide a minimum 6m setback
- ⑪ Provide a clear pedestrian link through the site to existing bus stop
- ⑫ Widening of Pennant Hills Road Parramatta LEP 2011



3.3 ILLUSTRATIVE CONCEPT MASTER PLAN

Community

Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in greater aesthetic quality and amenity for both occupants and the adjoining public domain. Landscape design builds on the site's existing natural and cultural features in responsible and creative ways. It enhances the development's natural environmental performance by coordinating water and soil management, solar access, micro-climate, tree canopy and habitat values. It contributes to the positive image and contextual fit of the development through respect for streetscape and neighbourhood character, or desired future character. Landscape design should optimise usability, privacy and social opportunity, equitable access and respect for neighbours' amenity, and provide for practical establishment and long term management.

Good pedestrian connectivity and both passive and active outdoor recreational opportunities should be implemented into the sites layout and design proposal.

Vegetation

Existing native trees should be retained and protected throughout the site. All conclusions and recommendations in terms of the tree management [pruning and removal] from the 'Tree Risk Assessment' dated 08 July 2014 by McArdle Arboricultural Consultancy should be implemented. An opportunity exists to create a native buffer zone along Pennant Hills Road, where trees to be removed can be replenished with species from the Blue Gum High Forest community.

WSUD

An opportunity exists to link the new buildings, public domain and communal spaces through water sensitive urban design, WSUD. This can be undertaken by creating rain gardens, bioswales, biosinks, water polishing ponds, wetlands and other constructed ecologies which can detain, retain and reuse water. A water management strategy should be implemented for any development. The landscape architect in collaboration with the hydraulic and civil consultants can develop a integrated storm water design throughout the site.

Yields

This illustrative master plan has been informed by reference to council's DCP and site specific controls which have been developed for the site.

LEGEND

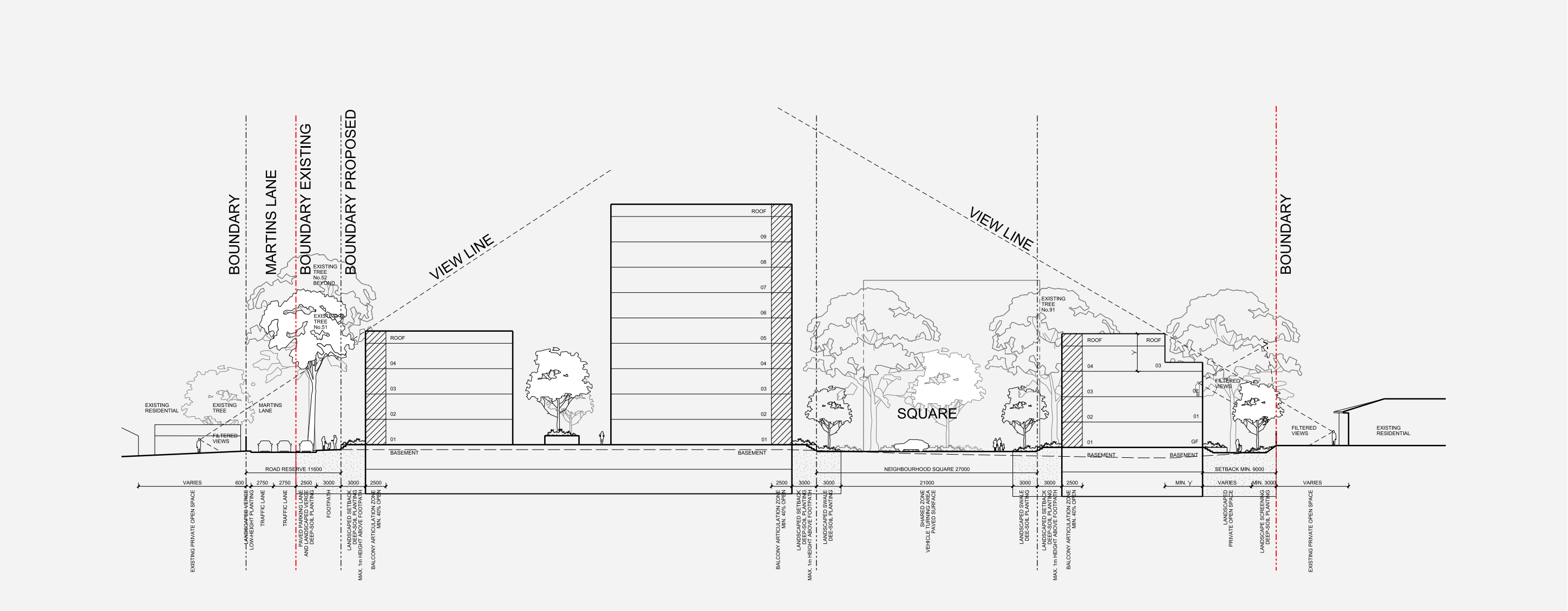
- 1 Screening Vegetation - Blue Gum High Forest Planting
- 2 Community Parkland
- 3 BBQ Arbour and Function Room
- 4 Kids Play Area
- 5 Shared Zone - Neighbourhood Plaza
- 6 Community Garden
- Site Boundary
- Lot Boundary
- Existing Contour Line
- Architecture Above
- Architecture Below
- Road Pavement
- Car Parking Bay Pavement
- Pedestrian Pavement
- Shared Zone Quality Pavement
- Gravel Pavement
- Timber Pavement
- Private Decking
- Seating
- Recycling Bin Enclosure
- Private Seating
- Fence
- Lawn
- Native Shrubs and Groundcover Mix
- Native Grassland
- Wetland/ Bio-Infiltration/ Raingarden
- Trees
 - Existing Tree to be Removed
 - Existing Tree to be Retained
 - Proposed Native Tree
- 2 Height of buildings (storeys)



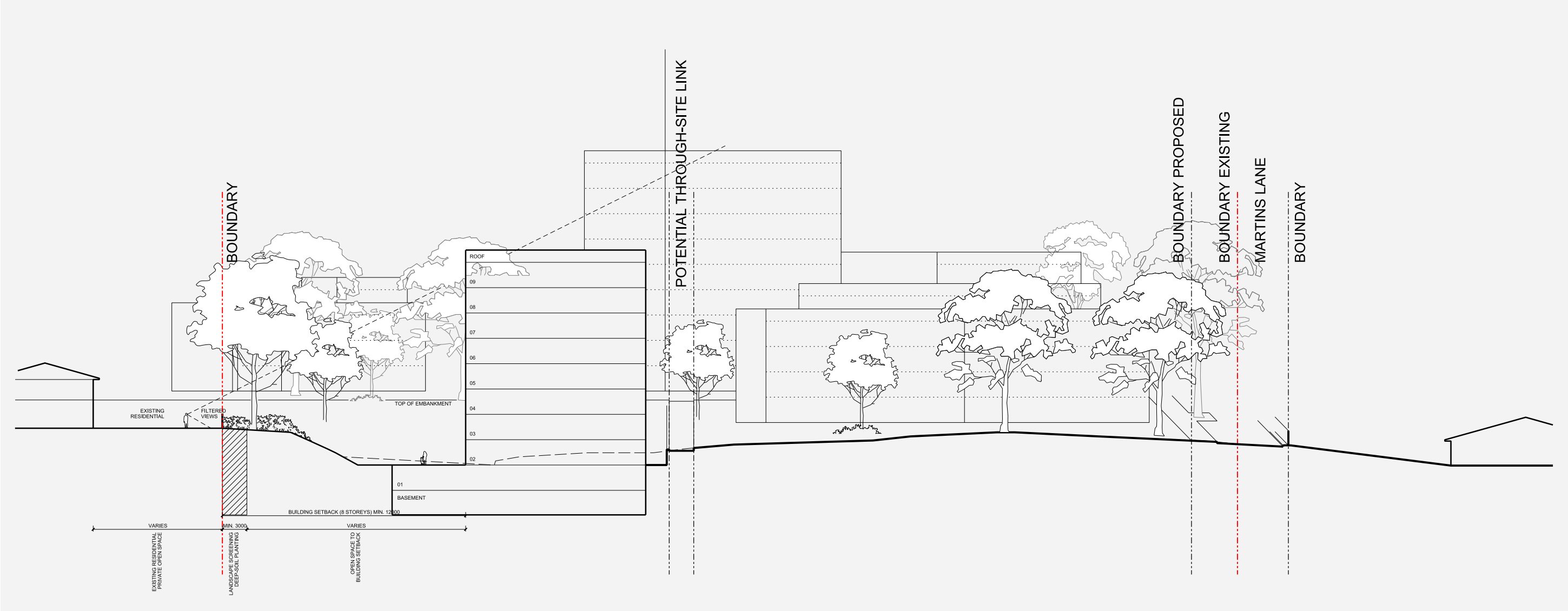
3.4 SECTIONS

Indicative sections to indicate street type and streetscape quality.

Building heights have been formed with regard to view lines from neighbouring properties. These view lines are established at 1.5m above ground level. Proposed building forms step back at upper levels to reduce perceived bulk and height.



Section A



Section B

3.5 APPROXIMATE YIELD

The illustrative concept master plan has been assessed to provide the following yields.

Residential numbers and mix

Building	Unit Type	Studio	1B	1B+St	2B	3B	3B Townhouse	Total
	Mix	0%	5%	19%	59%	12%	4%	100%
	Average NSA	40	52	60	85	105	125	81
		0	17	67	209	44	15	351

Site Efficiency	Site	Roads and links	Open space	Commercial lots	Residential lots	Site Coverage
Area	28,286	5,912	819		20,198	
Percentage		21%	3%		71%	38%

Car parking rates

Apartment type	Min. spaces/unit
Studio	0.60
1B	1.00
1B+St	1.00
2B	1.25
3B	1.50
3B Townhouse or Villa	1.50
Visitor	0.25
Carshare	1 space

Site Summary

Total GFA	33,955
Site Area - Total	28,286 m²
FSR - residential	1.2 :1
FSR - non residential	0.0 :1
Gross FSR - total	1.2 :1
No. of apartments	351
No. of cars	426

Definitions

- FSR is Floor Space Ratio = GFA (LEP)/Site Area
- GFA is Gross Floor Area measured as defined by the governing Local Government Authority
- Site Coverage is the Buidling Footprint plus basements extending beyond the footprint
- all areas are measured in square metres
- all numbers are calculated with decimal places and then rounded up or down to be stated as whole numbers



4.1 VIEW ANALYSIS

A view analysis study was undertaken to determine the impact of new development on existing view lines toward the site.

Refer to the key plan for viewing locations.

Methodology

The surveyor, Mepstead & Associates, was commissioned to provide the relative height of each viewing location in AHP.

Photographs were taken using a 35mm lens with the camera set up to be at 1.5m above the ground, level and horizontal. The computer model was prepared using a matching focal length to the photograph. New trees were assumed to be 20m high.

Conclusion

The view analysis shows that:

- + The scale of the buildings at the perimeter of the site relate to the desired future character and scale of the adjoining R4 zoned land where applicable.
- + The use of upper level setbacks in built form adjacent to boundaries provides a transition in scale to adjoining low density residential zoned sites.
- + The use of a deep soil zone along common boundaries will enable mature tree planting to form an additional visual buffer



4.2 SHADOW ANALYSIS

Due to the sloping and banked nature of the site, impacts from overshadowing on neighbouring properties are minimised.

The existing trees, due to their height and scale, cause overshadowing on neighbouring properties. Notwithstanding, any impacts on adjoining properties, as a result of redevelopment of the site, will need to ensure that overshadowing impacts on adjoining properties are minimised or not exacerbated.





Winter Solstice - 9am



Winter Solstice - 12pm



Winter Solstice - 3pm

The concept layout plan was modelled in relation to the existing context to ascertain impacts of overshadowing by new development.

There is some overshadowing of properties to the east of the site after 2pm. However, existing trees, up to 30m high, contribute to overshadowing of these properties in the existing context. On the western side there is no additional overshadowing impact after 10am.