Hill Thalis
Architecture + Urban Projects

07 October 2025
Project No. 25.16 PT/JB

Trophy Avenue, Garden Suburb

SEPP (Housing) 2021 Chapter 4 | Schedule 9 | Design Principles Report

As part of the NSW Government's commitment to increasing the supply of affordable housing, Landcom has a commitment to deliver affordable housing on all projects – 10% in metro locations and 20% in regional locations. As part of this commitment, Landcom intend to deliver 69 affordable housing dwellings across two lots within the Landcom Garden Suburb Project site. Landcom is seeking to deliver the proposal as 'development without consent' through the State Environmental Planning Policy (Housing) 2021 (Housing SEPP) by way of a Review of Environmental Factors (REF) under Part 5 of the Environmental Planning & Assessment Act 1979.

1.0 Schedule 9 Design principles

1.1 Context and neighbourhood character

An ideally located site surrounded by native vegetation.

Located on Awabakal Country, this combined 7,617m^2 site sits on the southern side of Myall Road, within a native vegetation corridor of remnant Hunter Coast Lowland Apple-Bloodwood Forest. The 2 parcels - Lot 67 to the east and Lot 68 to the west - flank the new Trophy Avenue, which gives primary access to a new 66 lot subdivision beyond to the south.

Situated on the land in the greater Newcastle area, the site is approximately 10km south-west of Newcastle's city centre. It is part of the greater Lake Macquarie region, and is equidistant from the town centres of Charlestown, Cardiff, and Kotara. These town centres provide residents with a range of services and public facilities.

Myall Rd serves as the main transportation artery through the area, connecting the Newcastle Inner City Bypass with Macquarie Rd. A network of suburban streets branch off from Myall Rd, with common features of the area being low density residential dwellings, expansive lawned areas, meandering streets, cul-de-sacs, and limited through traffic.

The dominant form of transportation in the area is that of the private car, with most services being a 5-minute drive away (or 35-minute walk). However, the site is considered an accessible area, with two regular bus routes operating within a 400m radius from site, with a bus stop directly in front of the site.

Garden Suburb Neighbourhood Context

Garden Suburb is generally a low-density residential suburb in a beautiful natural setting. Several catchment areas within the suburb drain into Tickhole & Winding Creeks, linking the area down to Cockle Bay and Lake Macquarie beyond. Areas around Winding Creek are identified as having flood risk.

Crown Lands border the suburb to both the north and south, with several Reserves, Ovals, Parks and community facilities adding to the extensive network of green open spaces.

The Central Coast & Newcastle train line crosses the suburb along its northern edge, but the nearest stations sit in the adjoining suburbs of Cardiff and Kotora.

Similarly to the surrounding suburbs, the Garden Suburb is part of the ribbon development along this railway line, with suburban subdivisions slowly usurping native vegetation.

Subdivisions within the suburb have a typical frontage of approximately 20m, resulting in street elevations dominated by driveways and garages. Older subdivisions have, on average, a depth of ~90m, with newer subdivisions being less than half of this.

The northern limit of the suburb is defined by a vegetation corridor along the train line and Main Rd beyond. The southern border is defined by a fire trail between extensive sections of remnant native forest and the Suburb of Hillsborough. To the east, Newcastle Inner City Bypass and Marshall St establish the border with Kotara, and to the west a non-linear border adjoins Cardiff.

Heritage Context

Gadigal Lands
Level 4, 15 Foster Street Surry Hills, NSW 2010
+61 2 9211 6276
hillthalis.com.au

Philip Thalis NSW ARB #6780
Sarah Hill NSW ARB #5285
Nominated Architects
ABN 36 002 939 406

The suburb received its name at its time of subdivision in 1918 from the garden city movement in England and follows several of its design principles.

The LEP for Garden Suburb does not include any items of General, Archaeological, or Landscape significance, nor do any Conservations areas exist.

In addition to this, the LEP does not currently list any areas as Sensitive Aboriginal Landscapes. A search of the Aboriginal Heritage Information Management System (AHIMS) did not indicate any recorded Aboriginal sites on the proposed Lot, but items were recorded in the surrounds. However, there are several instances in the area of what may be contemporary scarification of trees. Given the presence of several First Nations organisations in the area, including Youloe-ta Indigenous Development Association, Yamuloong, and Kirinari Hostel, there is the opportunity for cultural practices to continue in the area.

Strategic Context

As a planned partnership between Landcom and NSW Crown Lands the intent of this project is to deliver 100% Affordable Housing, with a minimum of 20% universal housing. Delivery will be via Landcom's Self-Assessment pathway for built form, with the additional aspiration of achieving a 4 Star Green Star Building rating.

A Positive Street Presence

To the north of the proposed development, low density housing presents rear yards to Myall Rd. This condition continues in both directions but flips to front presenting elevations 300m to the west. The bulk of the remaining Myall Rd streetscape is either vegetation or open space.

To the south of the subject Lots 67 and 68 the proposed subdivision will continue this low-density typology, presenting a mix of front and side yards to Premier Circuit. Currently these lots have been cleared, with the exact character of future development yet to be determined.

As a result of sitting between these two conditions, the proposed development presents elevations to three different streets: Myall Rd, Trophy Ave & Premier Circuit.

Trophy Ave is at the mid-point of this elevation, between Lots 67 & 68. In response, the elevation acknowledges its role as a gateway to the larger development by inflecting and opening to the subdivision beyond. For this reason, it is proposed that Trophy Ave be considered as the primary residential address.

Two ranges of 3 storey apartment buildings flank Trophy Ave and provide well-defined frontages to Myall Rd and to the reserve to the east.

The setback along Trophy Ave varies between 3.5-6m in response to building typology and scale. Several utilities and services are present along this elevation, but a key feature is the entry points to the development and substantial shared open spaces beyond. In response to topographic variation, this elevation steps down the street, with the medium-density portions of the proposal sitting to the lower southern end of the avenue.

The street frontage along Premier Circuit is defined by a medium-density terrace typology that steps down the Circuit in pairs. This elevation is predominantly setback 3.5m, reducing to 2.5 on the second storey where bay windows are introduced.

Overall, the design responds to its site conditions, appropriately addressing the Road, Avenue, Circuit and Park frontages.

1.2 Built Form and Scale

Site Planning

For projects of this type and scale, the site plan is crucial. Given there are no adjoining buildings within 40m of site, and nothing of a similar density or scale within the suburb, this proposal can set a positive precedent for future development.

Given this development is self-assessed by Landcom, reference has been made to several planning documents for guidance, including the Lake Macquarie Development Control Plan (with a focus on Parts 3, 9.11, & 9.13), NSW Apartment Design Guide, DPIE Low Rise Housing Diversity Design Guide, and Liveable Housing Design Guidelines.

Using these documents as a guide, setbacks are tailored to the particular site conditions, and to each boundary:

- The front (north) to Myall Road has a setback of no less than 5m to the face of balconies (6m to building line) as established by the landscape setback control. This frontage does not extend all the way to the eastern or western boundaries; to the west a 29m APZ separates the frontage from the adjacent bushland; to the east the geometry of the road results in a Council verge of substantial scale that provides additional screening as the frontage transitions to the adjoining park and its playing field. The proposal is split in its middle by Trophy Avenue, with the elevation stepping back approx. 6m from these perpendicular boundaries, resulting in a separation of approx. 34m between buildings.
- The rear (southern) to Premier Circuit has a setback of 3.5m, reducing to 2.5m on the first floor where bay windows overhang the entry below. This allows for front yards to each terrace that navigate the stepping terrain, various elevational changes, provide deep soil gardens, obscured locations for waste storage, and shared landscape areas with the street.
- The setbacks to Trophy Avenue vary between 3.5-6m, with the higher density apartments stepping further back from the intersection with Myall Rd to reduce

overshadowing and leverage their position as an entry to the subdivision beyond. One third of this elevation is dedicated to shared landscape between the proposed developments.

– Generous deep soil gardens separate the apartment buildings from the terraces houses to their south. These garden areas exceed the 12metre separation in the ADG, and will provide a green outlook and landscape resource for all to enjoy.

The project gains outlook and daylight from all orientations. The extensive setbacks and central communal gardens will allow trees to grow in deep soil, with extensive planting to provide a green outlook for all to enjoy.

Building Organisation

The design places a pair of three storey apartment buildings along Myall Rd, and (18) two storey terraces along Premier Circuit.

The residential floors of the apartments on Lot 67 accommodate (30) dwellings, with a mix of (18) one-bedroom; (9) two-bedroom; and (3) three-bedroom apartments. (5) of the two-bedroom apartments have been designed to be adaptable. This L-shaped building is into two wings, each serviced by a lift and a single open stair, accessed via an external single loaded corridor along the building's southern and western elevations.

The residential floors of the apartments on Lot 68 accommodate (21) dwellings, with a mix of (15) one-bedroom; and (6) three-bedroom apartments. (1) of the one-bedroom, and (3) of the three-bedroom apartments have been designed to be adaptable. This building is serviced by a single lift and two open stairs, accessed via an external single loaded corridor along the building's southern elevation.

Ground-floor apartments on both Lots are provided with landscaped courtyards. Of these, the north facing courtyards are also afforded access to the adjacent landscaped buffer via secondary entrances.

The open air but covered galleries provide communal circulation to both buildings, and ensure that all (51) apartments are cross ventilated.

More than 75% of the primary living spaces of the apartments get 6+ hours of direct sunlight between 9am-3pm in mid-winter, with the remaining 25% getting a minimum of 1 hour.

Each of these apartment buildings sits on top of a semi-basement car park that contains waste areas, building services, and all the on-site parking facilities. These basements are accessed via Premier Avenue, with the driveway on Lot 68 also serving as emergency access for the Rural Fire Service.

To the southern side of site, (18) two storey terraces align with Premier Circuit. (5) two-bedroom, and (1) three-bedroom terrace are located on Lot 67, and a longer run of (12) two-bedroom terraces are located on Lot 68. These terraces navigate the topographical changes on site by stepping down the slope in pairs. These terraces prioritise separation with the apartments to the north to maximise privacy and solar access to their northern yards and primary living spaces.

The main communal residential entry to both the apartments and terraces is centrally located and addresses Trophy Avenue via an entry porch and landscape elements. The shared landscape between the apartment and terraces offers high amenity and has been condensed into a central corridor in order to maximise deep soil, enabling robust planting within these areas. These communal gardens provide accessible paths to each component.

Building Scale and Urban Presence

The design brings a confident scale and urban presence, navigating between the conditions of Myall Rd and the proposed subdivision scale to the south. While being 2-3 storeys in height and having continuous elevations of ~50/60m long, surface articulation and a carefully considered response to topography result in a proposal that prioritises landscape and presents as a transitional suburban scale.

The facades on almost all side have balconies or courtyards to provide suitable articulation, amenity, and weather protection. The architectural expression is of well-scaled horizontal and vertical elements. The well-proportioned inset balconies of the apartments provide rhythm through both material and form, breaking up the horizontality of Myall Rd. The pairing of the terraces and articulation of every second party wall serve to negotiate between the scale of the apartments and that of the lower density housing to the south. These moves combine consideration of modelling, environmental control, and privacy.

1.3 Density

Density Appropriate to Context

The proposed development complies with the applicable floor space control of 0.65:1. This is appropriate given the adjacent bushland and surrounding suburban context.

This development has a total of (51) apartments (subject to the ADG) and (18) Terraces (as attached single dwellings, technically not subject to the ADG) in a variety of configurations. The project adds to the area's housing stock, with a range of affordable dwellings suitable for either singles, couples or small family groups, and continues Landcom's commitment under the Housing Accord to deliver 1,800 affordable dwellings by 2029.

The site will be particularly attractive to those interested in taking advantage of Garden Suburb's many ovals, reserves,

bushland, waterways, nearby town centres, schools, and employment in the wider area.

The individual apartment plans are tailored to the particular site conditions, very cognisant of orientation and urban situation.

Therefore, the proposed development provides an appropriate type of accommodation that supplements the LGA's existing housing stock. The purposeful site planning, generous setbacks, extensive landscape areas and the high levels of amenity throughout demonstrate that the project is not an overdevelopment of the site.

Density promoting housing choice

A mix of plans are proposed, with diverse architectural characters and qualities. The (69) new dwellings offer a range of sizes and internal arrangements, tailored to the particular site conditions.

The mix of dwellings comprises;

- 33 x one-bedroom apartments;
- 9 x two-bedroom apartments;
- 9 x three-bedroom apartments;
- 17 x two-bedroom terraces (not subject to ADG controls)
- 1 x 3-bedroom terrace (not subject to ADG controls)

All ground floor dwellings have direct access to private courtyards/gardens, and their own verandahs

All apartment sizes exceed those in the ADG, and there are a number of apartments with generous, or multiple balconies.

Therefore, the proposed development provides a mix of accommodation to support the needs of a future population. The high levels of amenity achieved demonstrate that the project is appropriate to the site.

1.4 Sustainability

BASIX

The project is fully compliant with BASIX. The roofs will have solar collectors and water tanks are provided for retention and irrigation.

Green Star

The project achieves the targeted 4-star Green Star Building rating.

Waste Management

Effective management of operational waste is achieved via the provision of dedicated and appropriately sized waste storage areas in the basements of each apartment building. Waste storage areas are also provided in the southern yards of each of each individual terrace. In each of these locations, allowance for separate waste streams has been provide for in the form of general waste, recycling, green waste, and bulk storage. Access to these areas has been designed to be safe for occupants, building managers, and waste collection contractors.

The buildings envelope will be comprised of responsibly manufactured products including prefinished metal facade panels and fibre cement sheet, both mounted on lightweight insulated frames. The ground floor of the apartment buildings will be face brickwork, while the end walls of the terrace houses with be blockwork.

Pollutants entering the building will be minimised, and a high level of fresh air will be provided to ensure levels of indoor pollutants are maintained at acceptable levels.

Compact Living and Urban Renewal

The development of this site promotes compact town planning principles and is consistent with a raft of planning objectives.

Sunlight and daylight

The substantial majority of apartments receive controlled solar access to living areas and their various balconies and terraces. All windows and sliding doors have projecting hoods and wide balcony overhangs. Winter sun will penetrate deep into many apartment plans have a considered depth to facade ratio. The setbacks and screen planting provide privacy to the neighbours on the north, west and south boundaries.

The site planning and building design maximise the benefits of passive solar design to all dwellings, as measured on the shortest day of the year;

- 42 of 51 dwellings (82%) exceed the 2 hours mid-winter sun between 9am and 3pm – well in excess of the 70% ADG requirement. The remaining 9 apartments receive sun between 9am to 10.45am, and before that they receive sun from sunrise, so are considered acceptable;
- All 18 terrace houses receive 2 hours mid-winter sun between 9am and 3pm, and many receive substantially more
- Exceeding the minimum standard, a good percentage receive sun for full 6 hour 9am – 3pm period;
- There are no single orientation south dwellings (0%), whereas the ADG allows up to 15% receive no winter sun.
- All dwellings have private outdoor space that is open to sun and green outlook;
- The projecting eaves, hoods and balconies ensure that there remains adequate protection from summer sun and heavy rain.

Passive cross ventilation

All primary private open spaces open directly off living rooms and offer protection from direct sun to interiors in summer. All 69 out of 69 dwellings (100%) have excellent cross ventilation – well in excess of the 60% ADG requirement. The dwellings have been arranged to exploit good cross flow ventilation and will enjoy the ability to manipulate differential air pressures through the careful selection of window types on opposing elevations.

Most dwellings can be cooled via passive means through their open cross sections and corner positions, which can be assisted with air movement by ceiling fans, boosted if desired by air conditioning.

Passive sun control

Sun control, in the form of inset balconies, roof and awning overhangs, deep reveals, the planting and the like is provided to living area and habitable room windows which have west, east or north orientation.

Minimising energy usage

Through the detailed design, energy use is also be reduced by;

- All kitchens are within 8 metres of operable windows, and a good percentage are on the façade with openable windows;
- The careful selection of elements such as low energy bulbs to common areas, motion sensor lighting and the like;
- All lobbies and common stairs on all levels are open air, with excellent natural light and ventilation;
- The roofs are fully insulated.

The gardens and associated planting aid the creation of a suitable micro-climate, especially in the courtyard spaces.

1.5 Landscape

Landscape Design

The site was previously bushland with mature trees, which have all now been cleared prior to the commencement of this design. Across both sites, this proposal has 3 510.1m^2 deep soil planting for more 46.1% of the site area. The ADG only stipulates 15% deep soil landscape area for sites of this size.

The deep soil is provided around the front, side and rear boundaries, to allow the planting of larger trees. The central courtyards on both Lots 67 and 68 have continuous planting, with deep soil to allow the sustainable growth of perimeter planting, to the benefit of both future residents.

The concept landscape design has been carried out by a qualified landscape architect. The design takes advantage of the site conditions and features large communal courtyard gardens, perimeter landscape and courtyard gardens for the ground level apartments.

Communal Open Spaces

The proposal provides future residents with a variety of communal landscape spaces for the use and enjoyment;

- The central courtyards on both lots act as the primary address point for all houses and apartments. They are both readily accessible for all residents as they are connected by compliant ramps and stairs. The 25m^2 private courtyards of the terrace houses open to the generous communal open spaces.
- The central courtyards are open to the car parks on both lots and connected by common stairs to the apartments access galleries above.
- The upper levels have generous, roofed access galleries as part of the communal circulation system, with ample opportunities for residents to personalise these generous spaces with their own planting.
- A 5 metre wide landscape setback is provided along the entire Myall Road frontage.
- The western part of Lot 68 is affected by an asset protection zone (APZ) and so has limited planting potential. Nonetheless the landscape architects have proposed informal play areas in this setback.
- Landcom's landscape architect have also proposed new tree planting in both Trophy Avenue and Premier Circuit to the south as part of the wider subdivision.

Communal Open Spaces within the site total 3 240.6m^2 on GF. Together, these communal spaces occupy 42.5% of the site area (the ADG targets 25%).

The combination of these varied communal spaces will give future residents multiple opportunities to enjoy landscape spaces within the site. There are many extraordinary landscape spaces publicly available within easy walk of the site.

1.6 Amenity

Well-planned Arrangement with High Amenity

The building form accommodates all dwellings with corner or cross flow ventilation. The combination of site planning, planting, window design, orientation and solar controls also maximise cooling in summer and heating in winter. The

distribution and apartment planning are all efficient, minimising corridor space and maximising habitable areas that open out to outdoor areas.

Limited Number of Apartments per Core

A fundamental characteristic of the project is the generosity of the communal gardens and circulation. This both individualises the apartment entries and ensures much better environmental performance for the apartments. The common stairs in the access galleries are spatially dramatic, with screened shelter from the elements while being open to light and air.

Well-Planned Apartments

All apartments are carefully planned to maximise useable area, amenity, storage and a sense of space. Every living room and bedroom in every dwelling complies with ADG minima. All apartment areas satisfy the ADG.

Appropriate Private Open Spaces

All dwellings have generous private outdoor spaces and are located to take advantage of sun and outlook. All balconies meet the ADG sizes as a minimum, and a number of dwellings have more spacious private outdoor spaces. Additionally, the communal circulation spaces are configured as generous open galleries, with additional potential for use, planting and socialisation.

Balcony Design

All balconies are of inset rather than projecting form, making them more useable for longer periods of the day and year. This also allows multiple rooms to open to balconies and allows a more complex play of light and outlook within the apartments. To the public frontages, the balconies have solid spandrels to ensure privacy, noise protection and a coordinated architectural presentation. Where privacy is less of a concern, the gallery access balconies have more open blade balustrades.

Privacy Between Dwellings

The provision of outdoor spaces has been arranged to ensure that each dwelling has ample privacy, both within the site and to neighbours. Careful consideration has been given to the dimensions of the courtyard gardens, as building separation well exceeds ADG minima of 12 metres, as the separation varies between 14.935metres and 17.740 metres.

The terrace houses have double height porches, with predominantly solid side walls for privacy.

All courtyard spaces are planted, with planting that will further assist privacy and microclimate.

Ceiling Heights

In conformity with SEPP Housing and the ADG, 3.15 metre floor to floor heights are provided in order to achieve 2.7 metre high ceilings as a minimum in all living and bedroom spaces.

Servicing and Car Parking Provision

Bike parking is conveniently located in secure areas within the car parks. Services and metering are compactly located with the car parking, which is located directly under the building footprint.

Garbage Rooms

Garbage rooms are conveniently located at grade beside the driveway entries. The bin rooms are all sized by a waste consultant.

Storage

All dwellings have adequate, ADG-compliant built in storage, and many apartments have considerably more storage than the ADG benchmarks.

1.7 Safety

Security within the site

Safety and security to both the street and within the site can be provided by passive surveillance from all apartments and terrace houses. The site perimeter is defined and the main street entry and side gates will have self-closing security gates with intercom. The car parks are wholly within the secure area.

Internally the clear and transparent circulation pathways and prominently-placed stairs provide the conditions for a safe and secure environment.

Access and safety

All communal areas, the gardens, the access galleries, the basements are all accessible. Access and BCA assessments have been carried out, and their recommendations incorporated into the submitted REF design.

1.8 Housing diversity and social interaction

Affordable Housing

As part of the NSW Government's commitment to increasing the supply of affordable housing, Landcom has pledged to deliver 1,800 affordable rental housing dwellings by 2029 under the Housing Accord. As part of this commitment, Landcom intend to deliver 69 affordable housing dwellings across the two lots within the Landcom Garden Suburb Project site.

The scheme utilises the Affordable Housing Floor Space and Height provisions and bonuses. This is a major contribution to boosting housing diversity and social inclusion in an area that is becoming more expensive.

Street Presence and Neighbourhood Interaction

The Garden Suburb location has a number of existing services, including buses and playing fields immediately adjoining the apartments. The site is suited to active residents who like to walk and cycle, and who would appreciate the proximity to the regional amenities and the environment of retained bushland.

A low brick wall presents along the Myall Road frontage, negotiating the levels while presenting individual addresses for the ground floor apartments. This presents an interplay and street activation for residents, visitors and passing pedestrians.

Housing Diversity

Remarkably the scheme has 12 different apartment configurations, from 1 to 3 bedroom apartments in various configurations. The apartments subject to the ADG range in area from 50m^2 to 106m^2. This provides excellent diversity and choice to support the community, and tailor to a range of housing needs and desires.

Additional to the apartments, there are 18 terrace houses, all 2 storey and 2 bedroom, except for the easternmost terrace which has an additional bedroom on the ground floor and is adaptable.

Adaptable Housing

The scheme includes 8 adaptable apartments and houses, 4 on each lot. Each of these dwellings has an accessible parking space, connected by an accessible path. In addition, all apartments are Silver Level. All apartments have wheelchair access to their front doors. All communal spaces at all levels can be visited by those less able. Paths are all at compliant grades, or more gentle wherever possible.

Communal facilities

Each lots' central gardens, entry promenades, open foyers, lifts, site facilities, and generous courtyards should all ensure a sense of community for the future inhabitants.

Circulation areas, including stairs and landings, are clearly denoted and have outlook to the garden spaces, and multiple oblique views between the upper levels down to the gardens at ground floor and beyond to the wider site and bushland.

The semi-basement parking areas are daylit and open to the courtyards. They have garbage rooms, stores, EV charging, service areas and bikes conveniently distributed. The open escape stairs are integrated with the landscape and give additional access to the car park level.

Communal Gardens

The project has exceptionally generous, well-designed communal gardens, which allow for casual socialisation and personalisation.

1.9 Aesthetics

Hill Thalis

Architecture + Urban Projects

Contemporary Housing in Garden Suburb

The scheme develops its architectural character from its location and associations; the façades' serene horizontal lines, balconies, galleries, hoods and eaves show that the environmental design are the generators of the architectural expression.

To the long Myall Road frontage, the project creates two ranges of 3 storey apartment buildings with a generous landscape foreground. The 4 prominent corners are each angled and articulated to the site geometry, with the central pair framing the site entry to Trophy Avenue.

A continuous 5m landscape setback is maintained, consistent with the overall site consent.

The character is understated, reinterpreting well-understood architectural elements to form a controlled contemporary design, with an emphasis on economy of means.

A controlled palette of materials

The project uses the following range of materials in a rational and coordinated design;

To the long Myall Road frontage, the project creates two ranges of 3 storey apartment buildings with a generous landscape foreground. A continuous 5m landscape setback is maintained, consistent with the overall site consent.

- The visible elements of the ground floor and some party walls are in a red-coloured brick. The ground floor will be made of robust materials in dialogue with landscape walls that establish a direct relationship to the adjoining street via gated garden courtyards and landscape features.
- within the car park, the structure will be an exposed concrete block
- Above the podium, vertically ribbed metal cladding of various scales will serve to balance the horizontality of the elevation. This will be reinforced by second storey balconies that are discontinuous, creating a double height expression. Balcony ingo walls expressed with coloured panels, will create a play between the dominant and recessive front-facing wall planes when moving along Myall Road, further enlivening the elevation
- a subtle range of colours will be used on the fibre cement sheeting within the balconies
- a large metal roof with generous eaves caps the design, serving as a model as the area inevitably increases in density over time

The facades will be complemented by the vegetation, which uses a palette of endemic plants to relate to the local environment.

Terrace House Design

The placement of this typology serves to bridge the medium-density housing along Myall Road with the proposed low-density housing to the south of the site. While the material of the terraces is similar to the buildings along Myall Rd, the scale and massing shifts, with block party walls establishing an expressive rhythm to negotiate the sloped topography and competing scales of surrounding development.

A rigorous architectural expression

The aesthetic qualities of the project develop from the calibrated site planning and building envelopes. The massing and scale, the gallery access, stepped form of the terraces, the thresholds to the street and courtyards all are carefully developed architecturally.

Environmental performance coupled with amenity

The architectural and landscape character express in a positive way the environmental and amenity objectives embodied throughout the design. For example, the balconies are designed to provide amenity with privacy, and have a rhythmic presence in the elevations. These are supplemented by the larger gathering spaces provided in the communal gardens.

A model apartment type

The form and scale of the facades create a model for infill housing in this part of Lake Macquarie / Newcastle. The design is a refined model for such types and can help set the direction for other new buildings in the vicinity.

The three-dimensional design provides appropriate modulation and the detail is resolved in a confident contemporary way.

Gadigal Lands
Level 4, 15 Foster Street Surry Hills, NSW 2010
+61 2 9211 6276
hillthalis.com.au

Philip Thalis NSW ARB #6780
Sarah Hill NSW ARB #5285
Nominated Architects
ABN 36 002 939 406

1.10 Summary of design quality features

The proposed transformation of Lots 67 and 68 on Myall Road in Garden Suburb has been carefully considered to achieve a high quality architectural and urban design resolution, including;

- The **site is ideal** for high quality apartments and terrace houses.
- The site is inset into a bush landscape and within walk of a range of transport and local facilities, and therefore is **ideally located for urban consolidation**.
- The project **provides a positive presence to its street frontage**, and car parking, escapes and services are discretely located.
- The scheme provides much-needed Affordable Housing for the community, thus **boosting housing diversity and social inclusion**.
- The project has a **distinctive architectural character and scale** that will be an appropriate addition to Garden Suburb.
- The **extensive landscaped spaces** provided, which include generous areas of deep soil planting, are of the equal benefit of future residents and the adjoining natural areas.
- The **communal courtyard gardens** offer environmental qualities, amenity and potential sociability for the future residents.
- The **communal terraces have an exceptional generosity** and character, and will offer residents and their visitors outlook to the surrounding bush landscape.
- Continuous **landscaped setbacks to each frontage** have been carefully considered.
- **Environmentally Sustainable Design (ESD)** has been holistically incorporated into many aspects of the project.
- The project will create a **high-quality residential environment** for future residents, offering a range of generous and well-planned apartments with character and high amenity.
- The proposal **satisfactorily considers the privacy** and interface with neighbouring properties.
- The project has such a **diversity of apartment sizes, types and configurations**.
- The resolution of urban, architectural, environmental and social design considerations demonstrates that the proposal is an **appropriate fit to its site and context.**
- The project **causes no overshadowing of neighbours in mid-winter.**
- The design to the Myall Road and Trophy Avenue frontage **considers both public and private views and is appropriate to its location.**
- The site's redevelopment provides contemporary residential accommodation, incorporating the principles of adaptability and accessibility, to **increase the housing choices available in Lake Macquarie.**
- Given the qualities of the proposal and the **high level of compliance with all SEPP (Housing Design) Design Principles,** with very good amenity well above ADG requirements.

2.0 Design Response to Objectives in Parts 3 and 4

OBJECTIVE	SUMMARY	ACTIONS	Compliance
	SITING		
3A-1	Site Analysis illustrates that design decisions have been based upon the opportunities and constraints of the site.	Extensive Context and Site Analysis submitted as part of REF.	Complies
3B-1	Building types and layouts respond to the streetscape and site while optimising solar access within the development	The pair of apartment buildings address existing Myall Road and the new Trophy Avenue, which are the primary public street frontages. Smaller scale terrace houses address Premier Circuit to the south. The open-ended and landscaped courtyards provide a sizeable buffer between the apartment buildings on Myall Road and the lower terrace houses on Premier Circuit, allowing public and private views through both sites. The proposal's solar access is well in excess of ADG minima.	Complies
3B-2	Overshadowing of neighbouring properties is minimised during mid winter	The site planning minimises overshadowing within the site, even in mid-winter. The shadow diagrams show minimal overshadowing to the south.	Complies
3C-1	Transition between private and public domain is achieved without compromising safety and security	Clear definition of and address to existing Myall Road and the new Trophy Avenue. 13 ground floor apartments have front gardens and front gates to address Myall Road, while all 18 terrace houses have gardens in the setbacks and front gates to Premier Circuit. Excellent surveillance of all adjoining areas. Perimeter fencing to site boundaries provided.	Complies
3C-2	Amenity of the public domain is retained and enhanced	A continuous brick plinth negotiates the levels, creating a robust and generous public-spirited interface with the existing Myall Road and the new Trophy Avenue. Currently unformed Myall Road frontage made more amenable with new kerbs, bus stop, continuous footpaths and new planting.	Complies
3D-1	An adequate area of communal open space is provided to enhance residential amenity and provide opportunities for landscaping	The proposal provides future residents with a variety of communal landscape spaces for the use and enjoyment;	Exceeds ADG and DCP requirements

		- Extensive communal gardens on both Lots 67 and 68, accessed by ramps, stairs and lifts - The entries to Trophy Avenue provide the primary address, with through connections at ground floor to the communal courtyard gardens. These gardens have a combination of private courtyards opening to more expansive communal areas - The courtyards are open to the semi-basement car parking Due to its excellent site planning this proposal provides a deep soil landscape area of 46.1% of the total site area. The ADG only stipulates a 15% deep soil landscape area.	
3D-2	Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting	Communal Open Spaces within the site total 42.5% of the combined site area. In addition to the communal landscape areas, a combination of communal and private gardens are located around the site perimeter. The combination of these varied communal spaces will give future residents multiple opportunities to enjoy landscape spaces within the site. In addition, there are many public landscape spaces available within walking distance of the site.	Complies
3D-3	Communal open space is designed to maximise safety	The communal open spaces are designed to maximise safety	Complies
3D-4	Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood	N/A	NA
3E-1	Deep soil zones allow for and support healthy plant growth. Min. deep soil zones <650sqm No min. dimensions 15% site area 650 – 1500 3m min dimension 15% site area ≥ 1500 6m min dimension 15% site area	Due to its compact site planning, this proposal provides a landscape area of 3 510.1m^2 (46.1% of site area) of the Landscaped Area) is deep soil planting. The deep soil areas vary between 3 and 6 metres in width. The deep soil is provided around the setback on all sides of site boundary to allow the planting of larger trees (within bushfire constraints). The side boundaries have continuous planting, with deep soil to allow the sustainable growth of screen planting to the equal benefit of the residents of this site and neighbours.	Exceeds ADG and DCP requirements
3F-1	Adequate building separation distances are shared equitably between neighbouring sites to achieve reasonable levels of external and internal visual privacy Height Habitable rooms/balconies Non habitable rooms	The proposal is well away from any residential neighbours, as future nearby properties are separated by Premier Circuit. There are no existing residential neighbours on this side of Myall Road.	Meets ADG requirements

	Up to 12m 6m 3.0m Up to 25m 9m 4.5m >25m 12m 6.0m	The apartment buildings are 3 storeys in height, in which case a 12 metre overall building separation applies. Both sites well exceed this dimension.	
3F-2	Site and building design elements increase privacy without compromising access to light and air and balance outlook and views between habitable rooms and private open space.	The site planning ensures full compliance with this objective. See comments on building separation above. The courtyards have mid-scale planting, further guaranteeing a green outlook as well as privacy.	Complies
3G-1	Building entries and pedestrian access connects to and addresses the public domain	The major residential entries to existing Myall Road and the new Trophy Avenue are clearly denoted. A civic-scaled brick plinth and garden wall addresses the new footpaths. Residents access the stairs and lifts from clear pathways off the entry and the landscaped courtyards. There are other secure secondary exits.	Complies
3G-2	Access, entries and pathways are accessible and easy to identify	The communal pathways and entrances are clearly legible, due to the site planning, landscape integration and architectural articulation.	Complies
3G-3	Large sites provide pedestrian links for access to streets and connection to destinations	This pair of higher density sites sit within an approved Landcom subdivision. The subdivision has new streets and walkways, and there are extensive public parklands to the east, accessed by new public stairs.	NA
3H-1	Vehicle access points are designed to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes	Each lot has two-way driveways off the Premier Circuit, designed with input from specialist Traffic Engineer, to comply with relevant standards regarding gradient, clearances and sightlines.	Complies
3J-1	Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas	N/A However, car and bike parking, adaptable spaces, are provided to the Affordable Housing requirements in the SEPP Housing.	Complies
3J-2	Parking and facilities are provided for other modes of transport	Bike parking provided. A bus stop is located on Myall Road.	Complies
3J-3	Car park design and access is safe and secure	Car parking designed with input from specialist Traffic Engineer, to comply with relevant standards.	Complies
3J-4	Visual and environmental impacts of underground car parking are minimised	Car parking in semi- basements, each lot with single compliant driveway entry. Car parking is fully integrated under the building footprint.	Complies

3J-5	Visual and environmental impacts of on-grade car parking are minimised	The car parking is not visible to the streets. Access is discretely organised from the rear street. The benefits of the design include; - limited excavation - easy access to the lifts, ramps and stairs - at grade escapes from basements - reduced mechanical ventilation systems required - Car park open to side garden, allowing opportunities for use and play	Complies
3J-6	Visual and environmental impacts of above ground enclosed car parking are minimised	Car parking under building footprints, integrated with site planning	Complies
	DESIGNING THE BUILDING		
4A-1	Optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space All other areas – a min. of 2 hours A max. of 15% receive no sun in mid winter	The site planning and building design maximise the benefits of passive solar design to all dwellings, as measured on the shortest day of the year; - The substantial majority of apartments receive controlled solar access to living areas and their various balconies and terraces. All windows and sliding doors have projecting hoods and wide balcony overhangs. Winter sun will penetrate deep into many apartment plans have a considered depth to facade ratio. The setbacks and screen planting provide privacy to the neighbours on the north, west and south boundaries. The site planning and building design maximise the benefits of passive solar design to all dwellings, as measured on the shortest day of the year; - 42 of 51 dwellings (82%) exceed the 2 hours mid-winter sun between 9am and 3pm – well in excess of the 70% ADG requirement. The remaining 9 apartments receive sun between 9am to 10.45am, and before that they receive sun from sunrise, so are considered acceptable; - All 18 terrace houses receive 2 hours mid-winter sun between 9am and 3pm, and many receive substantially more - Exceeding the minimum standard, a good percentage receive sun for full 6 hour 9am – 3pm period; - There are no single orientation south dwellings (0%), whereas the ADG allows up to 15% receive no winter sun.	Exceeds ADG requirements

		- All dwellings have private outdoor space that is open to sun and green outlook; - The projecting eaves, hoods and balconies ensure that there remains adequate protection from summer sun and heavy rain.	
	2 hours min sunlight midwinter in Sydney/Newcastle/Wollongong	See above	Exceeds ADG requirements
	All other areas a min. of 3 hours	NA	NA
	A max. of 15% of apartments can receive no sun in mid winter	No dwellings (0%) are single orientation south, whereas the ADG allows up to 15% to receive no sun.	Complies
4A-2	Daylight access is maximised where sunlight is limited	See above	Complies
4A-3	Design incorporates shading and glare control, particularly for warmer months	Inset balconies, eaves, hoods, screen planting, glazing specifications and external landscape will allow all apartments to control solar access.	Complies
4B-1	All habitable rooms are naturally ventilated	All habitable rooms are naturally ventilated, and many living rooms receive light from two sides.	Complies
4B-2	The layout and design of single aspect apartments maximises natural ventilation	All single orientation apartments face north or north east, with inset balconies to allow a greater extent of perimeter with more ventilation options.	Complies
4B-3	The number of apartments with cross ventilation is maximised At least 60% of apartments are naturally cross ventilated Over all depth of cross over apartments in 18m max.	100% of apartments are cross ventilated. The building depth is much less that the 18m maximum set out in the ADG.	Exceeds ADG requirements
4C-1	Ceiling height achieves sufficient natural ventilation and daylight access. Min height of – Habitable rooms 2.7m Non habitable rooms 2.4m Two storey apartments 2.7m main living floor 2.4m for second floor (max. 50% area) Attic spaces 1.8m at edge of room 30° ceiling slope	3.15 metre to floor heights are provided throughout, in order to achieve 2.7 metre ceiling heights in all habitable rooms. No 2 storey apartments are envisaged. However, the 18 terrace houses meet these requirements	Complies Complies Complies
4C-2	Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms	Some opportunities on top floor apartments to have higher ceilings.	Complies

4C-3	Ceiling height contributed to flexibility of building use over the life of the building	Only residential accommodation proposed. 3.15 metre to floor heights are provided throughout, in order to achieve 2.7 metre ceiling heights in all habitable rooms	NA
4D-1	Layout of rooms within an apartment is functional, well organised and provides a high standard of amenity	All apartments are carefully planned to maximise useable space and a sense of openness. Furniture layouts are shown throughout. Every room complies with or exceeds ADG minimum width and area requirements	Complies
	Min. areas Studio 35sqm 1 bed 50sqm 2 bed 70sqm 3 bed 90sqm	All apartment sizes meet or exceed ADG requirements. The larger 2 and 3 bed apartments are suitable for families.	Complies
	Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms.	Refer architectural plans	Complies
4D-2	Environmental performance of the apartment is maximised	Refer architectural plans	Complies
	Habitable room depths are limited to a maximum of 2.5 x the ceiling height	Refer architectural plans	Complies
	In open plan layouts the maximum habitable room depth is 8m from a window	Many living rooms are placed on corners, many with 2 orientations. There are also many through living rooms in the larger apartments.	Complies
4D-3	Apartment layouts are designed to accommodate a variety of household activities and needs	Variety of apartment types and sizes provided, including garden apartments and larger end apartments	Complies
	Master bedrooms have a minimum area of 10sqm and other bedrooms 9sqm (excluding wardrobes)	All bedrooms equal or exceed these minimum areas	Exceeds ADG requirements
	Bedrooms have a minimum dimension of 3m (excluding robes)	All bedrooms equal or exceed these minimum dimensions	Exceeds ADG requirements
	Living rooms or open plan living have min width of 3.6m for studios/1beds 4m for 2/3beds	All living rooms equal or exceed these minimum dimensions	Exceeds ADG requirements
	Width of cross over apartments are at least 4m internally to avoid narrow layouts	N/A	N/A

4E-1	Apartments provide appropriately sized private open space and balconies to enhance residential amenity	All balconies meet or exceed ADG areas. All balconies, courtyards and terraces open from the major habitable rooms.	Complies
	Primary balconies Studio 4sqm 1 bed 8sqm 2m min depth 2 bed 10sqm 2m min depth 3 bed 12sqm 2.4m min depth	All balconies meet or exceed ADG areas and dimensions. Some apartments have extended balconies.	Complies
	Apartments at ground level or on podium have a private open space instead of a balcony. Minimum area is 15sqm and minimum depth is 3m	Although not subject to the ADG, the 18 terrace houses have courtyard gardens that open to the communal gardens	Complies
4E-3	Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building	The design of gardens, balconies and terraces is integral to the form and character of the scheme	Complies
4E-4	Private open space and balcony design maximises safety	All balconies and terraces have balustrades that comply with then NCC	Complies
4F-1	Common circulation spaces achieve good amenity and properly service the number of apartments	All common lobbies covered but open air, and have a dramatic cross section to open to the stairs, courtyards and terraces. 1 lift is provided to serve the 28 apartments on levels 1 and 2.	Complies
	Maximum number of apartments off a circulation core on a single level is 8	The design does not have a conventional closed core, instead being organised around open galleries and double height stair voids. Technically there are 7 apartments per stair, so complies.	Complies
	Fore buildings 10 + storeys, maximum number of apartments sharing a single lift is 40	N/A	N/A
4F-2	Common circulation spaces promote safety and provide for social interaction between residents	The Common circulation spaces are open and characterful, a distinctive part of the site planning. Generous in dimension and connected to the gardens, they are able to be personalised by the residents. Wayfinding is easily understood	Complies
4G-1	Adequate, well designed storage is provided in each apartment	Detailed in the REF architectural plans	Complies
	Studios 4m3 1 bed 6m3 2 bed 8m3 3 + 10m3	Detailed on the plans	Complies

4G-2	Additional storage is conveniently located, accessible and nominated for individual apartments.	Detailed on the plans	Complies
4H-1	Noise transfer is minimised through the siting of buildings and building layout	Setbacks are provided on all sides, and building separation well exceeds ADG minima. All interior separations to NCC requirements.	Complies
4H-2	Noise impacts are mitigated within apartments through layout and acoustic treatments	The internal planning of apartments allows for acoustic separation between bedrooms and living rooms, except in the studio apartments. No bedrooms are located on the gallery access.	Complies
4J-1	In noisy or hostile environments the impacts of external noise and pollution are minimised through careful siting and layout of buildings	The site is exposed to traffic noise along the Myall Road frontage, and the advice of an acoustic engineer is incorporated into the design. The site is in a natural setting, open to breezes.	Complies
4J-2	Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission.	Am acoustic engineer has provided input to the DA, and façade engineer will be consulted regarding the glazing specification.	Complies
4K-1	A range of apartment types and sizes is provided to cater for different household types now and into the future.	Yes – see schedule	Complies
4K-2	The apartment mix is distributed to suitable locations within the building.	Yes – see plans	Complies
4L-1	Street frontage activity is maximised where ground floor apartments are located.	Yes – see plans	Complies
4L-2	Design of ground floor apartments delivers amenity and safety for residents	17 the ground floor apartments and 18 terraces houses all have generous private courtyards, almost all with external access.	Complies
4M-1	Building facades provide visual interest along the street while respecting the character of the local area.	The building design creates an exemplar in the area, with a calm horizontal expression of expressed balustrades, with a base of red brick. The Myall Road facade has a double height verandahs.	Complies
4M-2	Building functions are expressed by the façade	Each apartment can be clearly identified on the facades. The character of the communal spaces is more continuous, and differentiated from the language and scale of the apartments.	Complies
4N-1	Roof treatments are integrated into the building design and respond positively to the street.	The roofs are low pitched metal roofs, with solar collectors as required.	Complies
4N-2	Opportunities to use roof space for residential accommodation and open space are maximised.	NA	NA

4N-3	Roof design incorporates sustainability features	The roofs have solar collectors. and some highlights.	Complies
4O-1	Landscape design is viable and sustainable	Full landscape design provided – refer landscape architects' plans and report.	Complies
4O-2	Landscape design contributes to the streetscape and amenity	Full landscape design provided – refer landscape architects' plans and report.	Complies
4P-1	Appropriate soil profiles are provided	Refer Landscape Design.	Complies
4P-2	Plant growth is optimised with appropriate selection and maintenance	Landscape design complies	Complies
4P-3	Planting on structures contributes to the quality and amenity of communal and public open spaces	Landscape design complies	Complies
4Q-1	Universal design features are included in apartment design to promote flexible housing for all community members	Yes – all common areas and dwelling entries fully accessible. Accessible car spaces already identified on ground floor plan, located convenient to the lifts. Adaptable plus silver level apartments are accommodated	Complies
4Q-2	A variety of apartments with adaptable designs are provided	Yes – see architectural plans	Complies
4Q-3	Apartment layouts are flexible and accommodate a range of lifestyle needs	Yes – see architectural plans	Complies
4R-1	New additions to existing buildings are contemporary and complementary and enhance an areas identity and sense of place		NA
4R-2	Adapted buildings provide residential amenity while not precluding future adaptive reuse		NA
4S-1	Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement.	Ground floor apartment and terrace house entries address the streets.	Complies
4S-2	Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents	This is achieved by the considered site planning, and typological arrangement.	Complies
4T-1	Awnings are well located and complement and integrate with building design	All residential entries have projecting overhangs – see architectural plans	Complies
4T-2	Signage responds to the context and desired streetscape character	Yes – subject to future detailed design	NA
4U-1	Development incorporates passive environmental design	Yes – proposal exceeds ADG minima for both solar access & cross ventilation	Complies
4U-2	Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer	Yes – proposal exceeds ADG minima in terms of both solar access and cross ventilation	Complies
4U-3	Adequate natural ventilation minimises the need for mechanical ventilation	Yes – exceeds ADG minima for both solar access and cross ventilation	Complies

		100% of apartments have cross ventilation. Almost all bathrooms and kitchens have openable windows in addition to mechanical ventilation.	
4V-1	Potable water use is minimised	Retention tanks provided following hydraulic engineer's design	Complies
4V-2	Urban stormwater is treated on site before being discharged to receiving waters	Detention tanks and water quality devices are to hydraulic engineer's design	Complies
4V-3	Flood management systems are integrated into site design		NA
4W-1	Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents	Waste storage areas are consolidated in basements and to Premier Circuit - refer Waste Report	Complies
4W-2	Domestic waste is minimised by providing safe and convenient source separation and recycling	Waste storage areas provided - refer Waste Report	Complies
4X-1	Building design detail provides protection from weathering	The façade design uses a limited palette of materials that have been selected for their durability. The roofs over-sail the building footprint. Paving of terraces and balconies will be on pedestals.	Complies
4X-2	Systems and access enable ease of maintenance	Considered throughout the design, to be further developed through Safe Design of Structures	Complies
4X-3	Material selection reduces ongoing maintenance costs	The main material and elements of the design are; - face brick base - concrete slabs and frame - infill metal siding to L1 and L2 walls to minimise maintenance - painted fc cladding on balconies, which can be maintained without the need for scaffolding.	Complies

10.0 CONCLUSION

The proposed design for Lot 67 and Lot 68 on Myall Road achieve a high quality architectural, landscape and urban design resolution.

The project will create a fine residential environment for future residents, with very good amenity and environmental performance well above ADG requirements.

Philip Thalis LFRAIA

Director **Hill Thalis** Architecture + Urban Projects

Registered Architect [NSW ARB registration number: #6780]

Hill Thalis Architecture + Urban Projects Pty Ltd