
500-520 Pacific Highway, St Leonards

**Independent SEPP 65 Assessment
Proposed Mixed Use Development**

For: Lane Cove Council
Date: November 2017

Architectus Group Pty Ltd
Architectus Sydney
Level 3 341 George Street
Sydney NSW 2000
Australia
T +61 2 8252 8400
F +61 2 2852 8600
sydney@architectus.com.au

Architectus Melbourne
Level 7 250 Victoria Parade
East Melbourne VIC 3002
T +61 3 9429 5733
F +61 3 9429 8480
melbourne@architectus.com.au

ABN 90 131 245 684
Managing Director Sydney:
Ray Brown
Nominated Architect
NSWARB 6359

This report is considered a draft unless signed by a Quality Assurance Manager or director



24 November 2017

Revision history

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A	22 November 2017	Draft Issue to Council
B	22 November 2017	Draft Issue to Council
C	24 November 2017	Revised Issue to Council

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Report contact:

Camille Lattouf
Associate Urban Planner, Architectus Group
camille.lattouf@architectus.com.au

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1.0 Introduction

1.1 Preliminary

Architectus has been engaged by Lane Cove Council over the last 18 months to undertake an independent assessment of the proposed mixed use development at 496-498, 500 and 504-520 Pacific Highway against SEPP 65 and the Apartment Design Guide (ADG).

Architectus has undertaken the following work as part of this engagement;

Stage 1

- 22 December 2015: Provided a preliminary letter containing a high-level assessment of the development application submitted.
- 07 July 2015: Architectus and Council met with the applicant to discuss our preliminary letter, issues raised and to walk through revised plans prepared by the applicant in response to our initial comments.
- 23 September 2016: Provided a comprehensive assessment of the revised DA package prepared by the applicant (submitted to Council in August 2016).

Stage 2

- October 2016: Architectus provided advice to Council in response to a submission made by the owner of 69 Christie Street regarding building separation.
- 04 October 2016: Architectus prepared a Safer by Design Report for Council.
- 11 October 2016: In response to issues raised by Architectus in our comprehensive assessment report (23 September 2016), the applicant provided an amended DA set of architectural drawings for review.
- 24 October 2016: Architectus (via email) issued Council a high-level assessment of the amended plans, specifically addressing the issues raised.
- 07 November 2016: Architectus and Council met with the applicant to discuss their amended architectural package. Architectus noted that an appropriately qualified and reputable consultant is required to test the design for cross ventilation performance.

Stage 3

- 10 November 2016: Following the meeting on 07 November 2016, the applicant issued another iteration of architectural plans to Council and Architectus (this included a letter detailing design changes to western edge to achieve cross ventilation compliance + solar access and cross ventilation schedule. This included natural ventilation compliance testing from Arup).
- 10 November 2016: Architectus provided preliminary feedback to applicant, principally questions related to detailed design of indent spaces (visual and acoustic privacy / impact on building form).
- 11 November 2016: The applicant provided a response to Architectus questions, including an acoustic report from Acoustic Logic confirming that the potential noise transfer between apartments via the windows opening onto the non-trafficable zone

will not impact the amenity of future residence.

- 14 November 2016: Architectus emailed applicant stating we agree with proposed option in principle, pending further detail (louvre detail and how non-trafficable zone is to be managed).
- 15 November 2016: Applicant issues to Council final issue response (including louvre details)
- 18 November 2016: Architectus contacted applicant stating that louvre system should work fine for privacy + advised that bylaws should be extended to manage this space.
- 19 November 2016: Applicant contacted Architectus and Council stating that louvre design had been incorporated within the architectural package & by-law.
- 24 January 2017: Architectus prepared an assessment letter summarising the final plans against our SEPP 65 recommendations. Issued to Council.
- 24 January 2017: In response to Council request for draft conditions (24 January 2017) Architectus issued to Council.
- February 2017: The applicant provided an amended architectural package dated 27 February 2017.
- 13 March 2017: Applicant provided Architectus updated consultant reports
- 12 April 2017: Architectus issued to Council a draft comprehensive report
- 26 April 2017: Architectus discussed the draft report with Council.
- 8 May 2017: A Revised Draft SEPP 65 Assessment is issued to Council.

Stage 4

- 14 November 2017: Architectus received an amended development application package from Council.
- 21 November 2017: A Revised Draft 65 Assessment is issued to Council.

Based on the current plans, and a revised holistic assessment of the proposal, Architectus considers the proposed development to be generally supportable, subject to the recommendations presented in this report.

1.2 Authorship

This report has been prepared by Camille Lattouf, Associate Urban Planner, and Matt Kelly, Urban Planner. The design has also been reviewed by Michael Harrison, Director, Urban Design and Planning.

1.3 The site and its context

The subject site is located at 496 – 498, 500 and 504-520 Pacific Highway, St Leonards, bounded by the Pacific Highway to the north, Friedlander Place to the south east, 69 Christie Street to the south and 536 Pacific Highway to the west.

The site is located in close proximity to St Leonards train station, with sweeping south facing views towards the CBD and harbour. The area is undergoing transition from an older commercial precinct into a mixed use centre of greater density. The site is also located 400 metres north of the proposed Crows Nest Sydney Metro Station.

The subject site has an area of 3752sqm (including Friedlander Place) with a 96 metres frontage to the Pacific Highway (including Friedlander Place), 37 metre frontage to Friedlander Place, and 53 metre frontage to Nicholson Lane.

1.4 The site

The subject site is located at 496-498, 500 and 504-520 Pacific Highway, St Leonards, bounded by the Pacific to the north, Friedlander Place to the south east, 69 Christie Street to the south and 536 Pacific Highway to the west.

The site is located in close proximity to St Leonards train station, with sweeping south facing views towards the CBD and harbour. The area is undergoing transition from an older commercial precinct into a mixed use centre of greater density. The site is also located 400 metres north of the proposed Crows Nest Sydney Metro Station.

The subject site has an area of 3752sqm (including Friedlander Place) with a 96 metre frontage to the Pacific Highway (including Friedlander Place), 37 metre frontage to Friedlander Place, and 53 metre frontage to Nicholson Lane.

1.5 The proposal

The proposal is for 429 apartments located in a single tower that rises from a podium containing retail and commercial uses. The proposal comprises 44 studio apartments (10.2%), 108 one bedroom apartments (25.2%), 221 two bedroom apartments (51.5%), 53 three bedroom apartments (12.3%), 2 four bedroom apartments (0.5%) and 1 five-bedroom apartment (0.2%). Total car parking, including residential, residential disabled and non-residential parking equates to 492 car spaces across eight levels of basement. A total of 230 bicycle parking and 33 motorbike parking spaces are proposed.

Three retail tenancies are provided at Nicholson Street level, a single retail tenancy is provided at lower ground (accessed from ground level), three retail tenancies are provided at level ground, all with additional floors on level 1, with large commercial floor space provided at level 2 and level 3, and smaller commercial floor space provided at level 4 – 7. Private communal open space is provided at various levels in the building, including at ground floor level and level 1.

2.0 SEPP 65 Assessment

This Section provides an assessment of the proposed development against State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development (SEPP 65) Design Principles and the guidelines of the NSW Apartment Design Guide.

Table 1 SEPP 65 Design Principles assessment

SEPP 65 Design Principle	Consistency	Comments
Principle 1: Context Good design responds and contributes to its context. Context is the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions. Responding to context involves identifying the desirable elements of an area's existing or future character. Well designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood. Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change	Yes	The proposed development is contextually appropriate, with a design that is responsive to the desired future local character of St Leonards, which is to support renewal of the centre through development of high density mixed use nature. Whilst the depth of the proposed building exceeds the ADG recommended depth of 18 metres, the bulk and scale of the proposed building complies with the future density and scale of the area as envisaged by the DCP and is thus supported.
Principle 2: Built Form and Scale Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings. Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements. Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.	Yes	The proposed scale of the development is generally responsive to the desired future scale of development envisaged by Council's planning controls, including under the Lane Cove LEP 2009 and the site specific controls under the Lane Cove DCP 2010. The proposed development is consistent with the scale of existing and planned development in the St Leonards Centre, which currently comprises buildings of up to between 60 metres ("The Abode", 599 Pacific Highway, St Leonards) and 120 metres ("The Forum", 1 Sergeants Lane, St Leonards). The recently approved development at 472-486 Pacific Highway will have a height of up to 120 metres, The proposal achieves the required 24 metre separation with 472-486 Pacific Highway for levels 9 and above between habitable rooms. The building separation to the south is supportable given the proposed commercial uses along the southern elevation between levels 2 to 7. Further, the building separation to the west will not strictly comply with potential future development on the adjacent property, however provides sufficient setback to achieve the minimum tower separation required under the precinct specific DCP controls. Building separation is discussed in detail under the Apartment Design Guide assessment following this table.
Principle 3: Density Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context. Appropriate densities are consistent with the area's existing or projected population. Appropriate	No	The proposed density is consistent with that envisaged for the site and locality based on the maximum FSR and built form controls. The density of development on the site is controlled by the maximum Floor Space Ratio (FSR) of 17.0:1. The proposal, including residential and non-residential floor space equates

SEPP 65 Design Principle	Consistency	Comments
densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.		to an FSR of 15.03:1. A total of 429 apartments are proposed, with a mix of studio, one, two, three, four and five bedroom apartments. The mix of apartments is considered acceptable in relation to the household structure and population demand for St Leonards. The proposal provides the following dwelling mix: • 44 x studio apartments (10.2%) • 108 x one bedroom apartments (25.2%) • 221 x two bedroom apartments (51.5%) • 53 x three bedroom apartments (12.3%) • 2 x four bedroom apartments (0.5%) • 1 x five bedroom apartments (0.3%) The general arrangement of floor plates achieves functional apartment layouts that achieve minimum acceptable internal amenity.
Principle 4: Sustainability Good design combines positive environmental, social and economic outcomes. Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials, and deep soil zones for groundwater recharge and vegetation.	Yes	The proposal meets the minimum requirements for thermal comfort and energy efficiency under the BASIX SEPP and exceeds the water benchmark by one point. A Waste Management Plan is submitted for the reuse, recycling and reduction of waste where possible is supported. Of note is the inclusion of communal composting and worm farming space.
Principle 5: Landscape Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood. Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values, and preserving green networks. Good landscape design optimises usability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity, provides for practical establishment and long term management.	See comment	Given the dense urban context, the provision of landscape is acceptable, especially given the revitalisation of Friedlander Place. The proposal includes the following landscaped elements: Ground Level: • Public domain works in Friedlander Place; • Landscaped edge along buildings southern edge, northern corner Level 2 • Evergreen shrub planting around majority of building edge 'capable of 2.0m height for wind amelioration' Level 3 • Evergreen shrub planting along northern and eastern edge + 2 small sections along SW edge 'capable of 2.0m height for wind amelioration' Level 4 • Evergreen shrub planting around western, northern, and eastern edge – none along SW edge Level 5 • Small section evergreen planting on NE corner
Principle 6: Amenity Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well being. Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas, and ease of access for all age groups and degrees of mobility.	See comment	Generally, the proposal produces apartments with good outlook, solar access and ventilation. Apartment amenity is discussed in detail under the Apartment Design guide assessment following this table. Building depth ratios do not strictly comply with the minimum width to depth ratio of 2:1, however are demonstrated to meet the ADG requirements for cross ventilation. The achievement of solar access is considered satisfactory for this proposal, despite achieving 2 hours of solar access to only 64% of apartments, between 9am and 3pm in mid-winter, given that: • In such dense urban environments, where FSRs exceed

SEPP 65 Design Principle	Consistency	Comments
		6:1, full compliance with the ADG solar access requirements is difficult to achieve, and unreasonable. In this instance, the proximity to St Leonards and other key centres, and the desirable southern outlook is considered an appropriate alternative to strict compliance with the solar access requirements - Majority of apartments not achieving a minimum 2 hours of solar access generally face south, which have highly desirable and visually interesting views, providing an alternative to direct solar access compliance for these apartments. - The façade treatment to the living areas of south and south-west facing apartments is floor to ceiling glazing which provides maximum daylight exposure - Views to the south and south-west of the site are unlikely to be significantly impeded in the long term due to the fall of topography away from the site's ridgeline position
Principle 7: Safety Good design optimises safety and security, within the development and the public domain. It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximise passive surveillance of public and communal areas promote safety. A positive relationship between public and private spaces is achieved through clearly defined secure access points and well lit and visible areas that are easily maintained and appropriate to the location and purpose.	Yes	Safety and security is considered acceptable. The proposal provides a good degree of street and public domain surveillance, and also provides address to the Highway, Friedlander Place and the laneway – all of which are supported. The design of the spiral staircase is supported as it provides a good degree of transparency so that movement of pedestrians through the stairway is visible.
Principle 8: Housing Diversity and Social Interaction Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets. Well designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix. Good design involves practical and flexible features, including different types of communal spaces for a broad range of people, providing opportunities for social interaction amongst residents.	Yes	The proposed apartment mix is diverse, allowing approximately 35.4% studio and 1 bedroom, 51.5% two bedrooms, 12.3% three bedrooms, two four bedroom and 1 five bedroom apartments. 44 x studio apartments (10.2%) 108 x one bedroom apartments (25.2%) 221 x two bedroom apartments (51.5%) 53 x three bedroom apartments (12.3%) 2 x four bedroom apartments (0.5%) 1 x five bedroom apartments (0.3%) The above is considered to respond to a wide demographic range that is consistent with population growth in the local area. Residential uses beginning at level 4 help mitigate acoustic impacts from Pacific Highway.
Principle 9: Aesthetics Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures. The visual appearance of well designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape	See comment	The aesthetics are generally supported, except for the following issues: To achieve 24m building separation with 472-486 Pacific Highway, large balcony portions for apartments on the SE corner, from level 5–37 are made non-trafficable. This results in maintenance complexities and compromises useable balcony area. It would be preferable that the non-habitable area was used as a landscaped planter box area to ensure the space was not useable, but still able to be appropriately managed.

Table 2 Apartment Design Guide (ADG)

Apartment Design Guide (ADG)	Consistency	Comment
Part 2: Developing the controls		
2A Building controls		
2B Building envelopes Building envelopes set the appropriate scale of future development in terms of bulk and height relative to the streetscape, public and private open spaces, and block and lot sizes in a particular location. Envelopes are appropriate when determining and controlling the desired urban form in town centres, brownfield sites, precinct plan sites and special sites such as those with heritage, significant views or extreme topography Building envelopes help to: - Define the three dimensional form of buildings and wider neighbourhoods - Inform decisions about appropriate density for a site and its context - Define open spaces and landscape areas - Test the other primary controls to ensure they are coordinated and achieve the desired outcome - Demonstrate the future mass, scale and location of new development	See comment	The ground level setback of the proposal complies with the DCP requirement of a 4m setback from the Pacific Highway, Friedlander Place and 0m minimum from the western and southern boundary. The DCP prescribes that the non-residential podium, Levels 1 – 3 must comply with a 0m minimum setback from all boundaries. The proposal achieves this setback control. While the podium is compliant at all podium levels, the tower component of the proposal exceeds setback controls, predominantly along the Pacific Highway boundary. Along the Pacific Highway Boundary, the tower is to be set back 4m. Sections of level 4 have close to 0m setback, and levels 5 to 43 frequently protrude into the 4m setback zone by up to 1.2m. In this instance, level 4 balconies are acceptable as they occupy the roof of level 3 of the podium.
2C Building height Building height helps shape the desired future character of a place relative to its setting and topography. It defines the proportion and scale of streets and public spaces and has a relationship to the physical and visual amenity of both the public and private realms.	Yes	Maximum permissible height is RL227.4 metres. All habitable floor space complies, with this RL.
2D Floor space ratio Ensure that the development aligns with the optimum capacity of the site and the desired density of the local area. Provide opportunities for building articulation and creativity within a building envelop by carefully setting the allowable floor space.	Yes	The FSR of the proposal is supportable as it encapsulates the area of three lots, including 500 and 504 Pacific Highway and Friedlander Place. The proposed FSR of 15.30:1 is permissible with the maximum GFA permissible on 500-504 Pacific Highway and Friedlander Place.
2E Building depth Control over building depth is important as the depth of a building will have a significant impact on residential amenity for the building occupants. In general, narrow cross section buildings have the potential for dual aspect apartments with natural ventilation and optimal daylight access to internal spaces. In general, apartment building depth of 10-18 metres is appropriate. Developments that propose wider than 18 metres must demonstrate how satisfactory day lighting and ventilation are to be achieved.	See comment	Architectus considers a building length and depth of 45 metres x 18 metres as the ideal maximum floor plate for a tower, however it is acknowledged that in this instance, the DCP stipulates a larger maximum building length (51m). The depth of the proposed development is 27.0m. In this instance, the proposed building depth is supportable as apartment layouts demonstrate that adequate levels of internal amenity can be achieved.
2F Building separation For buildings over three storeys it is recommended that building separation increase in proportion to building height to ensure appropriate urban form, adequate amenity and privacy for building occupants. Suggested dimensions within a development, internal courtyards and between adjoining site are: - Up to four storeys/12 metres 12m between habitable rooms/balconies 9m between habitable/balconies and non-habitable rooms 6m between non-habitable rooms - Five to eight storeys/25 metres:	See comment	The existing and future built context adjacent the proposal demands compliance with building separation controls. North Adequate building separation is enabled by the width of the Pacific Highway, coupled with site setbacks. East All storeys up to and including storey 8 achieve adequate building separation with 472-486 Pacific Highway. For Level 8 and above, the required building separation of 24m is achieved by making balconies of south-east corner apartments inaccessible.

Apartment Design Guide (ADG)	Consistency	Comment
– 18 metres between habitable rooms/balconies; – 12 metres between habitable rooms/balconies and non-habitable rooms; – 9 metres between non-habitable rooms. • Nine storeys and above/ over 25 storeys: – 24 metres between habitable rooms/balconies; – 18 metres between habitable rooms/balconies and non-habitable rooms; – 12 metres between non-habitable rooms. • Allow zero building separation in appropriate contexts, such as in urban areas between street wall building types (party walls). • Where a building step back creates a terrace, the building separation distance for the floor below applies. • Protect the privacy of neighbours who share a building entry and whose apartments face each other by designing internal courtyards with greater building separation. • Developments that propose less than the recommended distances must demonstrate that daylight access, urban form and visual and acoustic privacy has been satisfactorily achieved.		South The building separation achieved is 11.2 metres. The DCP requires 12 metres in this location (Lane Cove DCP, Part D, Section 4.4 Separation). The ADG requires 12 metres (up to the fourth storey), 18 metres (5-8 storeys) and 24 metres for the ninth storey and above. Architectus considers the building separation appropriate in this instance due to the following factors: • Communal open space is provided at ground level and level 1 along the southern portion of the floorplate, • Commercial uses are provided at level 2 to level 7 and occupy the southern portion of the floorplate, • Architectus considers that given the outlook and street address of 69 Christie Street, it is likely that orientation would be toward the street and significant views to the south. It is therefore likely that primary outlook would not be toward the subject site. Furthermore, the DCP provides site specific controls for a building on this site. It is considered that this has been prepared in context of the site's surrounds. West The residential tower component of the proposal meets the 7m setback control for the western boundary. An adjacent setback of 6 metres would result in a 13 metre building separation. Whilst this is less than the ADG requirements, it is consistent with the DCP, with buildings able to be appropriately oriented to avoid privacy and overlooking issues.
2G Street setbacks • Street setbacks should relate to the desired streetscape character, the common setback of buildings in the street, the accommodation of street tree planting and the height of buildings and daylight access controls. • Relate setbacks to area's street hierarchy. • Identify the quality, type and use of gardens and landscape areas facing the street.	See comment	The podium component of the proposal complies with all relevant setback controls. However, the residential tower component does not strictly comply with the 4m setback from Pacific Highway boundary. Refer above to Objective 2B discussion.
2H Side and rear setbacks Side setbacks should minimise the impact of light, air, sun and privacy, views and outlook for neighbouring properties, including future buildings and retain a rhythm or pattern that positively defines the streetscape so that space is not just what is left over from the building form. Rear setbacks should maintain deep soil zone to maximise natural site drainage and protect the water table; maximise the opportunity to retain and reinforce mature vegetation; optimise the use of land at the rear and surveillance of the street at the front and maximise building separation to provide visual and acoustic privacy.	See comment	Side and rear setbacks are compliant with DCP controls. The DCP requires a 4m ground level setback to Friedlander place and 0m west and south setback for all podium levels. Refer above to Objective 2F discussion.
Part 3: Siting the Development		

Apartment Design Guide (ADG)	Consistency	Comment
3A Site Analysis		
Objective 3A-1 Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context Design Guidance Each element in the Site Analysis Checklist should be addressed.	Yes	The amended design package is considered to have been informed by its context, particularly in relation to consideration of views, solar access, cross ventilation. Refer to building separation comments above.
3B Orientation		
Objective 3B-1 Building types and layouts respond to the streetscape and site while optimising solar access within the development Design guidance - Buildings along the street frontage define the street, by facing it and incorporating direct access from the street - Where the street frontage is to the east or west, rear buildings should be orientated to the north - Where the street frontage is to the north or south, overshadowing to the south should be minimised and - buildings behind the street frontage should be orientated to the east and west	Yes	The orientation of the building is generally supported. It provides a balance between solar access and outlook. The interface of the building with the Pacific Highway to the north is well defined, activated and to human scale. Design of the façade clearly signifies building entry. It would be assumed that the mix of uses (2x retail, residential lobby and commercial lobby) along the building interface with Pacific Highway at ground level will generate acceptable activation. Retail abutting Friedlander place and building articulation responds to the public use of Friedlander Place. It is recommended that walls are transparent to support activation and passive surveillance. The proposed interface with Nicholson Lane is acceptable as it will support activation of the lane and good passive surveillance.
Objective 3B-2 Overshadowing of neighbouring properties is minimised during mid-winter Design guidance - Living areas, private open space and communal open space should receive solar access in accordance with sections 3D Communal and public open space and 4A Solar and daylight access. - Solar access to living rooms, balconies and private open spaces of neighbours should be considered - Where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by 20%. - If the proposal will significantly reduce the solar access of neighbours, building separation should be increased beyond minimums contained in section 3F Visual privacy - Overshadowing should be minimised to the south or downhill by increased upper level setbacks - It is optimal to orient buildings 90 degrees to the boundary with neighbouring properties to minimise overshadowing and privacy impacts - A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring properties	See comment	Based on winter solstice shadow diagrams, overshadowing of low rise residential to the south west is slender and fast moving between 9am – 10:30am. There is no impact on these areas after this time. After 10:30am overshadowing of commercial buildings to the south and south east occurs. By 1:30pm commercial buildings to the south of Nicholson street are not overshadowed. Afternoon shadow impacts from the proposal are negligible increases to that created by 472-482 Pacific Highway.
3C Public Domain Interface		

Apartment Design Guide (ADG)	Consistency	Comment
Objective 3C-1 Transition between private and public domain is achieved without compromising safety and security Design guidance - Terraces, balconies and courtyard apartments should have direct street entry, where appropriate - Changes in level between private terraces, front gardens and dwelling entries above the street level provide surveillance and improve visual privacy for ground level dwellings - Upper level balconies and windows should overlook the public domain - Front fences and walls along street frontages should use visually permeable materials and treatments. The height of solid fences or walls should be limited to 1m - Length of solid walls should be limited along street frontages - Opportunities should be provided for casual interaction between residents and the public domain. Design solutions may include seating at building entries, near letter boxes and in private courtyards adjacent to streets - In developments with multiple buildings and/or entries, pedestrian entries and spaces associated with individual buildings/entries should be differentiated to improve legibility for residents, using a number of the following design solutions: - architectural detailing - changes in materials - plant species - colours - Opportunities for people to be concealed should be minimised	See comment	The proposal achieves a good level of safety and security in the transition between private and public domain. Entry to the building along the Pacific Highway edge – potential areas of concealment against structural blades – overcome by transparency of façade Park entry – funnel like space towards lobby access combined with direct line of site between lobby and Friedlander Place support safety of residents moving between public and private space. The type of retail uses and the façade treatment will be critical to ensuring safe public space adjacent to the proposed. The design of the spiral stair should maintain visual connection to ensure pedestrians moving through the space can be seen. Architectus is satisfied that the design of the stairway that connects Friedlander Place and Nicholson Lane, supports safe pedestrian travel.
Objective 3C-2 Amenity of the public domain is retained and enhanced. Design guidance - Planting softens the edges of any raised terraces to the street, for example above sub-basement car parking - Mail boxes should be located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided - The visual prominence of underground car park vents should be minimised and located at a low level where possible - Substations, pump rooms, garbage storage areas and other service requirements should be located in basement car parks or out of view - Ramping for accessibility should be minimised by building entry location and setting ground floor levels in relation to footpath levels - Durable, graffiti resistant and easily cleanable materials should be used Where development adjoins public parks, open space or bushland, the design positively addresses this interface and uses a number of the following design solutions: - street access, pedestrian paths and building entries which are clearly defined - paths, low fences and planting that clearly delineate	Yes	The proposed upgrade to Friedlander Place, in addition to the plaza on 472-482 Pacific Highway will improve the current amenity of the public domain. Planting along the edges of the levels 2, 3, 4 and 5 has the potential to soften the edges/built form of the proposed against the street.

Apartment Design Guide (ADG)	Consistency	Comment
between communal/private open space and the adjoining public open space minimal use of blank walls, fences and ground level parking On sloping sites protrusion of car parking above ground level should be minimised by using split levels to step underground car parking		
3D Communal and public open space		
Objective 3D-1 An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping Design Criteria - Communal open space has a minimum area equal to 25% of the site. - Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9am and 3pm on 21 June (midwinter) Design guidance - Communal open space should be consolidated into a well-designed, easily identified and usable area - Communal open space should have a minimum dimension of 3m, and larger developments should consider greater dimensions - Communal open space should be co-located with deep soil areas - Direct, equitable access should be provided to communal open space areas from common circulation areas, entries and lobbies - Where communal open space cannot be provided at ground level, it should be provided on a podium or roof - Where developments are unable to achieve the design criteria, such as on small lots, sites within business zones, or in a dense urban area, they should: - provide communal spaces elsewhere such as a landscaped roof top terrace or a common roof - provide larger balconies or increased private open space for apartments - demonstrate good proximity to public open space and facilities and/or provide contributions to public open space	See comment	The communal open space provision achieves the design criteria of a minimum area equal to or greater than 25% of the site area. Communal open space is provided at Ground level, Level 1 and Level 35.

Apartment Design Guide (ADG)	Consistency	Comment
Objective 3D-2 Communal open space is designed to allow for a range of Activities, respond to site conditions and be attractive and inviting Design guidance - Facilities are provided within communal open spaces and common spaces for a range of age groups (see also 4F Common circulation and spaces), incorporating some of the following elements: - seating for individuals or groups - barbecue areas - play equipment or play areas - swimming pools, gyms, tennis courts or common rooms - The location of facilities responds to microclimate and site conditions with access to sun in winter, shade in summer and shelter from strong winds and down drafts - Visual impacts of services should be minimised, including location of ventilation duct outlets from basement car parks, electrical substations and detention tanks	Yes	Given the constrained site and dense urban context, the proposal is considered to provide a good degree of diversity in terms of open space, catering to passive and active recreational space for all ages.
Objective 3D-3 Communal open space is designed to maximise safety Design guidance - Communal open space and the public domain should be readily visible from habitable rooms and private open space areas while maintaining visual privacy. Design solutions may include: - bay windows - corner windows - balconies - Communal open space should be well lit - Where communal open space/facilities are provided for children and young people they are safe and contained	Yes	Equitable access is provided to all communal areas of the proposal. Friedlander Place should achieve a high level of passive surveillance from both the proposed development and the adjacent development at 472 – 486 Pacific Highway. The detailed design of the staircase that connects Friedlander Place to Nicholson Lane demonstrates that a good level of passive surveillance is achieved. This is supported. Architectus supports making the internal walls between the gym, pool, communal open space, and other communal circulation areas should be floor to ceiling glass walls to allow for surveillance of these spaces.

Apartment Design Guide (ADG)	Consistency	Comment
Objective 3D-4 Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood	Yes	The proposal includes upgrades to Friedlander Place. It is anticipated that such works will be undertaken in consultation with Council.
Design guidance - The public open space should be well connected with public streets along at least one edge - The public open space should be connected with nearby parks and other landscape elements - Public open space should be linked through view lines, pedestrian desire paths, termination points and the wider street grid - Solar access should be provided year round along with protection from strong winds - Opportunities for a range of recreational activities should be provided for people of all ages - A positive address and active frontages should be provided adjacent to public open space - Boundaries should be clearly defined between public open space and private areas		
3E Deep soil zones		

Apartment Design Guide (ADG)		Consistency	Comment	
Objective 3E-1		See comment	In such a dense urban environment, achieving deep soil requirements is unviable, and unnecessary. The proposal, whilst not having any deep soil zones, provides some on structure planting in addition to substantial landscaping redevelopment of Friedlander Place. Friedlander Place will provide a range of vegetation types, comprised predominantly of native vegetation.	
Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality				
Design criteria				
Site area	Minimum Dimensions			Deep soil zone (% of site area)
Less than 650m ²	-			7%
650m ² – 1,500m ²	3m			
Greater than 1,500m ²	6m			
Greater than 1,500m ² with significant existing tree cover	6m			
Design guidance				
- On some sites it may be possible to provide larger deep soil zones, depending on the site area and context: 10% of the site as deep soil on sites with an area of 650m² - 1,500m² 15% of the site as deep soil on sites greater than 1,500m² - Deep soil zones should be located to retain existing significant trees and to allow for the development of healthy root systems, providing anchorage and stability for mature trees. - Design solutions may include: - basement and sub- basement car park design that is consolidated beneath building footprints - use of increased front and side setbacks - adequate clearance around trees to ensure long term health - co-location with other deep soil areas on adjacent sites to create larger contiguous areas of deep soil - Achieving the design criteria may not be possible on some sites including where: - the location and building typology have limited or no space for deep soil at ground level (e.g. central business district, constrained sites, high density areas, or in centres) - there is 100% site coverage or non-residential uses at ground floor level - Where a proposal does not achieve deep soil requirements, acceptable stormwater management should be achieved and alternative forms of planting provided such as on structure:				
3F Visual Privacy				

Apartment Design Guide (ADG)	Consistency	Comment												
Objective 3F-1 Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy Design criteria - Separation between windows and balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side and rear boundaries are as follows: <table border="1"> <thead> <tr> <th>Building height</th><th>Habitable rooms and balconies</th><th>Non-habitable rooms</th></tr> </thead> <tbody> <tr> <td>up to 12m (4 storeys) 6m 3m</td><td>6m</td><td>3m</td></tr> <tr> <td>up to 25m (5-8 storeys)</td><td>9m</td><td>4.5m</td></tr> <tr> <td>over 25m (9+ storeys)</td><td>12m</td><td>6m</td></tr> </tbody> </table> - Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room - Gallery access circulation should be treated as habitable space when measuring privacy separation distances between neighbouring properties Design Guidance Generally one step in the built form as the height increases due to building separations is desirable. Additional steps should be careful not to cause a 'ziggurat' appearance For residential buildings next to commercial buildings, separation distances should be measured as follows: - for retail, office spaces and commercial balconies use the habitable room distances - for service and plant areas use the non-habitable room distances New development should be located and orientated to maximise Visual privacy between buildings on site and for neighbouring buildings. Design solutions include: - site layout and building orientation to minimise privacy impacts (see also section 3B Orientation) - On sloping sites, apartments on different levels have appropriate visual separation distances (see figure 3F.4). Apartments buildings should have an increased separation distance of 3m (in addition to the requirements set out in design criteria 1) when adjacent to a different zone that permits lower density residential development to provide for transition in scale. Direct lines of sight should be avoided for windows and balconies across corners No separation is required between blank walls.	Building height	Habitable rooms and balconies	Non-habitable rooms	up to 12m (4 storeys) 6m 3m	6m	3m	up to 25m (5-8 storeys)	9m	4.5m	over 25m (9+ storeys)	12m	6m	See comment	The podium and residential tower component are adequately separated to achieve visual privacy for the western, northern, and eastern elevations (non-trafficable balconies) of the proposal. As discussed above at Objective 2F, the proposed commercial uses between level 2 – 7 along the southern elevation of the building will provide adequate privacy between the proposed and the future potential development to 69 Christie Street.
Building height	Habitable rooms and balconies	Non-habitable rooms												
up to 12m (4 storeys) 6m 3m	6m	3m												
up to 25m (5-8 storeys)	9m	4.5m												
over 25m (9+ storeys)	12m	6m												
Objective 3F-2 Site and building design elements increase privacy without compromising access to light and air and balance outlook and views from habitable rooms and private open space Design guidance Communal open space, common areas and access paths - Should be separated from private open space and windows to apartments, particularly habitable room windows. Design solutions may include: - setbacks - solid or partially solid balustrades to balconies at lower	Yes	The balustrade design is supported as it achieves high aesthetic outcomes and resident privacy. In addition, Architectus is satisfied that adequate visual privacy is provided between apartment balconies, achieved by appropriately designed balcony party walls.												

Apartment Design Guide (ADG)	Consistency	Comment
levels – fencing and/or trees and vegetation to separate spaces • screening devices – bay windows or pop out windows to provide privacy in one direction and outlook in another – raising apartments/private open space above the public domain or communal open space – planter boxes incorporated into walls and balustrades to increase visual separation – pergolas or shading devices to limit overlooking of lower apartments or private open space – on constrained sites where it can be demonstrated that building layout opportunities are limited, fixed louvres or screen panels to windows and/or balconies • Bedrooms, living spaces and other habitable rooms should be separated from gallery access and other open circulation space by the apartment's service areas • Balconies and private terraces should be located in front of living rooms to increase internal privacy • Windows should be offset from the windows of adjacent buildings • Recessed balconies and/or vertical fins should be used between adjacent balconies		
3G Pedestrian access and entries		
Objective 3G-1 Building entries and pedestrian access connects to and addresses the public domain Design guidance • Multiple entries (including communal building entries and individual ground floor entries) should be provided to activate the street edge • Entry locations relate to the street and subdivision pattern and the existing pedestrian network • Building entries should be clearly identifiable and communal entries should be clearly distinguishable from private entries • Where street frontage is limited and multiple buildings are located on the site, a primary street address should be provided with clear sight lines and pathways to secondary building entries.	Yes	There are multiple entries to the building that address the public domain. The mix of residential and non-residential access points to the building ensures good activation of the public domain adjacent to the building. The proposed building entries support a range of existing pedestrian networks; activate the street / lane / public domain edge in addition to supporting equitable access to the proposal. Prior to issue of a CC, the applicant should demonstrate a signage and wayfinding strategy for the developing, outlining the identification signage clearly distinguishing between residential and non-residential entries.
Objective 3G-2 Access, entries and pathways are accessible and easy to identify Design guidance • Building access areas including lift lobbies, stairwells and hallways should be clearly visible from the public domain and communal spaces • The design of ground floors and underground car parks minimise level changes along pathways and entries • Steps and ramps should be integrated into the overall building and landscape design • For large developments 'way finding' maps should be provided to assist visitors and residents • For large developments electronic access and audio/video intercom should be provided to manage access	See comment	Building access is generally supported as hallways and lift lobbies are clearly visible from the public domain.

Apartment Design Guide (ADG)	Consistency	Comment
Objective 3G-3 Large sites provide pedestrian links for access to streets and connection to destinations Design guidance - Pedestrian links through sites facilitate direct connections to open space, main streets, centres and public transport - Pedestrian links should be direct, have clear sight lines, be overlooked by habitable rooms or private open spaces of dwellings, be well lit and contain active uses, where appropriate	N/A	N/A
3H Vehicle access		
Objective 3H-1 Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes Design Guidance - Car park access should be integrated with the building's overall facade. Design solutions may include: - the materials and colour palette to minimise visibility from the street - security doors or gates at entries that minimise voids in the facade - where doors are not provided, the visible interior reflects the facade design and the building services, pipes and ducts are concealed - Car park entries should be located behind the building line - Vehicle entries should be located at the lowest point of the site minimising ramp lengths, excavation and impacts on the building form and layout - Car park entry and access should be located on secondary streets or lanes where available - Vehicle standing areas that increase driveway width and encroach into setbacks should be avoided Access point locations should avoid headlight glare to habitable rooms - Adequate separation distances should be provided between vehicle entries and street intersections - The width and number of vehicle access points should be limited to the minimum - Visual impact of long driveways should be minimised through changing alignments and screen planting - The need for large vehicles to enter or turn around within the site should be avoided - Garbage collection, loading and servicing areas are screened - Clear sight lines should be provided at pedestrian and vehicle crossings - Traffic calming devices such as changes in paving material or textures should be used where appropriate - Pedestrian and vehicle access should be separated and distinguishable. Design solutions may include: - changes in surface materials - level changes - the use of landscaping for separation	See comments	One vehicle access from Nicholson Street below Friedlander Place, providing access to both the commercial and residential car parking and loading dock is supported. The addition of a formalised pedestrian crossing / traffic calming measure at the vehicle entry off Nicholson Street is supported. A roller door provides access control between residential and visitor share spaces at Basement 2. This is supported.

Apartment Design Guide (ADG)	Consistency	Comment
3J Bicycle and car parking		
Objective 3J-1 Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas Design criteria - For development in the following locations: - on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or - on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre The minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less The car parking needs for a development must be provided off street Design guidance - Where a car share scheme operates locally, provide car share parking spaces within the development. Car share spaces, when provided, should be on site - Where less car parking is provided in a development, council should not provide on street resident parking permits	Yes	The provision of parking in accordance with RMS is supported. Furthermore, the provision of 9 car share spaces is supported.
Objective 3J-2 Parking facilities are provided for other modes of transport Design guidance - Conveniently located and sufficient numbers of parking spaces should be provided for motorbikes and scooters - Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas - Conveniently located charging stations are provided for electric vehicles, where desirable	Yes	The number of bicycle and motorcycle parking spaces is supported. Both parking modes are provided equally across basement levels in close proximity to equivalent car space and storage boxes.
Objective 3J-3 Car park design and access is safe and secure Design guidance - Supporting facilities within car parks, including garbage, plant and switch rooms, storage areas and car wash bays can be accessed without crossing car parking spaces - Direct, clearly visible and well lit access should be provided into common circulation areas - A clearly defined and visible lobby or waiting area should be provided to lifts and stairs - For larger car parks, safe pedestrian access should be clearly defined and circulation areas have good lighting, colour, line marking and/or bollards	See comment	The design of the proposed car park has considered safe pedestrian access. Architectus supports; - the addition of a formalised pedestrian pathway across the vehicle entry off Nicholson street, - locating disabled car spaces adjacent to lift cores, - waiting zones that are integrated into the interface between the garbage storage room and vehicle corridor. In addition, Architectus recommends a marked path of travel to be integrated into the design, coupled with adequate signage to provide safe bicycle access into and between basement levels.

Apartment Design Guide (ADG)	Consistency	Comment
Objective 3J-4 Visual and environmental impacts of underground car parking are minimised Design guidance - Excavation should be minimised through efficient car park layouts and ramp design - Car parking layout should be well organised, using a logical, efficient structural grid and double loaded aisles - Protrusion of car parks should not exceed 1m above ground level. Design solutions may include stepping car park levels or using split levels on sloping sites - Natural ventilation should be provided to basement and sub- basement car parking areas - Ventilation grills or screening devices for car parking openings should be integrated into the facade and landscape design	Yes	The design of the underground car park, principally the entry is supported. The overall design has a high aesthetic quality, and provides strong visual sight lines to reduce the likelihood pedestrian/vehicle conflict.
Objective 3J-5 Visual and environmental impacts of on-grade car parking are minimised Design guidance - On-grade car parking should be avoided Where on-grade car parking is unavoidable, the following design solutions are used: - parking is located on the side or rear of the lot away from the primary street frontage - cars are screened from view of streets, buildings, communal and private open space areas - safe and direct access to building entry points is provided - parking is incorporated into the landscape design of the site, by extending planting and materials into the car park space - stormwater run-off is managed appropriately from car parking surfaces - bio-swailes, rain gardens or on site detention tanks are provided, where appropriate - light coloured paving materials or permeable paving systems are used and shade trees are planted between every 4-5 parking spaces to reduce increased surface temperatures from large areas of paving.	N/A	N/A
Objective 3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised Design guidance - Exposed parking should not be located along primary street frontages - Screening, landscaping and other design elements including public art should be used to integrate the above ground car parking with the facade. Design solutions may include: - car parking that is concealed behind the facade, with windows integrated into the overall facade design (approach should be limited to developments where a larger floor plate podium is suitable at lower levels) - car parking that is 'wrapped' with other uses, such as retail, commercial or two storey Small Office/Home Office (SOHO) units along the street frontage - Positive street address and active frontages should be provided at ground level	N/A	N/A

Apartment Design Guide (ADG)	Consistency	Comment
Part 4: Designing the building		
Amenity		
4A Solar and daylight access		
Objective 4A-1 To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space Design criteria - Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at midwinter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government area - In all other areas, living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 3 hours direct sunlight between 9 am and 3 pm at midwinter - A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at midwinter Design Guidance - The design maximises north aspect and the number of single aspect south facing apartments is minimised. Single aspect, single storey apartments should have a northerly or easterly aspect. Living areas are best located to the north and service areas to the south and west of apartments - To optimise the direct sunlight to habitable rooms and balconies a number of the following design features are used: - dual aspect apartments - shallow apartment layouts - two storey and mezzanine level apartments - bay windows - To maximise the benefit to residents of direct sunlight within living rooms and private open spaces, a minimum of 1m² of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes - Achieving the design criteria may not be possible on some sites. This includes: - where greater residential amenity can be achieved along a busy road or rail line by orientating the living rooms away from the noise source - on south facing sloping sites - where significant views are oriented away from the desired aspect for direct sunlight - Design drawings need to demonstrate how site constraints and orientation preclude meeting the design criteria and how the development meets the objective	Yes	The achievement of solar access is considered satisfactory for this proposal, despite achieving 2 hours of solar access to only 64% of apartments, between 9am and 3pm in mid-winter, given that in such dense urban environments, where FSRs exceed 6:1, full compliance with the ADG solar access requirements is difficult to achieve, and unreasonable. In this instance, the proximity to St Leonards and other key centres, and the desirable southern outlook is considered an appropriate alternative to strict compliance with the solar access requirements.
Objective 4A-2 Daylight access is maximised where sunlight is limited Design guidance - Courtyards, skylights and high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms - Where courtyards are used: - use is restricted to kitchens, bathrooms, and service areas - building services are concealed with appropriate detailing	See comment.	Direct, floor to ceiling external windows are provided as the primary source of daylight.

Apartment Design Guide (ADG)	Consistency	Comment
- and materials to visible walls – courtyards are fully open to the sky – access is provided to the light well from a communal area for cleaning and maintenance – acoustic privacy, fire safety and minimum privacy separation distances (see section 3F Visual privacy) are achieved • Opportunities for reflected light into apartments are optimised through: – reflective exterior surfaces on buildings opposite south facing windows – positioning windows to face other buildings or surfaces (on neighbouring sites or within the site) that will reflect light – integrating light shelves into the design – light coloured internal finishes		
Objective 4A-3 Design incorporates shading and glare control, particularly for warmer months Design guidance • A number of the following design features are used: – balconies or sun shading that extend far enough to shade summer sun, but allow winter sun to penetrate living areas – shading devices such as eaves, awnings, balconies, pergolas, external louvres and planting – horizontal shading to north facing windows – vertical shading to east and particularly west facing windows – operable shading to allow adjustment and choice • high performance glass that minimises external glare off windows, with consideration given to reduced tint glass or glass with a reflectance level below 20% (reflective films are avoided)	Yes	Balcony depth will provide adequate shading for north, north east and western portions of the building.
4B Natural ventilation		
Objective 4B-1 All habitable rooms are naturally ventilated Design guidance • The building's orientation maximises capture and use of prevailing breezes for natural ventilation in habitable rooms • Depths of habitable rooms support natural ventilation • The area of unobstructed window openings should be equal to at least 5% of the floor area served • Light wells are not the primary air source for habitable rooms • Doors and openable windows maximise natural ventilation opportunities by using the following design solutions: – adjustable windows with large effective openable areas – a variety of window types that provide safety and flexibility such as awnings and louvres – windows which the occupants can reconfigure to funnel breezes into the apartment such as vertical louvres, casement windows and externally opening doors	Yes	All habitable rooms are naturally ventilated.
Objective 4B-2 The layout and design of single aspect apartments maximises natural ventilation Design guidance • Apartment depths are limited to maximise ventilation and	Yes	The proposed development is generally consistent with the provisions.

Apartment Design Guide (ADG)	Consistency	Comment
airflow - Natural ventilation to single aspect apartments is achieved with the following design solutions: - primary windows are augmented with plenums and light wells (generally not suitable for cross ventilation) - stack effect ventilation / solar chimneys or similar to naturally ventilate internal building areas or rooms such as bathrooms and laundries - courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation and avoid trapped smells		
Objective 4B-3 - The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents - Design criteria - At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed - Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line - Design guidance - The building should include dual aspect apartments, cross through apartments and corner apartments and limit apartment depths - In cross-through apartments external window and door opening sizes/areas on one side of an apartment (inlet side) are approximately equal to the external window and door opening sizes/areas on the other side of the apartment (outlet side) - Apartments are designed to minimise the number of corners, doors and rooms that might obstruct airflow - Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation and airflow	Yes	A of 48 of 62 apartments, or 77.4% apartments are cross ventilated up to level 9. Architects is satisfied with the identified cross ventilated apartments.
4C Ceiling heights Objective 4C-1 Ceiling height achieves sufficient natural ventilation and daylight access Design criteria - Measured from finished floor level to finished ceiling level, minimum ceiling heights for apartments and mixed use buildings are: - Habitable rooms: 2.7m - Non-habitable: 2.4m - For 2 storey apartments: 2.7m for main living area floor 2.4m for second floor, where its area does not exceed 50% of the apartment area - Attic spaces: 1.8m at edge of room with a 30 degree minimum ceiling slope - If located in mixed used areas: 3.3m for ground and first floor to promote future flexibility of use These minimums do not preclude higher ceilings if desired	Yes	Floor to floor heights are at least 3 metres for residential levels of the building. This is sufficient in providing adequate floor to ceiling heights at or above this rule of thumb. Council should condition that all habitable rooms have a floor to ceiling height of 2.7 metres to ensure this is achieved.

Apartment Design Guide (ADG)	Consistency	Comment
Design guidance Ceiling height can accommodate use of ceiling fans for cooling and heat distribution		
Objective 4C-2 Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms Design guidance - A number of the following design solutions can be used: - the hierarchy of rooms in an apartment is defined using changes in ceiling heights and alternatives such as raked or curved ceilings, or double height spaces - well-proportioned rooms are provided, for example, smaller rooms feel larger and more spacious with higher ceilings - Ceiling heights are maximised in habitable rooms by ensuring that bulkheads do not intrude. The stacking of service rooms from floor to floor and coordination of bulkhead location above non-habitable areas, such as robes or storage, can assist.	Yes	As above.
Objective 4C-3 Ceiling heights contribute to the flexibility of building use over the life of the building Design guidance Ceiling heights of lower level apartments in centres should be greater than the minimum required by the design criteria allowing flexibility and conversion to non-residential uses	Yes	Lower Ground, Ground, level 1, 2 & 3 have minimum floor to floor heights of 3.3 m to 4.0 m, with voids up to 6.7m that provide ample provision for flexibility.
4D Apartment size and layout		
Objective 4D-1 The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity Design criteria - Apartments are required to have the following minimum internal areas: - Studio 35m² 1 bedroom 50m² 2 bedroom 70m² 3 bedroom 90m² - The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m² each - A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m² each - 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 Design Guidance - Kitchens should not be located as part of the main circulation space in larger apartments (such as hallway or entry space) - A window should be visible from any point in a habitable room - Where minimum areas or room dimensions are not met apartments need to demonstrate that they are well designed and demonstrate the usability and functionality of the space with realistically scaled furniture layouts and circulation areas. These circumstances would be assessed on their merits	See comment	Overall the apartments exceed the minimum internal area required under the ADG. Overall the design of apartments is acceptable. Architectus recommends that: - Nominated study area are not converted into 2nd bedrooms for apartment type U412 and equivalent - Setback bedroom in apartment type U405 and equivalent is supportable in this instance permitting the north-east corner of the living area has a full height, floor to ceiling window. - The small balcony area for apartment type U3605 is supportable in this instance due to the generous living space and dual aspect nature of the apartment.

Apartment Design Guide (ADG)	Consistency	Comment
Objective 4D-2 Environmental performance of the apartment is maximised Design criteria - Habitable room depths are limited to a maximum of 2.5 x the ceiling height - In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window. Design Guidance - Greater than minimum ceiling heights can allow for proportional increases in room depth up to the permitted maximum depths - All living areas and bedrooms should be located on the external face of the building - Where possible: - bathrooms and laundries should have an external operable window - main living spaces should be oriented toward the primary outlook and aspect and away from noise sources	See comment	The depth of combined living areas in apartment types U810 and equivalent, and U2203 and equivalent, exceeds the maximum habitable room depth by 1-1.4m. Architectus considers this to be supportable in this instance as light and ventilation testing has identified adequate internal amenity can be achieved.
Objective 4D-3 Apartment layouts are designed to accommodate a variety of household activities and needs Design criteria - Master bedrooms have a minimum area of 10m² and other bedrooms 9m² (excluding wardrobe space) - Bedrooms have a minimum dimension of 3m (excluding wardrobe space) - Living rooms or combined living/dining rooms have a minimum width of: 3.6m for studio and 1 bedroom apartments 4m for 2 and 3 bedroom apartments - width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts Design Guidance - Access to bedrooms, bathrooms and laundries is separated from living areas minimising direct openings between living and service areas - All bedrooms allow a minimum length of 1.5m for robes - The main bedroom of an apartment or a studio apartment should be provided with a wardrobe of a minimum 1.8m long, 0.6m deep and 2.1m high - Apartment layouts allow flexibility over time, design solutions may include: - dimensions that facilitate a variety of furniture arrangements and removal - spaces for a range of activities and privacy levels between different spaces within the apartment - dual master apartments - dual key apartments - Note: dual key apartments which are separate but on the same title are regarded as two sole occupancy units for the purposes of the Building Code of Australia and for calculating the mix of apartments - room sizes and proportions or open plans (rectangular spaces (2:3) are more easily furnished than square spaces (1:1)) - efficient planning of circulation by stairs, corridors and through rooms to maximise the amount of usable floor	See Comment	Overall apartment layouts are well proportioned and support good functionality. Architectus affirms the importance of ensuring bedrooms have a minimum dimension equal to or greater than 3m.

Apartment Design Guide (ADG)	Consistency	Comment															
space in room.																	
4E Private open space and balconies																	
Objective 4E-1 Apartments provide appropriately sized private open space and balconies to enhance residential amenity Design Criteria - All apartments are required to have primary balconies as follows: <table border="1"> <thead> <tr> <th>Dwelling type</th><th>Minimum area</th><th>Minimum depth</th></tr> </thead> <tbody> <tr> <td>Studio apartments</td><td>4m²</td><td>-</td></tr> <tr> <td>1 bedroom apartments</td><td>8m²</td><td>2m</td></tr> <tr> <td>2 bedroom apartments</td><td>10m²</td><td>2m</td></tr> <tr> <td>3+ bedroom apartments</td><td>12m²</td><td>2.4m</td></tr> </tbody> </table> The minimum balcony depth to be counted as contributing to the balcony area is 1m - For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15m² and a minimum depth of 3m Design guidance - Increased communal open space should be provided where the number or size of balconies are reduced - Storage areas on balconies is additional to the minimum balcony size. Balcony use may be limited in some proposals by: - consistently high wind speeds at 10 storeys and above - close proximity to road, rail or other noise sources - exposure to significant levels of aircraft noise - heritage and adaptive reuse of existing buildings In these situations, juliet balconies, operable walls, enclosed wintergardens or bay windows may be appropriate, and other amenity benefits for occupants should also be provided in the apartments or in the development or both. Natural ventilation also needs to be demonstrated	Dwelling type	Minimum area	Minimum depth	Studio apartments	4m ²	-	1 bedroom apartments	8m ²	2m	2 bedroom apartments	10m ²	2m	3+ bedroom apartments	12m ²	2.4m	See comment	Whilst the curvilinear balcony form generates a holistic building form, the result produces balconies that are impractical. Whilst most balconies comply with minimum ADG requirements, apartment type U3605 (level 36) and equivalent above do not. There appears to be a discrepancy between drawings. The balcony to Unit 3605 and equivalent on other levels show both habitable and non-habitable floor space on each level. It is recommended that where the minimum building separation is achieved, balconies should be habitable, and otherwise any area within the minimum building separation should be a non-habitable area. The usefulness of these balcony types are further compromised between level 5 – 43 when a substantial portion is made non trafficable to meet building separation requirements (as aforementioned). It would be preferable if a functional balcony abutted this zone, and that the non-habitable area was used as a landscaped planter box area to ensure the space was not useable, but still able to be appropriately managed.
Dwelling type	Minimum area	Minimum depth															
Studio apartments	4m ²	-															
1 bedroom apartments	8m ²	2m															
2 bedroom apartments	10m ²	2m															
3+ bedroom apartments	12m ²	2.4m															
Objective 4E-2 Primary private open space and balconies are appropriately located to enhance liveability for residents Design guidance - Primary open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living space - Private open spaces and balconies predominantly face north, east or west - Primary open space and balconies should be orientated with the longer side facing outwards or be open to the sky to optimise daylight access into adjacent rooms	Yes	Generally primary balcony area is positioned adjacent to living areas and is thus supported. Whilst a large percentage of balconies are south facing, the high-quality outlook mitigates the limitations of this orientation.															
Objective 4E-3 Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building Design guidance	Yes	Balcony design contributes to the high aesthetic quality of the building form and generally supports good functionality.															

Apartment Design Guide (ADG)	Consistency	Comment
- Solid, partially solid or transparent fences and balustrades are selected to respond to the location. They are designed to allow views and passive surveillance of the street while maintaining visual privacy and allowing for a range of uses on the balcony. Solid and partially solid balustrades are preferred - Full width full height glass balustrades alone are generally not desirable - Projecting balconies should be integrated into the building design and the design of soffits considered - Operable screens, shutters, hoods and pergolas are used to control sunlight and wind - Balustrades are set back from the building or balcony edge where overlooking or safety is an issue - Downpipes and balcony drainage are integrated with the overall facade and building design - Air-conditioning units should be located on roofs, in basements, or fully integrated into the building design - Where clothes drying, storage or air conditioning units are located on balconies, they should be screened and integrated in the building design - Ceilings of apartments below terraces should be insulated to avoid heat loss - Water and gas outlets should be provided for primary balconies and private open space		
Objective 4E-4 Private open space and balcony design maximises safety Design Guidance - Changes in ground levels or landscaping are minimised - Design and detailing of balconies avoids opportunities for climbing and falls	Yes	Balustrade design is of adequate height and does not provide opportunity for climbing.
4F Common circulation and spaces		
Objective 4F-1 Common circulation spaces achieve good amenity and properly service the number of apartments Design criteria - The maximum number of apartments off a circulation core on a single level is eight - For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40 Design guidance - Greater than minimum requirements for corridor widths and/ or ceiling heights allow comfortable movement and access particularly in entry lobbies, outside lifts and at apartment entry doors - Daylight and natural ventilation should be provided to all common circulation spaces that are above ground - Windows should be provided in common circulation spaces and should be adjacent to the stair or lift core or at the ends of corridors - Longer corridors greater than 12m in length from the lift core should be articulated. Design solutions may include: a series of foyer areas with windows and spaces for seating - wider areas at apartment entry doors and varied ceiling heights - Design common circulation spaces to maximise	See comment	Windows to the outside for each internal corridor in the residential tower is supported.

Apartment Design Guide (ADG)	Consistency	Comment
opportunities for dual aspect apartments, including multiple core apartment buildings and cross over apartments - Achieving the design criteria for the number of apartments off a circulation core may not be possible. Where a development is unable to achieve the design criteria, a high level of amenity for common lobbies, corridors and apartments should be demonstrated, including: - sunlight and natural cross ventilation in apartments access to ample daylight and natural ventilation in common circulation spaces - common areas for seating and gathering - generous corridors with greater than minimum ceiling heights - other innovative design solutions that provide high levels of amenity - Where design criteria¹ is not achieved, no more than 12 apartments should be provided off a circulation core on a single level - Primary living room or bedroom windows should not open directly onto common circulation spaces, whether open or enclosed. Visual and acoustic privacy from common circulation spaces to any other rooms should be carefully controlled		
Objective 4F-2 Common circulation spaces promote safety and provide for social interaction between residents Design guidance - Direct and legible access should be provided between vertical circulation points and apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines - Tight corners and spaces are avoided - Circulation spaces should be well lit at night - Legible signage should be provided for apartment numbers, common areas and general wayfinding - Incidental spaces, for example space for seating in a corridor, at a stair landing, or near a window are provided - In larger developments, community rooms for activities such as owners corporation meetings or resident use should be provided and are ideally co-located with communal open space - Where external galleries are provided, they are more open than closed above the balustrade along their length	Yes	Internal corridor length and width is generally supported. The residential lobbies are generous in proportion, with the primary entry off Pacific Highway multiple seating options. This space will be of high amenity and support spontaneous resident interaction.
4G Storage Objective 4G-1 Adequate, well designed storage is provided in each apartment Design criteria - In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided: - Studio apartments -4m³ 1 bedroom apartments-6m³ 2 bedroom apartments-8m³ 3+ bedroom apartments-10m³ At least 50% of the required storage is to be located within the apartment Design guidance	Yes	Storage volume is compliant with ADG requirements. Basement storage is in a logical format at basement level 1, providing secure access.

Apartment Design Guide (ADG)	Consistency	Comment
- Storage is accessible from either circulation or living areas - Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proof and screened from view from the street - Left over space such as under stairs is used for storage		
Objective 4G-2 Additional storage is conveniently located, accessible and nominated for individual apartments Design guidance - Storage not located in apartments is secure and clearly allocated to specific apartments - Storage is provided for larger and less frequently accessed items - Storage space in internal or basement car parks is provided at the rear or side of car spaces or in cages so that allocated car parking remains accessible - If communal storage rooms are provided they should be accessible from common circulation areas of the building - Storage not located in an apartment is integrated into the overall building design and is not visible from the public domain	See comment	Where practicable, it is recommended that basement storage is located adjacent to, or in close proximity to the affiliated car space(s). The alternative provision of basement storage is supportable in this instance as it is provided immediately adjacent to the lift lobby at basement level 1, providing good accessibility and security.
4H Acoustic privacy		
4H-1 Noise transfer is minimised through the siting of buildings and building layout Design guidance - Adequate building separation is provided within the development and from neighbouring buildings/adjacent uses (see also section 2F Building separation and section 3F Visual privacy) - Window and door openings are generally orientated away from noise sources - Noisy areas within buildings including building entries and corridors should be located next to or above each other and quieter areas next to or above quieter areas - Storage, circulation areas and non-habitable rooms should be located to buffer noise from external sources - The number of party walls (walls shared with other apartments) are limited and are appropriately insulated - Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces and circulation areas should be located at least 3m away from bedroom	See comment.	Architectus supports the recommendations provided by Acoustic Logic (SEE, Dec 2015), including the specification of thicker glass on the northern and eastern (Pacific Highway) façade of the proposed building. Architectus is satisfied that the potential for noise transfer between U512 and U613 (and equivalent) is acceptable, in accordance with the findings of Acoustic Logic (11 November 2016).

Apartment Design Guide (ADG)	Consistency	Comment
Objective 4H-2 Noise impacts are mitigated within apartments through layout and acoustic treatments Design guidance - Internal apartment layout separates noisy spaces from quiet spaces, using a number of the following design solutions: - rooms with similar noise requirements are grouped together - doors separate different use zones - wardrobes in bedrooms are co-located to act as sound buffers - Where physical separation cannot be achieved noise conflicts are resolved using the following design solutions: - double or acoustic glazing - acoustic seals - use of materials with low noise penetration properties continuous walls to ground level courtyards where they do not conflict with streetscape or other amenity requirements	Yes	The recommendations of the acoustic reports are supported.
4J Noise and pollution		
Objective 4J-1 In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings Design guidance - To minimise impacts the following design solutions may be used: - physical separation between buildings and the noise or pollution source - residential uses are located perpendicular to the noise source and where possible buffered by other uses - non-residential buildings are sited to be parallel with the noise source to provide a continuous building that shields residential uses and communal open spaces - non-residential uses are located at lower levels vertically separating the residential component from the noise or pollution source. Setbacks to the underside of residential floor levels should increase relative to traffic volumes and other noise sources - buildings should respond to both solar access and noise. Where solar access is away from the noise source, nonhabitable rooms can provide a buffer - where solar access is in the same direction as the noise source, dual aspect apartments with shallow building depths are preferable - landscape design reduces the perception of noise and acts as a filter for air pollution generated by traffic and industry - Achieving the design criteria in this Apartment Design Guide may not be possible in some situations due to noise and pollution. Where developments are unable to achieve the design criteria, alternatives may be considered in the following areas: - solar and daylight access - private open space and balconies - natural cross ventilation	See comment	Glazing is to comply with recommendations contained within the Acoustic Logic report. For apartments along the Pacific Highway (Northern and Eastern elevations) will require up to 12.38mm glass for bedrooms, and 10.38mm thickness for living rooms. Other facades will require reduced thickness.
Objective 4J-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission	See comment above (Objective 4J-1)	

Apartment Design Guide (ADG)	Consistency	Comment
Design guidance - Design solutions to mitigate noise include: - limiting the number and size of openings facing noise sources - providing seals to prevent noise transfer through gaps - using double or acoustic glazing, acoustic louvres or enclosed balconies (wintergardens) using materials with mass and/or sound insulation or absorption properties e.g. solid balcony balustrades, external screens and soffits		
Configuration		
4K Apartment mix		
Objective 4K-1 A range of apartment types and sizes is provided to cater for different household types now and into the future	Yes	A mix of studio, one, two, three, four and five bedroom apartments are proposed. The mix of apartments is considered acceptable in relation to the household structure and population demand for St Leonards.
Design guidance - A variety of apartment types is provided The apartment mix is appropriate, taking into consideration: - the distance to public transport, employment and education centres - the current market demands and projected future demographic trends - the demand for social and affordable housing - different cultural and socioeconomic groups Flexible apartment configurations are provided to support diverse household types and stages of life including single person households, families, multi-generational families and group households.		A total of 86 adaptable apartments are proposed. This provision is supported.
Objective 4K-2 The apartment mix is distributed to suitable locations within the building	Yes	Different apartment types are distributed evenly throughout the proposed building.
Design guidance - Different apartment types are located to achieve successful facade composition and to optimise solar access - Larger apartment types are located on the ground or roof level where there is potential for more open space and on corners where more building frontage is available		
4L Ground floor apartments		
Objective 4L-1 Street frontage activity is maximised where ground floor apartments are located	N/A	
Design guidance - Direct street access should be provided to ground floor apartments Activity is achieved through front gardens, terraces and the facade of the building. Design solutions may include: - both street, foyer and other common internal circulation entrances to ground floor apartments - private open space is next to the street - doors and windows face the street - Retail or home office spaces should be located along street frontages		

Apartment Design Guide (ADG)	Consistency	Comment
Ground floor apartment layouts support small office home office (SOHO) use to provide future opportunities for conversion into commercial or retail areas. In these cases provide higher floor to ceiling heights and ground floor amenities for easy conversion		
Objective 4L-2 Design of ground floor apartments delivers amenity and safety for residents Design guidance - Privacy and safety should be provided without obstructing casual surveillance. Design solutions may include: - elevation of private gardens and terraces above the street level by 1-1.5m - landscaping and private courtyards - window sill heights that minimise sight lines into apartments - integrating balustrades, safety bars or screens with the exterior design - Solar access should be maximised through: - high ceilings and tall windows - trees and shrubs that allow solar access in winter and shade in summer	NA	
4M Facades		
Objective 4M-1 Building facades provide visual interest along the street while respecting the character of the local area Design Guidance - Design solutions for front building facades may include: - a composition of varied building elements - a defined base, middle and top of buildings - revealing and concealing certain elements - changes in texture, material, detail and colour to modify the prominence of elements - Building services should be integrated within the overall façade - Building facades should be well resolved with an appropriate scale and proportion to the streetscape and human scale. Design solutions may include: - well composed horizontal and vertical elements - variation in floor heights to enhance the human scale - elements that are proportional and arranged in patterns - public artwork or treatments to exterior blank walls - grouping of floors or elements such as balconies and windows on taller buildings - Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights - Shadow is created on the facade throughout the day with building articulation, balconies and deeper window reveals	Yes	Curvilinear balconies create visual interest for the full height of the building. Architectus suggests further balcony design development to resolve the sharp corner at the north eastern corner of the building. This will ensure a consistent façade treatment is visible, particularly when the building is viewed from the Pacific Highway. Proposed vegetation along building edges, levels 1 – 5 creates an interesting interface with the Pacific Highway. The overall building form and on structure planting is supported.
Objective 4M-2 Building functions are expressed by the façade Design Guidance - Building entries should be clearly defined - Important corners are given visual prominence through a change in articulation, materials or colour, roof expression or changes in height - The apartment layout should be expressed externally	Yes	With reference to the north elevation at street level, the façade recedes upwards, coupled with an indent in the building edge. This articulation of the façade provides adequate legibility of building entries and offers contrast between the podium and residential components of the proposal.

Apartment Design Guide (ADG)	Consistency	Comment
through facade features such as party walls and floor slabs		
4N Roof design		
Objective 4N-1 Roof treatments are integrated into the building design and positively respond to the street Design Guidance - Roof design relates to the street. Design solutions may include: - special roof features and strong corners - use of skillion or very low pitch hipped roofs - breaking down the massing of the roof by using smaller elements to avoid bulk - using materials or a pitched form complementary to adjacent buildings - Roof treatments should be integrated with the building design. Design solutions may include: - roof design proportionate to the overall building size, scale and form - roof materials compliment the building - service elements are integrated	Yes	The roof of the tower commences at storey 43, resulting in a minimal relationship to the street. However, the roof design is unobtrusive and compliments the overall building form.
Objective 4N-2 Opportunities to use roof space for residential accommodation and open space are maximised Design guidance - Habitable roof space should be provided with good levels of amenity. Design solutions may include: - penthouse apartments - dormer or clerestory windows - openable skylights - Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety and security considerations	Yes	The proposal uses the roof efficiently, accommodating a diverse range of functions, including portions of five (5) different residential apartments, mechanical and hydraulic functions, and photovoltaic panels.
Objective 4N-3 Roof design incorporates sustainability features Design guidance - Roof design maximises solar access to apartments during winter and provides shade during summer. Design solutions may include: - the roof lifts to the north - eaves and overhangs shade walls and windows from summer sun - Skylights and ventilation systems should be integrated into the roof design	Yes	Architectus supports the proposed photovoltaic panels (approximately 75% of roof area) to be installed on the roof.
4O Landscape Design		
Objective 4O-1 Landscape design is viable and sustainable Design guidance - Landscape design should be environmentally sustainable and can enhance environmental performance by incorporating: - diverse and appropriate planting - bio-filtration gardens - appropriately planted shading trees - areas for residents to plant vegetables and herbs - composting - green roofs or walls	Refer to comment	Architectus supports the landscape design of Friedlander Place. The use of artificial turf is both a durable substitute to grass and requires no maintenance. The reuse of 10 transplanted palms is also supported. Minor issues include: - Minimum soil depth required for advanced/large trees = 1200mm. Landscape plans specify only 1000mm Opportunity: - Potential to capture water falling on Friedlander Place & roof of proposed building

Apartment Design Guide (ADG)	Consistency	Comment
- Ongoing maintenance plans should be prepared Microclimate is enhanced by: - appropriately scaled trees near the eastern and western elevations for shade - a balance of evergreen and deciduous trees to provide shading in summer and sunlight access in winter - shade structures such as pergolas for balconies and courtyards - Tree and shrub selection considers size at maturity and the potential for roots to compete. - Based on site area the following tree plantings are recommended - Up to 850m²: 1 medium tree per 50m² of deep soil zone - Between 850 - 1,500m²: 1 large tree or 2 medium trees per 90m² of deep soil zone - Greater than 1,500m²: 1 large tree or 2 medium trees per 80m² of deep soil zone		
Objective 4O-2 Landscape design contributes to the streetscape and amenity Design guidance - Landscape design responds to the existing site conditions including: - changes of levels - views - significant landscape features including trees and rock outcrops - Significant landscape features should be protected by: - tree protection zones - appropriate signage and fencing during construction - Plants selected should be endemic to the region and reflect the local ecology	Yes	The proposed landscape design and choice of vegetation will have a positive impact upon the locality.
4P Planting on structures		
Objective 4P-1 Appropriate soil profiles are provided Design guidance - Structures are reinforced for additional saturated soil weight - Soil volume is appropriate for plant growth, considerations include: - modifying depths and widths according to the planting mix and irrigation frequency - free draining and long soil life span - tree anchorage - Minimum soil standards for plant sizes in accordance with the requirements listed below should be provided: - Large trees (12-18m high, up to 16m crown spread at maturity) require a minimum soil volume of 150m³, soil depth of 1200mm and a soil area of 10mx10m or equivalent - Medium trees (8-12m high, up to 8m crown spread at maturity) require a minimum soil volume of 35 m³, soil depth of 1000mm and a minimum soil area of 6mx6m or equivalent - Small trees (6-8m high, up to 4m crown spread at maturity) require a minimum soil area of 9m³, soil depth of 800mm and a minimum soil area of 3.5x3.5m or equivalent. - Shrubs require a minimum soil depth of 500-600mm - Ground cover requires a minimum soil depth of 300-	See comment	Generally the landscape design provided by Arcadia is compliant with the ADG. It is recommended that minimum soil depths for mature trees achieve a depth of 1200mm.

Apartment Design Guide (ADG)	Consistency	Comment
400mm – Turf requires a minimum soil depth of 200mm		
Objective 4P-2		
Plant growth is optimised with appropriate selection and maintenance Design guidance - Plants are suited to site conditions, considerations include: - drought and wind tolerance - seasonal changes in solar access - modified substrate depths for a diverse range of plants - plant longevity - A landscape maintenance plan is prepared Irrigation and drainage systems respond to: - changing site conditions - soil profile and the planting regime - whether rainwater, stormwater or recycled grey water is used	Yes	The use of native vegetation, especially in Friedlander Place is supported.
Objective 4P-3		
Planting on structures contributes to the quality and amenity of communal and public open spaces Design guidance - Building design incorporates opportunities for planting on structures. Design solutions may include: - green walls with specialised lighting for indoor green walls - wall design that incorporates planting - green roofs, particularly where roofs are visible from the public domain - planter boxes Note: structures designed to accommodate green walls should be integrated into the building facade and consider the ability of the facade to change over time	Yes	The planting on structure is supported. Planting along building edges up to and including level 5 soften the interface of the proposal with Pacific Highway and Friedlander Place.
4Q Universal design		
Objective 4Q-1		
Universal design features are included in apartment design to promote flexible housing for all community members Design guidance Developments achieve a benchmark of 20% of the total apartments incorporating the Liveable Housing Guideline's silver level universal design features.	Yes	Provision of adaptable apartments is supported (86 adaptable apartments, equates to 20% of total proposed apartments).
Objective 4Q-2		
A variety of apartments with adaptable designs are provided Design guidance - Adaptable housing should be provided in accordance with the relevant council policy - Design solutions for adaptable apartments include: - convenient access to communal and public areas - high level of solar access - minimal structural change and residential amenity loss when adapted - larger car parking spaces for accessibility - parking titled separately from apartments or shared car parking arrangements	Yes	Apartment types with capacity for adaption are supported.
Objective 4Q-3		
Apartment layouts are flexible and accommodate a range of lifestyle needs	Yes	The design of apartments to support flexible lifestyles is supported.

Apartment Design Guide (ADG)	Consistency	Comment
Design guidance		
- Apartment design incorporates flexible design solutions which may include: - rooms with multiple functions - dual master bedroom apartments with separate bathrooms - larger apartments with various living space options - open plan 'loft' style apartments with only a fixed kitchen, laundry and bathroom		
4R Adaptive reuse		
Objective 4R-1	N/A	N/A
New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place		
Design guidance		
- Design solutions may include: - new elements to align with the existing building - additions that complement the existing character, siting, scale, proportion, pattern, form and detailing - use of contemporary and complementary materials, finishes, textures and colours - Additions to heritage items should be clearly identifiable from the original building - New additions allow for the interpretation and future evolution of the building		
Objective 4R-2	N/A	
Adapted buildings provide residential amenity while not precluding future adaptive reuse		
Design guidance		
- Design features should be incorporated sensitively into adapted buildings to make up for any physical limitations, to ensure residential amenity is achieved. Design solutions may include: - generously sized voids in deeper buildings - alternative apartment types when orientation is poor - using additions to expand the existing building envelope - Some proposals that adapt existing buildings may not be able to achieve all of the design criteria in this Apartment Design Guide. Where developments are unable to achieve the design criteria, alternatives could be considered in the following areas: - where there are existing higher ceilings, depths of habitable rooms could increase subject to demonstrating access to natural ventilation, cross ventilation (when applicable) and solar and daylight access (see also sections 4A Solar and daylight access and 4B Natural ventilation) - alternatives to providing deep soil where less than the minimum requirement is currently available on the site - building and visual separation – subject to demonstrating alternative design approaches to achieving privacy common circulation - car parking - alternative approaches to private open space and balconies		
4S Mixed Use		

Apartment Design Guide (ADG)	Consistency	Comment
Objective 4S-1 Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement Design guidance - Mixed use development should be concentrated around public transport and centres - Mixed use developments positively contribute to the public domain. Design solutions may include: - development addresses the street - active frontages are provided - diverse activities and uses - avoiding blank walls at the ground level - live/work apartments on the ground floor level, rather than commercial	Yes	The mix of uses is considered acceptable given the sites proximity to St Leonards railway station (<300m walk) and adjacent position to the Pacific Highway. The location of retail uses is supported as it will support activation along the Pacific Highway, Friedlander Place and Nicholson Lane. The absence of blank walls (except minor section along Pacific Highway interface) is commended.
Objective 4S-2 Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents Design Guidance - Residential circulation areas should be clearly defined. Design solutions may include: - residential entries are separated from commercial entries and directly accessible from the street - commercial service areas are separated from residential components - residential car parking and communal facilities are separated or secured - security at entries and safe pedestrian routes are provided - concealment opportunities are avoided - Landscaped communal open space should be provided at podium or roof levels	Yes	Future signage and way finding and design elements should clearly delineate the various land use entries.
4T Awnings and signage		
Objective 4T-1 Awnings are well located and complement and integrate with the building design Design guidance - Awnings should be located along streets with high pedestrian activity and active frontages - A number of the following design solutions are used: - continuous awnings are maintained and provided in areas with an existing pattern - height, depth, material and form complements the existing street character - protection from the sun and rain is provided - awnings are wrapped around the secondary frontages of corner sites - awnings are retractable in areas without an established pattern - Awnings should be located over building entries for building address and public domain amenity - Awnings relate to residential windows, balconies, street tree planting, power poles and street infrastructure - Gutters and down pipes should be integrated and concealed - Lighting under awnings should be provided for pedestrian safety	Yes	The building entries along Pacific Highway and off Friedlander place are recessed substantially – providing reasonable protection to these entry points during adverse weather. The design of awnings is well integrated into the overall form of the building.

Apartment Design Guide (ADG)	Consistency	Comment
Objective 4T-2 Signage responds to the context and desired streetscape character Design guidance - Signage should be integrated into the building design and respond to the scale, proportion and detailing of the development - Legible and discrete way finding should be provided for larger developments - Signage is limited to being on and below awnings and a single facade sign on the primary street frontage	Yes	Signage location is supported as it is well integrated and in proportion to the building.
Performance		
4U Energy efficiency		
Objective 4U-1 Development incorporates passive environmental design Design guidance - Adequate natural light is provided to habitable rooms (see 4A Solar and daylight access) - Well located, screened outdoor areas should be provided for clothes drying	Yes	The proposed development achieves the minimum target for energy efficiency required under BASIX with a score of 20 (Pass score equates to 20). The large number of south facing apartments somewhat compromises the objective, however on balance when considered against orientation of the site and desired outlook, it is considered acceptable.
Objective 4U-2 Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer Design guidance - A number of the following design solutions are used: - the use of smart glass or other technologies on north and west elevations - thermal mass in the floors and walls of north facing rooms is maximised - polished concrete floors, tiles or timber rather than carpet - insulated roofs, walls and floors and seals on window and door openings - overhangs and shading devices such as awnings, blinds and screens - Provision of consolidated heating and cooling infrastructure should be located in a centralised location (e.g. the basement)	See comment	Materials of high thermal mass help to ensure good passive solar design outcomes. Further, balcony depth generally acts as a good shading device ranging in depth from 1 – 2 metres. The large number of south facing apartments somewhat compromises the objective, however on balance when considered against orientation of the site and desired outlook, it is considered acceptable.
Objective 4U-3 Adequate natural ventilation minimises the need for mechanical ventilation Design guidance - A number of the following design solutions are used: - rooms with similar usage are grouped together - natural cross ventilation for apartments is optimised - natural ventilation is provided to all habitable rooms and as many non-habitable rooms, common areas and circulation spaces as possible	Yes	The proposal is considered to provide an adequate degree of natural ventilation.
4V Water management and conservation		
Objective 4V-1 Potable water use is minimised Design guidance Water efficient fittings, appliances and wastewater reuse	Yes	The proposed development marginally exceeds the minimum target for water efficiency required under BASIX with a score of 41 (Target 40).

Apartment Design Guide (ADG)	Consistency	Comment
should be incorporated • Apartments should be individually metered • Rainwater should be collected, stored and reused on site • Drought tolerant, low water use plants should be used within landscaped areas		
Objective 4V-2 Urban stormwater is treated on site before being discharged to receiving waters Design Guidance • Water sensitive urban design systems are designed by a suitably qualified professional • A number of the following design solutions are used: – runoff is collected from roofs and balconies in water tanks and plumbed into toilets, laundry and irrigation – porous and open paving materials is maximised – on site stormwater and infiltration, including bio-retention systems such as rain gardens or street tree pits	See comment	Stormwater Concept Plans have been submitted as part of the proposal. Stormwater detention is proposed to appropriately mitigate stormwater. The use of rainwater tanks should be clarified, and if not used, should be investigated considering the potential for reuse to irrigate the extensive landscaped areas.
Objective 4V-3 Flood management systems are integrated into site design Design Guidance • Detention tanks should be located under paved areas, driveways or in basement car parks • On large sites parks or open spaces are designed to provide temporary on site detention basins.	Yes	Flood management is supported as it complies with Council DCP and is integrated into the design.
4W Waste management		
Objective 4W-1 Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents Design guidance • Adequately sized storage areas for rubbish bins should be located discreetly away from the front of the development or in the basement car park • Waste and recycling storage areas should be well ventilated • Circulation design allows bins to be easily manoeuvred between storage and collection points • Temporary storage should be provided for large bulk items such as mattresses • A waste management plan should be prepared	See comment	Waste management plan needs to be updated to reflect the reconfiguration of the loading dock.
Objective 4W-2 Domestic waste is minimised by providing safe and convenient source separation and recycling Design guidance • All dwellings should have a waste and recycling cupboard or temporary storage area of sufficient size to hold two days worth of waste and recycling • Communal waste and recycling rooms are in convenient and accessible locations related to each vertical core • For mixed use developments, residential waste and recycling storage areas and access should be separate and secure from other uses • Alternative waste disposal methods such as composting should be provided	See comment	Whilst Architectus prefers two garbage chutes for a tower of this size and density, it is acknowledged that the Applicant's waste consultant has advised the acceptable operation of the single chute system.

Apartment Design Guide (ADG)	Consistency	Comment
4X Building maintenance		
Objective 4X-1 Building design detail provides protection from weathering Design guidance - A number of the following design solutions are used: - roof overhangs to protect walls - hoods over windows and doors to protect openings - detailing horizontal edges with drip lines to avoid staining of surfaces - methods to eliminate or reduce planter box leaching - appropriate design and material selection for hostile locations	See comment	The proposal generally appears acceptable with respect to maintenance. A clear maintenance strategy/plan should be prepared to determine the areas of responsibility for each area of the development, in particular, in relation to inhabitable balcony spaces if they are not modified to planter boxes (south east corner) and made accessible (between U507, U808, U3605 and equivalent).
Objective 4X-2 Systems and access enable ease of maintenance Design Guidance - Window design enables cleaning from the inside of the building - Building maintenance systems should be incorporated and integrated into the design of the building form, roof and facade - Design solutions do not require external scaffolding for maintenance access - Manually operated systems such as blinds, sunshades and curtains are used in preference to mechanical systems - Centralised maintenance, services and storage should be provided for communal open space areas within the building	Yes	The proposal is considered to be of a manageable design in relation to cleaning and maintenance.
Objective 4X-3 Material selection reduces ongoing maintenance costs Design guidance - A number of the following design solutions are used: - sensors to control artificial lighting in common circulation and spaces - natural materials that weather well and improve with time such as face brickwork - easily cleaned surfaces that are graffiti resistant - robust and durable materials and finishes are used in locations which receive heavy wear and tear, such as common circulation areas and lift interiors	Yes	The proposal comprises substantial glazing for the residential tower, with a mix of rendered and cladded surfaces for the podium.

3.0 Conclusion and Recommendations

The proposed development is considered supportable in its current form, subject to the application of the following conditions:

Design modifications Conditions

1. At the north-eastern corner, the sharp corner created by the meeting of the northern and eastern façade balconies should be amended so that there is a clear continuation of the curved façade when the project is viewed from the Pacific Highway.

Prior to issue of a Construction Certificate

2. A signage and wayfinding strategy is to be prepared, clearly distinguishing between residential and non-residential building entry points.
3. An appropriate means of access control is to be provided between residential and non-residential car parking areas.
4. Landscape plans are to demonstrate a soil depth of at least 1.2 metres where large trees are proposed.
5. The use of rainwater tanks to capture some of the site's water runoff and reuse water for irrigation should be appropriate incorporated into the plans.

Prior to issue of Occupation Certificate

6. A site maintenance and cleaning strategy is to be prepared, outlining the frequency of cleaning and processes for maintenance and general repairs, including with respect to non-habitable balconies and the boundary landscaping and garden areas at the ground floor.

Operational Conditions

7. Non-habitable balcony areas are to be landscaped planter boxes or be subject of an appropriate strata by-law requiring access only for the purposes of cleaning and maintenance. Other use of balcony areas marked 'non-habitable' is prohibited.
8. A marked path of travel to be integrated into the design, coupled with adequate signage to provide safe bicycle access into and between basement levels.

