

MP09_0187 6-16 ATCHISON STREET - CONSISTENCY WITH RESIDENTIAL FLAT DESIGN CODE 2002

The following is a summary of the relevant provisions of the SEPP 65 compliance analysis which compares the approved Preferred Project Report scheme in the Major Project MP09_0187 prepared by FJMT and the proposed scheme prepared by Robertson + Marks Architects the subject of this S75W Modification Application. Also refer to the Architectural Plans submitted in support of this application, the full Architectural Design Statement and supporting reports.

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RFDC OBJECTIVES	KEY CONTROLS	APPROVED MAJOR PROJECT (PPR)	PROPOSED SCHEME
To contribute to the safety of the public domain	dwellings.		amount of glass frontage to the lobbies, cafe and shops at ground level. This increases the openness and visibility across the public spaces of the site.
Visual Privacy - To provide reasonable levels of visual privacy externally and internally, during the day and at night; - To maximise outlook and views from principle rooms and private open space without compromising visual privacy.	Rules of Thumb Refer to Building Separation minimum standards (see Building Separation).	Vertical blades are located at lower levels to the eastern and western facade	The proposal features visual privacy measures in accordance Condition B4 <i>Privacy Screening</i> of MP09_0187. The design provides cantilevered sunshades and internal shading devices which optimise both internal and external privacy, whilst simultaneously allowing natural daylight and ventilation to enter the units, and allowing residents to enjoy their views. Metal screens are proposed on the east and west facades which act as an effective privacy screen, as well as being a sun control device. This approach satisfies the BASIX requirements and ensures a suitable level of thermal comfort for occupants.
SITE ACCESS			
Building Entry - To create entrances which provide a desirable residential identity for the development - To orient the visitor - To contribute positively to the streetscape and building façade design	- Compliance with the relevant accessibility standards have been used as a basis for the design. 10% or 17 adaptable units are allowed for.		- Compliance with the relevant accessibility standards have been used as a basis for the design. 10% or 20 adaptable units are allowed for. The residential foyer has been increased in size and features double height ceilings and extensive glass areas to give presence and status to the building's entry. The foyer features glass on three sides and shares its foyer with the serviced apartments and public thereby borrowing a suggestion of the civic and benefiting from a strong urban identity to the residential entry.

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Parking - To minimise car dependency for commuting and recreational transport use and to promote alternative means of transport- public transport, bicycling and walking - To provide adequate car parking for the building's users and visitors, depending on building type and proximity to public transport - To integrate the location and design of the site and the building		- Access to the car park is available via lifts and fire stairs located within the residential lobby. - Car park entry from Atchison Lane – refer to swept path analysis within TTW report at Appendix 5 of PPR 168 car parking spaces are approved - Car Share scheme is proposed as part of Statement of Commitments at Appendix 11 of PPR	- The proposal seeks to maintain the approved 168 car parking spaces. - The car share scheme is maintained. - The proposal includes suitable access to public transport and provides bicycle facilities.
Pedestrian Access - To promote residential flat development which is well connected to the street and contributes to the accessibility of the public domain - To ensure that residents, including users of strollers and wheelchairs and people with bicycles, are able to reach and enter their apartment and use communal areas via minimum grade ramps, paths access ways or lifts.	Rule of Thumb - Identify the access requirements from the street or car parking area to the apartment entrance. - Follow the accessibility standard set out in Australian Standard AS 1428 (parts 1 and 2), as a minimum. - Provide barrier free access to at least 20 percent of dwellings in the development.	Pedestrian access is available from both Atchison Street and Atchison Lane through cross site linkages – at grade – Refer to Architectural plans	The proposal maintains the cross-site link, and provides improved pedestrian access by providing a more direct and open path of travel As discussed above, the apartments interface with the public and the street at the entry foyer. The openness and juxtaposition of foyers, retail and public spaces together with the through site pedestrian links encourage a shared ownership of the ground level public domain and provide a strong residential presence and connection. The public domain meets the accessibility requirements of AS1428 parts 1 and 2.
Vehicle Access - To integrate adequate car parking and servicing access without compromising street character, landscape or pedestrian amenity and safety - To encourage the active use of street frontages	Rules of thumb - Generally limit the width of driveways to a maximum of six metres. - Locate vehicle entries away from main pedestrian entries and on secondary frontages.	- Car park entry from Atchison Lane - Driveway width 5.5m – refer to swept path analysis within TTW report at Appendix 5 of PPR - Drop off zone within Atchison Street	The proposal maintains the vehicular access with a 5.5m wide driveway width, and includes the provision of a MRV reverse loading bay off Atchison Lane with direct access to the service area on the Lower Ground Floor Level. The reversing bay provides service and

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			loading areas for the non-residential uses, the loading and unloading of furniture and services for waste collection.
BUILDING CONFIGURATION			
Apartment Layout - To ensure the spatial arrangement of apartments is functional and well organised; - To ensure that apartment layouts provide high standards of residential amenity; - To maximise the environmental performance of apartments; - To accommodate a variety of household activities and occupants' needs.	Rules of Thumb - Single-aspect apartments should be limited in depth to 8 metres from a window. - The back of a kitchen should be no more than 8 metres from a window. - The width of cross-over or cross-through apartments over 15 metres deep should be 4 metres or greater to avoid deep narrow apartment layouts. - The Affordable Housing Service suggest the following minimum apartment sizes, which can contribute to housing affordability: (apartment size is only one factor influencing affordability) - Studio = 38.5m² 1 bedroom apartment 50m² 2 bedroom apartment 70m² 3 bedroom apartment 95m²	- Single aspect no greater than 7.3m from balcony - Max depth of any kitchen = 7.8m - No unit is over 13m deep - Minimum unit size: Studio = 34m² 1 bedroom = 49m² 2 bedroom = 85m² 3 bedroom = 139m² NOTE: Compliance with the kitchen depth rule of thumb in the approved scheme has come at the cost in some instances of narrow studio type apartments where the bedroom space is located behind the kitchen (north facing single aspect apartments on type 1A floors). This configuration was rejected in the amended scheme on the basis that it significantly compromised amenity. It is also arguable that north facing single aspect apartments on type 1D, 2D and 3C floors don't comply.	- Single aspect no greater than 9m from balcony - Max depth of any kitchen = 9m - No unit is over 9m deep which is an improvement over the approved design. - Minimum unit size: Studio = 39m² (increased) 1 bedroom = 50-52m² (increased) 2 bedroom = 70-77m² 3 bedroom = 103-139m² A variety of apartment sizes and types are proposed which will attract a wide range of social groups. There are a wide range of unit types available, at a number of price points to promote diversity in social mix. Advice regarding market demand in St Leonards suggests compact affordable 1 & 2 bedroom apartments are desirable. Experience also suggests that most people looking for 3 bedroom apartments have specific requirements and often prefer to buy 2+ smaller apartments that can be amalgamated / merged to suit their needs. On that basis the proposed mix is consistent with current market demand whilst also being flexible to support St Leonard's

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			broad social mix. Refer to the supporting comments from CBRE provided at Appendix 11 .
Apartment Mix - To provide a diversity of apartment types, which cater for different household requirements now and in the future - To maintain equitable access to new housing by cultural and socio-economic groups.	- Locate a mix of one- and three-bedroom apartments on the ground level where accessibility is more easily achieved for disabled, elderly people or families with children. - Optimise the number of accessible and adaptable apartments to cater for a wider range of occupants.	Studio = 17.3% 1 bedroom = 37% 2 bedroom = 38% 3 bedroom = 7.5%	Studio = 1% 1 bedroom = 56.5% 2 bedroom = 40% 3 bedroom = 2.5% Refer to discussion above and supporting comments from CBRE provided at Appendix 11 .
Balconies - To provide all apartments with private open space - To ensure balconies are functional and responsive to the environmental thereby promoting the enjoyment of outdoor living for apartment residents - To ensure that balconies are integrated into the overall architectural form and detail of residential flat buildings - To contribute to the safety and liveliness of the street by allowing for casual overlooking and address	Rules of Thumb - Provide primary balconies for all apartments with a minimum depth of 2 metres. Developments which seek to vary from the minimum standards must demonstrate that negative impacts from the context-noise, wind cannot be satisfactorily mitigated with design solutions. - Require scale plans of balcony with furniture layout to confirm adequate, useable space when an alternate balcony depth is proposed.	No balconies proposed – all winter gardens with a min. depth of 2m	The winter garden concept is being retained however the shape and size of the winter gardens are proposed to be modified. The proposed unit layouts feature winter gardens which extend, where possible, for the width of the units with inner and outer operable walls and doors. The floor finishes of the internal and external spaces are kept flush to enable a continuous living space when the inner operable walls are opened. This design enables the internal living areas to readily extend into the winter garden space when the doors are open. The approved layout of the units and winter gardens generally feature winter gardens which are square in shape with a depth of 2m. The approved design is considered to be inferior as these spaces were excluded / separate to the general internal living areas. In comparison, the layout of the proposed units and winter gardens provides a better level of amenity by providing a

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			living space which is more flexible and usable. The proposed apartment layouts are in keeping with the objective of 'meeting the broadest range of occupants needs' (RFDC p75) and is consistent with Diagram 3.16 Option C of the RFDC (p72). All apartments are provided with a POS area which is a direct extension of the internal living areas and is integrated into the architectural design of the building. The proposed design allows residents to fully utilise the winter garden area at their discretion.
Ceiling Heights - To increase the sense of space in apartments and provide well proportioned rooms; - To promote the penetration of daylight into the depths of the apartment; - To contribute to flexibility of use; - To achieve quality interior spaces while considering the external building form requirements.	Rule of Thumb - in residential flat buildings or other residential floors in mixed use buildings: 2.7 metre minimum for all habitable rooms on all floors, 2.4 metres is the preferred minimum for all non-habitable rooms, however 2.25m is permitted.	- Habitable rooms = 2.7m - Non-habitable = 2.4m - Penthouse = 2.95m	- Habitable rooms = 2.7m - Non-habitable = 2.4m - Penthouse = 2.7m
Flexibility - To encourage housing designs which meet the broadest range of the occupants' needs possible; - To promote 'long life loose fit' buildings, which can accommodate whole or partial changes of use; - To encourage adaptive re-use; - To save the embodied energy expended in building demolition	Provide robust building configurations, which utilise multiple entries and circulation cores, especially in larger buildings over 15 metres long	Two separate building entries and cores	The building is of concrete framed construction and has the potential for future adaptation or conversion as necessary. The development provides an appropriate balance between benefitting from solar access and other ESD principles. Appropriate and accessible entries are provided from the public domain. The corridors and circulation areas in the common areas and within the

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			apartments have been rationalised to provide a more efficient floor plan layout which offers maximum flexibility and environmental performance while also allowing occupants full enjoyment of the views.
Internal Circulation - To create safe and pleasant spaces for the circulation of people and their personal possessions; - To facilitate quality apartment layouts, such as dual aspect apartments; - To contribute positively to the form and articulation of the building façade and its relationship to the urban environment; - To encourage interaction and recognition between residents to contribute to a sense of community and improve perceptions of safety.	Rules of Thumb In general, where units are arranged off a double-loaded corridor, the number of units accessible from a single core / corridor should be limited to eight. Exceptions may be allowed: - for adaptive reuse buildings - where developments can demonstrate the achievement of the desired streetscape character and entry response - where developments can demonstrate a high level of amenity for common lobbies, corridors and units, (cross over, dual aspect apartments).	Refer to BCA report at Appendix 8 of PPR	The building is hi-rise with a small footprint in a highly urban context. It typically has 10 apartments served from a lift lobby. The corridors are not double loaded and the split configuration of the floor plate allows a high percentage of dual aspect apartments (typically 60% which is considerably higher than the 37.5% achieved in diagram 03.27 of RFDC demonstrating the ideal cluster core arrangement).
Storage - To provide adequate storage for everyday household items within easy access of the apartment; - To provide storage for sporting, leisure, fitness and hobby equipment;	Rules of Thumb In addition to kitchen cupboards and bedroom wardrobes, provide accessible storage facilities at the following rates: - studio apartments 6m³ - one-bedroom apartments 6m³ - two-bedroom apartments 8m³ - three plus bedroom apartments 10m³ At least 50% of the required storage within each apartment and accessible from either the hall or living area.	- Studio = 6.5-17m³ 1 bed = 10.8-21.5m³ 2 bed = 13-30m³ 3bed = 22.8-45m³ NOTE: The provision of storage as proposed in the approved FJMT scheme have been reviewed, and the amount of storage indicated on the plans does not agree with the summary above. Refer to Appendix 14 which reviews the location and amount of storage on the FJMT plans. This analysis indicates that there is an error in the figures indicated above. In actual	- Studio = at least 6m³ 1 bed = at least 6m³ 2 bed = at least 8m³ 3 bed = at least 10m³ Storage is provided within each apartment and at the basement levels. All apartments achieve the minimum requirements for storage facilities. The storage within apartment totals 658m³. The storage within the basement levels total 1,676m³. The total storage area provided within the development is 2,334m³. 68% of apartments achieve the

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		fact, the actual storage in the approved scheme is 9% of apartments achieving 50% of storage within the apartment.	minimum required internal storage area (being 50% of the total required storage area). The balance of the storage area is provided at the Basement Levels. Bicycle secure storage is also provided at the basement levels. Compared to the approved scheme, this proposal substantially increases the amount of internal storage provided within the apartments and is clearly a more superior outcome.
BUILDING AMENITY			
Daylight Access - To ensure that daylight access is provided to all habitable rooms and encouraged in all other areas of residential flat development - To provide adequate ambient lighting and minimise the need for artificial lighting during daylight hours; - To provide residents with the ability to adjust the quantity of daylight to suit their needs	Rules of Thumb - Living rooms and private open spaces for at least 70% of apartments in a development should receive a minimum of 3hours direct sunlight between 9 am and 3 pm in mid winter. In dense urban areas a minimum of 2hr may be acceptable. - Limit the number of single-aspect apartments with a southerly aspect (SW-SE) to a maximum of 10 percent of the total units proposed.	53% of units receive a minimum of 2hr of sunlight between 9am and 3pm Note: An expert assessment of the solar access has been undertaken to compare the approved and proposed schemes. Refer to the Desktop Solar Access Visual Assessment prepared by Windtech at Appendix 13. The approved scheme would achieve solar access for a minimum of 2 hours of sunlight at midwinter between 9am and 3pm of 53%.	54% of apartments receive a minimum of 2 hours sunlight at midwinter between 9am and 3pm to both the POS area and living rooms. 114 apartments have corner aspects to optimise access to natural light, ventilation and extensive panoramic views from the site. The proposal ensures that solar access has been optimised for the development which is 'balanced with' RFDC issues including: 'providing for enjoyment of views' (part 2 Orientation); and 'ensuring the spatial arrangement of apartments is functional and well organised' (part 3 Apartment Layout). For the purpose of undertaking a thorough analysis, R+M have prepared

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			an alternative layout which is capable of achieving 70% solar access in full compliance with the RFDC Rule of Thumb. Although this layout has the potential to achieve satisfactory solar access, this is achieved at the expense of limiting the internal amenity of the units. This scheme is considered to have a poor spatial arrangement, loss of space to enable circulation, in appropriate circulation through kitchen spaces and limited availability to views. Refer to the Solar Access analysis provided at Appendix 13. The floor plan layout which is capable of 70% solar access results in 16% of the apartment layouts having an inferior design. Comparatively, the proposed scheme, which achieves 54%, is a more efficient use of space which better relates to the surrounding context and views, and results in a superior amenity outcome. This proposal is representative of the optimal response to the site context.
Natural Ventilation • To ensure that apartments are designed to provide all habitable rooms with direct access to fresh air and to assist in promoting thermal comfort for occupants; • To provide natural ventilation in non-habitable rooms, where possible; • To reduce energy consumption by minimising the use of mechanical ventilation, particularly air	Rules of Thumb • Building depths, which support natural ventilation typically range from 10 to 18 metres. • Sixty percent (60%) of residential units should be naturally cross ventilated. • Twenty five percent (25%) of kitchens within a development should have access to natural ventilation.	• 120 or 69% of units are naturally cross ventilated	• 132 or 66% of units are naturally cross ventilated. • This figure is based on expert advice from SLR Consulting which confirms the development achieves a satisfactory level of natural ventilation. Refer to the Natural Ventilation Report prepared by SLR provided at Appendix 7. • 114 apartments have corner aspects to optimise access to natural light, ventilation and

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conditioning;			extensive panoramic views from the site. Minimum 40% of kitchens will have access to natural ventilation. The higher rate of cross ventilation in the approved scheme is made possible by the inclusion of high numbers of small apartments at lower levels and consequently, extended areas of circulation are required within corridors and apartments thereby compromising the amenity of the apartments. The proposed scheme provides a more efficient layout and design which satisfies the RFDC Rule of Thumb and offers a high level of amenity to occupants.
BUILDING FORM			
Awnings and Signage - To provide shelter for public streets - To ensure signage is in keeping with desired streetscape character and with the development in scale, detail and overall design		- Building design allows for appropriate sheltered building identification signage - Any signage will be the subject of a formal DA process	- Building design allows for appropriate sheltered building identification signage - Any signage will be the subject of a formal DA process
Roof Design - To provide quality roof designs, which contribute to the overall design and performance of residential flat buildings; - To integrate the design of the roof into the overall façade, building composition and desired contextual response;		Proposed flat roof design which integrates with the overall building facade	Proposed flat roof design which integrates with the overall building façade
Building Performance			

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Energy Efficiency - To reduce the necessity for mechanical heating and cooling; - To reduce reliance on fossil fuels - To minimise greenhouse gas emissions - To support and promote renewable energy initiatives		Refer to BASIX certificate at Appendix 10 of PPR.	Residential Energy Efficiency – The design of the proposed development ensures that the NSW government's minimum requirements for energy efficiency will be exceeded (refer BASIX Assessment Appendix 8). BCA Energy Efficiency – The design of the proposed development ensures that minimum requirements of BCA Section J (Parts 1 and 2) will be achieved (refer Section J Assessment Appendix 8).
Waste Management - To avoid the generation of waste through design, material selection and building practices - To plan for the types, amount and disposal of waste to be generated during demolition, excavation and construction of the development; - To encourage waste minimisation, including source separation, reuse and recycling - To ensure efficient storage and collection of waste and quality design of facilities	Rule of Thumb Supply waste management plans as part of the development application submission as per the NSW Waste Board.	Refer to construction management plan at Appendix 7 of PPR.	This application seeks to maintain the commitments in the approved CMP.
Water Conservation - To reduce mains consumption of potable water - To reduce the quality of urban storm water runoff	Rule of Thumb Rainwater is not to be collected from roofs coated with lead- or bitumen-based paints, or from asbestos-cement roofs. Normal guttering is sufficient for water collections provided that it is kept clear of leaves and debris.	Refer to ESD at Appendix 10 of PPR.	Residential Water Conservation – The design of the proposed development ensures that the NSW government's minimum requirements for water conservation will be achieved (refer BASIX Assessment Appendix 8).