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Nominated Architects
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Prepared to accompany the Part 3A application submitted for

Residential Development 5 Whiteside, 14 and 16 David Avenue
For EGC Custodian Services

Verification of Qualifications

John Pradel and Adam Haddow are registered as Architects in New South Wales and are enrolled in the Division of Chartered Architects in the register of Architects pursuant to the Architect Act 1921.
Their registration Numbers are 7004 and 7188.

Statement of Design

SJB have been responsible for the design of the project since its inception and have worked with related professionals and experts in respect of the matter. The project has been designed to provide a development that is respectful of local planning and design controls and that responds to the best practise design principles of SEPP No. 65.

SJB verify that the design quality principles set out in Part 2 of State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development are achieved for the proposed mixed development as stated below.

SEPP Design Verification Statement

The assessment of the proposal is made in accordance with respect to the Design Quality principles as set out in SEPP 65, part 2. As noted in the introduction:

- Good design is a creative process which, when applied to towns and cities, results in the development of great urban places: buildings, streets, squares and parks.
- Good design is inextricably linked to its site and locality, responding to the landscape, existing built form, culture and attitudes. It provides sustainable living environments, both in private and public areas.
- Good Design serves the public interest and includes appropriate innovation to respond to technical, social, aesthetic, economic and environmental challenges.
- The design quality principles do not generate design solutions, but provide a guide to achieving good design and the means of evaluating the *merit* of proposed solutions.

SJB have prepared and reviewed the architectural drawings and are satisfied that the design meets the intent of the design quality principles as set out in part 2 of State Environmental Planning Policy No.65 Design Quality of Residential Flat Development.

SJB have extensive experience in the design of residential housing developments in various forms ranging from dual occupancy housing to high rise apartment development.

Reference has also been made to the Residential Flat Design Code in preparing this report. These sections are used in order to cite objectives for each of the section headings.

Principle 1: Context

Good design responds and contributes to its context. Context can be defined as the key natural and built features of an area.

Responding to context involves identifying the desirable elements of a location's current character or, in the case of precincts undergoing a transition, the desired future character as stated in planning and design policies. New buildings will thereby contribute to the quality and identity of the area.

The subject site has a street address of 5 Whiteside Street, and 14 and 16 David Avenue over three lots (DP 25688, DP 260000 and DP 25688) with a site area of 13,960sqm.

Currently, the site contains a mix of 1 storey houses and a horse riding centre facing David Ave. The site has no vehicular access at present.

The site is irregular in shape with a frontage to Epping Road of 123.9m, a frontage to Whiteside Street of 17m and a frontage to David Avenue of 15.2m. The site falls approximately 4.8m from the South Eastern corner to the North Western corner fronting Epping Road.

Development south of Epping Road contains predominantly one and two storey detached dwellings of varying age and condition, reflecting typical suburban development patterns. The residential areas are occasionally interspersed by other built form, including small scale local activity centres (retail/commercial) and schools. The housing stock directly adjacent to Epping Road Is typically of poorer quality, reflecting the significant acoustic and environmental impact of Epping and Lane Cove Roads. Generally, the housing stock is of higher quality as it moves away from major road infrastructure. The Macquarie Park Corridor was formerly dominated by light industrial uses, but now comprises mostly commercial office buildings, medical and pharmaceutical research facilities, and some warehouses. The office buildings are typically relatively large floorplate forms, ranging in height from two to ten storeys.
Similarly, the Macquarie University campus contains a diverse range of buildings, including educational, research and accommodation, with an approximate height range of 1-7 storeys. These buildings are predominantly large-scale and commercial in appearance.

Our proposal seeks to respond to its context by providing a series of differently scaled buildings which relate to the edge conditions at the boundaries as illustrated in the submitted elevations and photomontages and is respectful of privacy of its neighbours

In view of the above, the proposed development is appropriate in its context.

Principle 2: Scale

Good design provides an appropriate scale in terms of the bulk and height that suits the scale of the street and the surrounding buildings.

Establishing an appropriate scale requires a considered response to the scale of existing development. In precincts undergoing a transition, proposed bulk and height needs to achieve the scale identified for the desired future character of the area.

The development seek to address the hard edge along Epping Road, whilst to the rear boundaries relating more to the domestic scale of the existing 1 and 2 story houses.

Where appropriate, the development also adheres to the Council DCP 2010 setbacks to the rear and side of the site. This issue in terms of principal is highlighted in the Planning report prepared by Urbis.

Principle 3: Built Form

Good design achieves an appropriate built form for a site and the building's purpose, in terms of building alignments, proportions, building type and the manipulation of building elements.

The form of the buildings is responsive to the surrounding context. The buildings vary in height from 3 storeys to 8 storeys with the highest blocks addressing the hard edge fronting Epping Road. The form of the buildings to the northern side of the site relate to the built form of the existing buildings to the north of Epping road. These buildings that exist in Macquarie Business Park include a 10 storey commercial building which site directly north to the site. The "Avaya" building in terms of built form and scale relates to the proposed building A, which is 8 storeys high with a significantly less floor to floor height comparatively.
The proposed scheme, responds to the future strategic development plan for the area which calls for a greater level of density. The buildings the rear of the site, buildings B, C and D, relate more to the local context of single and double storey domestic dwellings, and are further offset by landscape planting providing a screening between the existing dwellings and the proposed building envelopes.

The building forms are responsive to the objectives of good design which call for,

- Variety in the use of materials,
- Ensuring that view corridors are protected,
- Providing a diversity in apartment types,
- Providing visual and acoustic privacy,
- Provision for clear and safe entry points to the buildings,

In view of the above the proposed development is considered to be consistent with the objectives.

Principle 4: Density

Good design has a density appropriate for a site and its context, in terms of floor space yields (or numbers of units or residents)

The proposed density has been accommodated on the site in a manner that does not compromise the amenity of adjacent occupants particularly in respect of solar access, cross ventilation, privacy considerations and relative to the RFDC principals.

Principle 5: Resource, energy and water efficiency

Good design makes efficient use of natural resources, energy, and water throughout its full life cycle, including construction

The proposed design solution is consistent with the principles of SEPP No. 65 particularly through the orientation and design of the units (solar access and ventilation) and the choice of

construction materials to reduce heating and cooling costs; the capture of stormwater to provide for irrigation though the introduction of a swale that runs through the site and the selection of appropriate planting/landscaping (refer to landscape plan). An ESD report outlines the principals of how the proposed development can achieve a green star rating and meet the minimum BASIX requirements.

A conceptual analysis of the buildings has been undertaken in order to meet BASIX requirements and solar amenity.

The Planning report details the buildings performance in this regard with a conclusion that the design is consistent with the stated objectives.

Principle 6: Landscape

Good design recognises that together landscape and buildings operate as an integrated sustainable system, resulting in greater aesthetic quality and amenity for both the residents and for the public domain.

The proposed development makes provision for planting in common open spaces and areas where the provision of landscaping is practical.

Fences and walls are included as vertical landscape elements designed to define boundaries between one space and the next or to rationalise a change in level. The design of fences and walls has an impact on the real and perceived safety and security of residents as well on the amenity of the public domain and the identity of the residential development.

A landscape design has been provided with the part 3A Application. The drawings include the following principles:

- Provision of a substantial central landscaped common area in the form of an area to the north of the site. The communal area is bound by Building A and the northern boundary providing security + privacy.
- Provision of a 'green buffer' to the proposed development to assist in integrating the buildings into the surrounding urban and residential fabric;
- Unifacation the various open spaces within the site through material choice, colour, spatial geometry and planting selection;
- Provision of adequate privacy through walls, fences, screens and planting;
- Provision of sufficient soil depths for intended plants;
- Utilization robust materials and planting to avoid intense maintenance regimes;
- Adherence to WSUD and ESD principles in terms of stormwater management, selection of low water-use plants and porous ground surfaces;
- Provision new public connections through the site that extend existing pedestrian and cycle links

See the landscape architects statement by Aspect and drawings for more details.

Principle 7: Amenity

Good design provides amenity through the physical, spatial and environmental quality of a development.

In conceiving the design the following issues were considered:

- Each unit has been provided with a private recreation area (or balcony) that has a functional area and configuration conductive to recreational use. The private recreation areas are directly accessible from the internal living areas and most benefit from good solar access.
- Over 60% of apartments can be considered to be cross ventilated
- Over 95% of units have a minimum of 3 hours of solar access on June 21 between 9am and 3pm
- Privacy between balconies has been carefully considered.
- Day lighting has been considered for the general amenity of all apartments. The depth of the dwellings has been restricted to maintain reasonable access to natural daylight to all rooms therein.

Principle 8: Safety and Security

The design proposes the following security measures to restrict and control communal access around the proposal:

Design initiatives have been incorporated as follows,

- The principle building entrances are clearly identifiable and allow for passive surveillance,
- The apartment buildings and common landscaped areas are security controlled,
- Building entrance is orientated is highlighted through the use of building form and articulation of materials
- The car park layouts are designed to minimise opportunities for alcoves. Columns or walls do not obstruct sight lines and the car parks are generally open and security access will be provided.
- Lighting details will be furnished in accordance with Australian Standards.
- Direct access is available from the basement to the pedestrian areas where access can be gained to all apartments including disabled access

Principle 9: Social Dimensions

Good design responds to the social context and needs of the local community in terms of lifestyles, affordability and access to social facilities.

This proposal provides for a market responsive mix of approx. 30/60/10%, thereby providing a range of housing choice. The proposal incorporates a broad range of apartment types within each category with different characteristics and each offers a high level of amenity with easy access to the main circulation routes and landscaped communal areas.

Principle 10: Aesthetics

Quality aesthetics require the appropriate composition of building elements, texture, material and colours and reflect the use, internal design and structure of the development. Aesthetics should respond to the environment and context, particularly to the desirable elements of the existing streetscape, or in precincts undergoing transition, contribute to the desired future character of the area.

The proposed buildings are designed to having a regard to the future surrounds and development of this Precinct and adjacent Precincts. The envelopes of the buildings respond to a desire to engage with the desired future character of the area, through bulk, density and scale, whilst materials used will enhance the streetscape character at ground level through engagement with the landscaping. The proposed development has been suitably treated to include material finishes which have a high aesthetic content. Furthermore, the design has been detailed to reflect contemporary design initiatives through the use of variation in form and material.

SEPP 65 COMPLIANCE TABLE

Below is a Summary of Compliance with SEPP 65 Guidelines:

Relevant Section	Objectives	Proposed Development	Compliance
Part 1 – Local Context			
Building Height	▪ To ensure future development responds to the desired scale and character of the street and local area. ▪ To allow reasonable daylight access to all developments and the public domain. ▪ Additional drawings should be provided illustrating the difference in overshadowing (if any) between the shadow cast by the agreed building envelope and the scheme currently proposed.	▪ The development has been designed so that the heights of the four main buildings address the contextual conditions, namely the hard edge to Epping Road and the existing residential properties to the rear of the site. ▪ The buidlings B, C and D to the rear & east of the site have the lowest number of storeys within the development and relate to the residential properties in terms of sightlines and height ▪ The height of the development is at its greatest to the centre and to the edge facing Epping Road where the buildings within the Macquarie Business Park to the opposite side of Epping Road that have a higher building height. ▪ Daylight access is achieved for 3 hours in mid winter to the private open spaces to the adjacent dwellings to parklands Ave, David Ave and Whiteside Street.	

Relevant Section	Objectives	Proposed Development	Compliance
Building Depth	▪ To ensure that the bulk of the development is in scale with the existing or desired future context. ▪ To provide adequate amenity for building occupants in terms of sun access and natural ventilation. ▪ To provide for dual aspect apartments	▪ The bulk of the development has been designed to relate specifically to the development zoning to the sites on the opposite sides of Epping road ▪ The building depth provides adequate amenity to the occupants. More than 60% of apartments will have cross ventilation and at approx 95% of apartments will have 3 hours of sun access in mid winter to the living space and private open spaces.	
Building Separation	▪ To ensure that new development is scaled to support the desired area character with appropriate massing and spaces between buildings ▪ To provide visual and acoustic privacy for existing and new residents ▪ To control overshadowing of adjacent properties and private or shared open space ▪ To allow for the provision of open space with appropriate size and proportion for recreational activities for building occupants ▪ To provide deep soil zones for stormwater management and tree planting, where contextual and site conditions allow	▪ The development considers the massing and the built envelope in respect to locality, surrounding street and adjacent buildings especially those to the north of Epping Road ▪ The community gardens are located in an area that provides a key entry to the site and that achieves maximum sunlight with no overshadowing. ▪ Deep soil zones have been provided to all edges of the development to provide greater amenity to the neighbouring properties which address privacy and acoustics. ▪ Stormwater runoff will be treated with bio-retention swales. ▪ Water quantity would be minimised through the implementation of rainwater reuse via rainwater tanks and maximisation of infiltration areas.	

Relevant Section	Objectives	Proposed Development	Compliance
Street Setbacks	▪ To establish the desired spatial proportions of the street and define the street edge. ▪ To create a clear threshold by providing a transition between public and private space. ▪ To assist in achieving visual privacy to apartments from the street. ▪ To create good quality entry spaces to lobbies, foyers or individual dwelling entrances. ▪ To allow an outlook to and surveillance of the street. To allow for street landscape character.	▪ The Epping Road edge addresses and reflects the harsh nature of the 6 to 8 lane RTA road through raising the building podium which provides an opportunity to naturally ventilate the car park. Courtyards that directly face onto the Epping Road edge are bound with a high fence and vegetation to address privacy and acoustic issues. ▪ The potential to develop the currently owned RTA land to the north of the site will through landscaping offer further advantages to the occupants regarding acoustics and privacy ▪ The setbacks to the rear and the side of the site adhere to minimum DCP setback requirements and address the locality of the surrounding context. The relationship of Building B, C & D and the existing adjoined properties in terms of privacy is addressed through landscaping, screening and louvered screens to the rear. ▪ Visual privacy is to the apartments is enhanced through the design of integrated balconies set within the prominent building line. Privacy and sun shading is also offered through the use of screens and shutters overlooking the communal areas and the public areas. ▪ The entries of each building are clearly defined through splayed and articulated entry points with a security gate with a swipe card entry. ▪ The gated entries will define the boundary between	

Relevant Section	Objectives	Proposed Development	Compliance
		public and communal areas for residents.	
Side and Rear Setbacks	▪ Side Setbacks: ▪ To minimise the impact of development on light, air, sun, privacy, views and outlook for neighbouring properties, including future buildings. ▪ To retain or create a rhythm or pattern of development that positively defines the streetscape so that space is not just what is left over around the building form. ▪ Rear Setbacks: ▪ To maintain deep soil zones to maximise natural site drainage and protect the water table. ▪ To maximise the opportunity to retain and reinforce mature vegetation. ▪ To optimise the use of land at the rear and surveillance of the street at the front. ▪ To maximise building separation to provide visual and acoustic privacy.	▪ The side and the rear setbacks have been set as per the DCP minimum requirements with extra amenity to the neighbouring properties offered through landscape screen to the boundary edges. ▪ Apartments in building B all have a north aspect with screened circulation to the rear of the building to minimise the possibility for occupants to overlook the existing properties to the south of the site. ▪ All surface run off is collected into a swale which is incorporated into the landscape design and the shared way ▪ The buildings are designed to achieve maximum separation without compromising the amenity of the neighbouring properties regarding solar access visual privacy and acoustics. ▪ An arborist report has found that only a small number of existing tress that are worth keeping due to ill health. New landscaping is incorporated into the design to provide green spaces which will be actively utilised by residents and visitor alike.	
Floor Space Ratio	▪ To ensure that development is in keeping with the optimum capacity of the site and the local	▪ The site represents an opportunity to provide the residential targets in the Macquarie Rail Corridor ▪ The size of the site has the	

Relevant Section	Objectives	Proposed Development	Compliance
	area. ▪ To define allowable development density for generic building types. ▪ To provide opportunities for modulation and depth of external walls within the allowable FSR. ▪ To promote thin cross-section buildings, which maximise daylight access and natural ventilation. ▪ To allow generous habitable balconies.	ability to produce a dense urban fabric close to the rail corridor and the business park ▪ All balconies to apartments are 2.0m deep to provide a comfortable space for a table and 4 chairs.	
Part 2- Site Design			
Relevant Section	Objectives	Proposed Development	Compliance
Deep Soil Zones	▪ To assist with management of the water table. ▪ To assist with management of water quality. ▪ To improve the amenity of developments through the retention and/or planting of large and medium size trees. Rule of Thumb ▪ A minimum of 25 percent of the open space area of a site should be a deep soil zone; more is desirable. Exceptions may be made in urban area where sites are built out and there is no capacity for water infiltration. In these instances, stormwater treatment measures must be integrated with the design of the residential	▪ Deep soil area of 4859 sqm will be provided in the proposal development. Significant quantity of large trees will be planted in the deep soil areas. See landscape drawings for planting schedule. ▪ The development has deep soil zones all along the boundaries with the exception of the northern edge facing Epping road which is bound by the RTA lands which has potential to be landscaped.	

Relevant Section	Objectives	Proposed Development	Compliance
	flat building. (See Stormwater Management)		
Fences and Walls	▪ To define the edges between public and private land. ▪ To define the boundaries between areas within the development having different functions or owners. ▪ To provide privacy and security. ▪ To contribute positively to the public domain.	▪ Fences are included in the proposed development to define public and private areas, to separate different functions and to provide privacy and security for residents. Fence and wall types will be integrated with the architectural materials and will be 'softened' where possible by adjacent proposed planting	
Landscape Design	▪ To add value to residents' quality of life within the development in the forms of privacy, outlook and views. ▪ To provide habitat for native indigenous plants and animals. ▪ To improve stormwater quality and reduce quantity. ▪ To improve the microclimate and solar performance within the development. ▪ To improve urban air quality. ▪ To contribute to biodiversity.	▪ The landscape design provides a green buffer to the proposed development to assist in integrating the buildings into the surrounding urban and residential fabric. ▪ The landscape design will incorporate native plants to encourage fauna ▪ All surface runoff water will be directed to a centrally located swale which will filter into a detention tank ▪ ESD principals have been adhered to including: Water sensitive design Use of plants that require low levels of irrigation Recycled site water for irrigation Recycled and robust materials Capture of water runoff for water features Water quantity would be minimised through the implementation of rainwater reuse via rainwater tanks and maximisation of infiltration areas.	

Relevant Section	Objectives	Proposed Development	Compliance
Open Space	▪ To provide residents with passive and active recreational opportunities. ▪ To provide an area on site that enables soft landscaping and deep soil planting. ▪ To ensure that communal open space is consolidated, configured and designed to be useable and attractive. ▪ To provide a pleasant outlook. Rules of Thumb ▪ The area of communal open space required should generally be at least between 25 and 30 percent of the site area. Larger sites and Brownfield site may have potential for more than 30 percent. ▪ Where developments are unable to achieve the recommended communal open space, such as those in dense urban areas, they must demonstrate that residential amenity is provided in the form of increased private open space and/or in contribution to public open space. ▪ The minimum recommended area of private open space for each apartment at ground level or dimension in one direction is 4 metres. (See Balconies for other	▪ Open space provided achieves the minimum 30% Including all public space. ▪ The communal open space incorporated into the design of the development create different types of spaces that encourage use by the public and the occupants alike, including community gardens, a children's play area and a centrally located shared way providing an alternative to a road through the development. These spaces are split into smaller parcels of land that act as buffers from the neighbouring properties and also encourage the full use of the site by the occupants and public. ▪ The communal spaces provide opportunities to have soft landscaping and deep soils ▪ All ground floor apartments have private open space with a minimum courtyard space of 4m in one direction	

Relevant Section	Objectives	Proposed Development	Compliance
	private open space requirements).		
Orientation	▪ To optimise solar access to residential apartments within the development and adjacent development. ▪ To contribute positively to desired streetscape character. ▪ To support landscape design of consolidated open space areas. ▪ To protect the amenity of existing development. ▪ To improve the thermal efficiency of new buildings.	▪ Buildings and the open spaces have been located to optimise solar access; make a positive contribution to streetscape; and provide consolidated areas of high quality and useable open space which protect the amenity of existing neighbours and to improve the thermal efficiency of new buildings. ▪ All adjacent residences obtain a minimum of 3 hours of sunlight in mid winter to private open spaces ▪ Landscape and articulation of the facades of the buildings B, C, and D provide a desired street character.	
Planting on Structures	▪ To contribute to the quality and amenity of communal open space on roof tops, podiums and internal courtyards. ▪ To encourage the establishment and healthy growth of trees in urban areas. Rules of Thumb ▪ In terms of soil provision there is no minimum standard that can be applied to all situation as the requirements vary with the size of plants and trees at maturity. The following are recommended as minimum standards for a range of plant sizes; ▪ Large trees such as figs (canopy diameter of up to 16 metres at maturity)	▪ Atrium spaces have been designed to provide adequate soil depth for small and medium trees, understory planting and vines.	

Relevant Section	Objectives	Proposed Development	Compliance
	minimum soil volume 150 cubic metres minimum soil depth 1.3 metres minimum soil area 10 metre x 10 metre area or equivalent ▪ Medium trees (8 metre canopy diameter at maturity) minimum soil volume 35 cubic metres minimum soil depth 1 metre approximate soil area 6 metres x 6 metres or equivalent ▪ Small trees (4 metre canopy diameter at maturity) minimum soil volume 9 cubic metres minimum soil depth 800mm approximate soil area 3.5 metres x 3.5 metres or equivalent ▪ Shrubs minimum soil depths 500-600mm ▪ Ground cover minimum soil depths 300-450mm minimum soil depths 100-300mm any subsurface drainage requirements are in addition to the minimum soil depths quoted above		
Storm Water Management	▪ To minimise the impacts of residential flat development and associate infrastructure on the health and amenity of natural water	▪ Water sensitive urban design principles have been adopted into the design of the stormwater drainage network across the site. ▪ To mimic the hydraulics	

Relevant Section	Objectives	Proposed Development	Compliance
	ways. ▪ To preserve existing topographic and natural features including water courses and wetland. ▪ To minimises the discharge of sediment and other pollutants to the urban storm water drainage system during construction activity.	behaviour of existing site, an on-site detention tank would be implemented and designed to control peak flows from the development. This would ensure that peak flows under developed conditions do not exceed those generated under existing conditions. ▪ Volumetric runoff from the development would also be controlled through the use of water re-use via rainwater tanks, and maximisation of infiltration areas across the site. ▪ Stormwater quality would be treated through the implementation of bio-retention swales, which has been sized appropriately to reduce total pollutant discharge from the site.	
Safety	▪ To ensure residential flat developments are safe and secure for residents and visitors. ▪ To contribute to the safety of the public domain. Rule of Thumb ▪ Carry out a formal crime risk assessment for all residential developments of more than 20 new dwellings.	▪ The public and private domain will be clearly identifiable A full CPTED assessment will be completed ▪ The development will incorporate the CPTED design principals of well lit spaces with good sightlines offering the occupants and the public a level of surveillance, whilst considering access control, territorial reinforcement and space management	
Visual Privacy	▪ To provide reasonable levels of visual privacy externally and internally, during the day and at night. ▪ To maximise outlook and views from principal rooms and private open	▪ The separation of buildings A and B is19m from habitable room to habitable room. ▪ All buildings will have louvers and operable shutters to control visual privacy for each apartment	

Relevant Section	Objectives	Proposed Development	Compliance
	space without compromising visual privacy. Rule of Thumb ▪ Refer to Building Separation minimum standards.		
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 facade design.	▪ Main entry points to each building block is highlighted by landscaping and building articulation and splay lines to the built form to encourage surveillance and address CPTED issues ▪ Gated entries to each building will clearly define public and communal open space	
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 building's users and visitors, depending on building type and proximity to public transport. ▪ To integrate the location and design of car parking with the design of the site and the building.	▪ The development meets the requirement for car parking allocation on site. ▪ The location of the underground car park does not have a negative impact on the development ▪ On grade parking integrated into the design of the shared way, with car sharing facilities provided	
Pedestrian Access	▪ To promote residential flat development that is well connected to the street and contributes to the accessibility of the public domain. ▪ To ensure that residents, including users of strollers and	▪ Landscape design includes clearly legible system of pedestrian and cycle paths through the site, with three entry points into the site from the surrounding infrastructure. Pedestrians are encouraged to traverse the site via the shared way	

Relevant Section	Objectives	Proposed Development	Compliance
	wheelchairs are people with bicycles, are able to reach and enter their apartment and use communal areas via minimum grade ramps, paths, access ways or lifts.	between Whiteside St and David Ave. ▪ Across the site there is a level change of over 4.5m which is dealt with each building being set into the natural grade to ensure minimal height changes on grade when accessing all public areas. Accessible units are located in areas that have no grade change from street to front entry to the apartments	
Vehicular 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. Rule of Thumb ▪ Generally limit the width of driveways to a maximum of six metres. ▪ Locate vehicle entries away from main pedestrian entries on secondary frontages.	▪ The vehicular access into the development is from Whiteside Street, with a share way concept through the main part of the site. Vehicular access to the entry point into the car park is one way, with the exit also being one way. The share way through the site is also one way and pedestrian friendly. Passing bays and turning bays have been provided to allow for passing traffic. ▪ The width of the two way driveway entry to the car park is 3.9m wide ▪ The car park entry is located away from the main pedestrian routes into the site	
Part 3- Building Design			
	Rule 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	▪ The typical apartment layouts are simple in that they are buildable, serviceable and provide a good level of environmental performance ▪ Each apartment layout provides a good level of residential amenity ▪ All kitchen windows are no more than 8m from a window ▪ The width of each apartment type is greater than 4m ▪ The minimum apartment sizes apply to the typical	

Relevant Section	Objectives	Proposed Development	Compliance
	avoid deep narrow apartments layouts. ▪ Buildings not meeting the minimum standards listed above, must demonstrate how satisfactory day lighting and natural ventilation can be achieved, particularly in relation to habitable rooms (see Daylight Access and Natural Ventilation). ▪ If council chooses to standardise apartment sizes, a range of sizes that do not exclude affordable housing should be used. As a guide, the Affordable Housing Service suggest the following minimum apartment sizes, which can contribute to housing affordability; (apartment size is only one factor influencing affordability) - 1 bedroom apartment 50m² - 2 bedroom apartment 70m² - 3 bedroom apartment 95m²	apartments in the development	
Apartment Layout	▪ To provide a diversity of apartments 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.	▪ The apartment mix will cater for different household requirements ▪ All apartment types have a balcony or a courtyard is located on the ground floor level in the development ▪ All balconies have a minimum depth of 2m or greater ▪ Each apartment block will provide a good level or surveillance to the central communal and public areas between buildings A & B and A & C/D.	
	▪ To provide all apartments with private open space. ▪ To ensure balconies are functional and responsive to the		

Relevant Section	Objectives	Proposed Development	Compliance
	environment 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.		
Apartment Mix	Rule 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- can not 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.		
Balconies	▪ 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.	▪ Each apartment type has well proportioned rooms, with each apartment type being dual aspect allowing for cross ventilation and solar access. ▪ 2.7m minimum floor to ceilings for habitable rooms and 2.4m minimum for non habitable rooms can be achieved	

Relevant Section	Objectives	Proposed Development	Compliance
	▪ To achieve quality interior spaces while considering the external building form requirements. ▪ To encourage housing designs, which meet the broadest range of the occupant's 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.	▪ Accessible apartments can be integrated into the typical apartment types. The requirement of 10% of the total no. of apartments to be accessible can be met.	
	Rule of Thumb ▪ The following recommended dimensions are measured from finished floor level (FDL) to finished ceiling level (FCL). These are minimums only and do not preclude higher ceilings, if desired. - In mixed use buildings: 3.3 metre minimum for ground floor retail or commercial and for first floor residential, retail or commercial to promote future flexibility of use - In residential flat buildings in mixed use areas: 3.3 metre minimum for ground floor to promote future flexibility of use		

Relevant Section	Objectives	Proposed Development	Compliance
	- In residential flat buildings or other residential floors in mixed use buildings: - In general, 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. - For two storey units, 2.4 metre minimum for second storey if 50 percent or more of the apartment has 2.7 metre minimum ceiling heights - For two-storey units with a two storey void space, 2.4 metre minimum ceiling heights - Attic spaces, 1.5 metre minimum wall height at edge of room with a 30 degree minimum ceiling slope. ▪ Developments which seek to vary the recommended ceiling heights must demonstrate that apartments will receive satisfactory daylight (eg. Shallow apartments with large amount of window area).		

Relevant Section	Objectives	Proposed Development	Compliance
Ceilings Heights	▪ To contribute to the desired streetscape of an area and to create active safe streets. ▪ To increase the housing and lifestyle choices available in apartment buildings.	▪ The development increases the housing and lifestyle choices in the apartment buildings ▪ Active safe streets are achieved through surveillance offered by apartment balconies and usage of space with no dead communal areas ▪ Ground floor apartments contribute to the streetscape character through articulation and landscaped buffer zone between the public spaces and the private open space ▪ Each ground floor apartments has a courtyard with a dimension of no less than 4m in one direction	
	▪ To contribute to the desired streetscape of an area and to create active safe streets. ▪ To increase the housing and lifestyle choices available in apartment buildings.		
Flexibility	Rule of Thumb ▪ Optimise the number of ground floor apartments with separate entries and consider requiring an appropriate percentage of accessible unity. This relates to the desired streetscape and topography of the site. ▪ Provide ground floor apartments with access to private open space, preferably as a terrace or garden.		
Ground Floor Apartments	▪ 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.	▪ All ground floor apartments have low height masonry walls; with 50% open fencing above to maintain passive street surveillance at all parts of the shared way.	

Relevant Section	Objectives	Proposed Development	Compliance
	▪ To contribute positively to the form and articulation of the building facade 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).		
Internal Circulation	▪ To support the integration of appropriate retail and commercial uses with housing. ▪ To create more active live streets and urban areas, which encourage pedestrian movement, service the needs of the	▪ The site does not lend itself to retail or any commercial uses due to its context and street environment ▪ Adequate Storage will be provided to each apartment both within each apartment and in the basement	

Relevant Section	Objectives	Proposed Development	Compliance
	residents and increase the area's employment base. ▪ To ensure that the design of mixed-use developments maintains residential amenities and preserves compatibility between uses.		
	▪ To provide adequate storage for everyday household items within easy access of the apartment. ▪ To provide storage for sporting, leisure, fitness and hobby equipment.		
Mixed Uses	Rule 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		
Storage	▪ To ensure high level of amenity by protecting the privacy of residents within residential flat buildings both within the apartment and in private open space	▪ The apartments are designed to meet the acoustic requirements as outlined in the BCA through the use of acoustic insulation to provide a compliant level of amenity ▪ Living rooms and private open spaces to a minimum of 70% of the number of apartments will achieve a minimum of 3hrs sunlight during mid winter.	
	▪ To ensure that daylight access to all habitable rooms is encouraged in all other areas of residential flat development.		

Relevant Section	Objectives	Proposed Development	Compliance
	▪ To provide adequate ambient lighting and minimises the need for artificial lighting during day light hours. - To provide residents with the ability to adjust the quantity of day light to suit their needs.		
Acoustic Privacy	Rule of Thumb ▪ Living rooms and private open spaces for at least 70 percent of apartments in a development should receive a minimum of three hours direct sunlight between 9 am and 3 pm in mid winter. In dense urban areas a minimum of two hours 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. Developments which seek to vary from the minimum standards must demonstrate how site constraints and orientation prohibit the achievement of these standards and show energy efficiency is addressed (see Orientation and Energy Efficiency). ▪ See Apartment Layout for additional rules of thumb.		
Daylight Access	▪ To ensure that apartments are designed to proved all	▪ All apartment depths are between 10m and 18m	

Relevant Section	Objectives	Proposed Development	Compliance
	habitable room with direct access to fresh air and to assist in the promoting thermal comfort ▪ To provide natural ventilation in non habitable rooms where possible ▪ To reduce energy consumptions by minimising the uses of mechanical ventilation, particular air conditioning	▪ 25% of all kitchens in the typical apartment layouts will have natural ventilation ▪ More than 60% of apartments have cross-ventilation.	
	Rule of Thumb ▪ Building depths, which support natural ventilation typically, range from 10 to 18 metres. ▪ Sixty percent (60%) of residential units should be naturally crossed ventilated. ▪ Twenty five percent (25%) of kitchens within a development should have access to natural ventilation. ▪ Developments, which seek to vary from the minimum standards, must demonstrate how natural ventilation can be satisfactorily achieved, particularly in relation to habitable rooms.		
Natural Ventilation	▪ To provide shelter for public streets. ▪ To ensure signage is in keeping with the desired streetscape character and with development in scale detail and overall design.	▪ All signage will be integrated into the development ▪ All facades will be articulated to establish entry points into each building block and communal space ▪ A rich palette of materials will be incorporated into the	

Relevant Section	Objectives	Proposed Development	Compliance
	▪ To promote high architectural quality in residential flat building. ▪ To ensure that new development have façade which define and enhance the public domain and the desired street character. ▪ To ensure building element are integrated into the overall building form and façade design.	faced and roof design to ensure a compatibility and interpretation with the context	
Signage and Awnings	▪ 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. ▪ To increase the longevity of buildings through weather protection.	▪ The roof design will be integrated into the overall design of the buildings	
Facades	▪ To reduce the necessity for mechanical heating and cooling. ▪ To reduce reliance on fossil fuels. ▪ To minimise green house emissions. ▪ To support and promote renewable energy initiatives.	▪ The design considers ESD design principals to reduce greenhouse gas omissions.	
Roof Design	▪ To ensure long life and ease of maintenance for the development	▪ Robust and durable materials will enhance the life if the buildings and the landscaping	
Energy Efficiency	▪ To avoid the generation of waste through design, material	▪ Waste management plan will be prepared to minimise waste and recycle existing	

Relevant Section	Objectives	Proposed Development	Compliance
	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 include source separation for, reuses and recycling. ▪ To ensure efficient storage and collection of waste and quality design facilities.	materials	
Maintenance	▪ To reduce mains consumption of potable water. ▪ To reduce the quantity of storm water runoff.	▪ Water quantity would be minimised through the implementation of rainwater reuse via rainwater tanks and maximisation of infiltration areas. ▪ Volumetric runoff from the proposed development would also be controlled through the use of water re-use via rainwater tanks, and maximisation of infiltration areas across the site	
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 include source separation for, reuses and recycling. ▪ To ensure efficient	▪ Waste management plan will be prepared to minimise waste and recycle existing materials	

	storage and collection of waste and quality design facilities.		
Water Conservation	▪ To reduce mains consumption of potable water. ▪ To reduce the quantity of storm water runoff.	▪ Water quantity and volumetric runoff from the proposed development would be minimised and controlled through the implementation of rainwater reuse via rainwater tanks and maximisation of infiltration areas across the site.	