SHEPHERDS BAY URBAN RENEWAL, MEADOWBANK

SEPP 65 STATEMENT

PREPARED BY ROBERTSON + MARKS ARCHITECTS
&
PLACE DESIGN GROUP

FOR HOLDMARK PROPERTY GROUP PTY LTD
27 JUNE 2012

1. CONCEPT

PRINCIPLES	ANALYSIS – MASTER PLAN
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 locations 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.	Meadowbank Employment Area is undergoing transition from a former predominantly industrial to a residential use environment. The proposal has been developed in relation to the existing context and the desired future character of the area. It will incorporate a future character of an urban village that will comprise of predominant residential use with some retail/convenient store and cafes. The building envelopes respond to the undulating topography through orientation, height and bulk. The north-south alignment preserves existing view lines to the water and provides good access to prevailing winds. The proposed pedestrian networks integrate and extend into existing networks providing cohesive and easy access to all public destinations within the MEA. The road grid has been maintained and proposed road extension connecting Nancarrow Avenue to Hamilton Crescent integrated into the proposal. Further details regarding preservation of existing views from adjoining development, existing and future view corridors and views from Parramatta River are provided in the report submitted with the application – View analysis prepared by "Richard Lamb & Associates".

2. SCALE

PRINCIPLES	ANALYSIS – MASTER PLAN
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 proposed building envelopes are appropriate in terms of their bulk and height. Their height in stories responds to the scale of the surrounding buildings and the public spaces between them. The building envelopes step down towards the foreshore and surrounding buildings and increase in height in the centre of the concept plan's site and key entry points, a legible hierarchy to the public spaces, making the core of the development and key entry points, limiting adverse impact of overshadowing to the foreshore and presenting an interesting and interactive skyline as seen from Parramatta River. Vertical and horizontal building articulation, facade treatment and colour composition will provide relief and reduce overall bulk perception.

3. BUILT FORM

PRINCIPLES	ANALYSIS – MASTER PLAN
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. 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.	The proposal achieves appropriate built forms for the site and the residential, commercial, retail and community uses. The envelope's respond to the key existing road entries without compromising views and vistas down to the water and through the site from the surrounding area. The overall built form composition consists of building envelopes oriented north-south separated by landscaped communal courtyards, public streets, pedestrian pathways and a pedestrian promenade. The building envelopes reinforce the built alignment and view corridors down Bowden Street, Belmore Street, Nancarrow Avenue, Hamilton Crescent West and Constitution Road. The main entry into the master plan via Hamilton Crescent West is reinforced by taller building envelopes that rises up to two twelve storey towers at the highest point on site and then steps down to the water through the main public pedestrian promenade. Many units have good views, taking advantage of vistas towards the Parramatta River and suburb of Rhodes beyond. The north – south oriented 18m minimum gaps between the buildings provide increased sun access into the apartments.

4. DENSITY

PRINCIPLES	ANALYSIS – MASTER PLAN
Good design has a density appropriate for a site and its context; in terms of floor space yields (or number of units or residents). Appropriate densities are sustainable and consistent with the existing density in an area or, in precincts undergoing a transition, are consistent with the stated desired future density. Sustainable densities respond to the regional context, availability of infrastructure, public transport, community facilities and environmental quality.	The form of the proposed development has evolved through a process of urban design analysis. Recognizing urban consolidation policy and the site location, the density is appropriate for the site as it responds to the local context and availability of current infrastructure. The non-residential uses envisaged include convenience shops (such as retail, newsagents, etc) / cafes / commercial premises and community facilities The surrounding developments are becoming of a comparative density as they are progressively developed from industrial uses to residential. The area is well served for rail, bus and ferry routes and is located 40 minutes away from the airport.

5. RESOURCE, ENERGY & WATER EFFICIENCY

PRINCIPLES	ANALYSIS – MASTER PLAN
Good design makes efficient use of natural resources, energy and water throughout its full life cycle, including construction. Sustainability is integral to the design process. Aspects include demolition of existing structures, recycling of materials, selection of appropriate and sustainable materials, adaptability and reuse of buildings, layouts and built form, passive solar design principles, efficient appliances and mechanical services, soil zones for vegetation and reuse of water.	The development is designed to embrace ESD principles. The massing, internal layouts and orientation have been organised so as to provide good natural day lighting and solar access into primary living spaces and courtyards. Energy efficient appliances and water efficient devices will be specified to minimise water consumption of resources. The Concept Plan requires all developments to consider inclusion of water tanks for the retention of stormwater to be re-used for irrigation and car wash bays. Refer to BASIX certificates by Robertson + Marks Architects for further information.

6. LANDSCAPING

PRINCIPLES	ANALYSIS – MASTER PLAN
Good design recognises that together landscape and buildings operating as an integrated and sustainable system, resulting in greater aesthetic quality and amenity for both occupants and the adjoining public domain. Landscape design builds on the existing site's natural and cultural features in responsible and creative ways. It enhances the development's natural environmental performance by co-ordinating water and soil management, solar access, microclimate, tree canopy and habitat values. It contributes to the positive image and contextual fit of development through respect for streetscape and neighbourhood character, or desired future character. Landscape design should optimise usability, privacy and social opportunity, equitable access and respect for neighbours' amenity, and provide for practical establishment and long-term management.	The landscape master plan will create a strong integrated landscape framework that responds to the needs of both residents and visitors and capitalises on the sites attributes and establishes a clear vision for the landscape. The detailed landscape design is required to enhance the appearance and amenity of the proposed development by sensitively integrating architecture and landscape through effective site planning and landscape design. The high quality landscape is based on the synthesis of development objectives, contextual issues, legibility, site constraints and opportunities, sustainable asset management and general best practice. The Landscape Design for both the public and private domains are to contribute to a premium quality sustainable development and promote environmentally sustainable design principles. These include the strategic planting of deciduous trees for solar access in winter, low water demand / low maintenance plant selection throughout, the use of quality, long lasting, recycled hardscape materials in the design where possible.

7.AMENITY

PRINCIPLES	ANALYSIS – MASTER PLAN
Good design provides amenity through the physical, spatial and environmental quality of a development. Optimising amenity requires appropriate room dimensions and shapes, access to sunlight, natural ventilation, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas, outlook and ease of access for all age groups and degrees of mobility.	The organisation of built form and open space is laid out in response to the existing and proposed urban morphology and the intrinsic opportunities and constraints of the site. All units have primary living areas facing water views or into well defined and landscaped courtyards. Privacy is maintained between apartments through orientation and internal layouts. Retail accessible car bays are to be provided along with regular on street retail parking near all retail/commercial premises with level or accessible footpaths from car park to the shop.

8. SAFETY AND SECURITY

PRINCIPLES	ANALYSIS – MASTER PLAN
Good design optimises safety and security, both internal to the development and for the public domain. This is achieved by maximising overlooking of public communal spaces while maintaining internal privacy, avoiding dark and non-visible areas, maximising activity on streets, providing clear, safe access points, providing quality public spaces that cater for desired recreational uses, providing lighting appropriate to the location and desired activities, and clear definition between public and private spaces.	Safe access is achieved by well-defined and lit pedestrian footpaths through the site that connect to three public pocket parks, a large public square and down to the large public foreshore plaza which forms an extension of the existing foreshore park. The publicly accessible open spaces are clearly defined and distinct from private and communal open spaces. They are to be well lit and designed to avoid dead end spaces that are not visible. There is a main pedestrian promenade and a number of smaller pedestrian laneways running north-south through the development to bring activation into the heart of the development and clear delineated connection to the public foreshore area. Passive surveillance is afforded by balconies and windows at higher levels, taking in all aspects. Apartments will address public domain area maximising opportunities for passive surveillance. There will be appropriate lighting to all exterior areas, both public and communal.

9. SOCIAL DIMENSION

PRINCIPLES	ANALYSIS – MASTER PLAN
Good design responds to the social context and needs of the local community in terms of lifestyles, affordability, and access to social facilities. New developments should optimise the provision of housing to suit the social mix and needs in the neighbourhood or, in the case of precincts undergoing transition, provide for the desired future community.	The development provides for the breadth of needs in the community. A variety of accommodation in terms of unit size and configuration is provided, allowing for future social diversity in the area and improved housing affordability. The outdoor spaces are designed to engender community spirit for residents within the development by offering areas for congregation, celebration and activity.

10. AESTHETICS

PRINCIPLES	ANALYSIS – MASTER PLAN
Quality aesthetics require the appropriate composition of building elements, textures, materials and colours and reflect the use, internal design and structure of the development. Aesthetics should respond to the environment and context, particularly to desirable elements of the existing streetscape or, in precincts undergoing transition, contribute to the desired future character of the area.	The Concept Plan contributes to both the existing streetscapes and the desired future character of the area through a diverse but coherent aesthetic approach in which each individual building and the public domains contribute to a sense of place with high aesthetic value through a related palate of forms, materials and colours. The strong industrial heritage will be captured through interpretive building facade treatment, colours, textures and public art forms.

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	PART 2 SITE DESIGN					
1	**PRIMARY DEVELOPMENT CONTROLS**					
1.1	**BUILDING HEIGHT**	**2_24**				
	Test heights against the number of storeys and the minimum ceiling heights required for the desired building use.			✔	Building height: • The number of storeys determined in the detailed urban design analysis including maximising views and solar access, refer to EA Section 32. • The proportions of the street are being enhanced by lowering street wall heights and are not impeded by taller sections set well back from those edges. • Taller buildings in a slender built form cast narrower shadows which are mainly onto the individual proposed development sites. At the foreshore and near public spaces heights are lower to reduce impact and offset any impact of the taller building components.	✔
1.2	**BUILDING DEPTH**	**2_26**				
	Maximum building plan depth should be 18 metres from glass line to glass line (excludes articulation zone - balconies, bay windows, shading devices) - The 18m metre guideline generally applies to street wall buildings with dual and opposite aspect and buildings with minimal side setbacks. - Freestanding buildings (the big house or tower building types) may have greater depth than 18m only if they still achieve satisfactory daylight and natural ventilation.			✔	Building depth: All Concept Plan buildings comply. In the case where buildings exceed the maximum plan depth, they will be required to provide supporting documentation to justify satisfactory daylight and natural ventilation.	✔
1.3	**BUILDING SEPARATION**	**2_28**				
	Building separation is proportionate to building height to facilitate better urban form and improved residential amenity.			✔	Building separation: • All buildings in the Concept Plan will comply with the minimum separation required by the RFDC. • Building separations have been strategically designed to create new and maintain existing view corridors to Parramatta River.	✔
1.4	**STREET SETBACKS**	**2_30**				

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	Identify desired streetscape character, the common setback of building in the street, the accommodation of street planting and height of buildings and daylight access controls.			✔	Street setbacks: • All perimeter street setbacks in the Concept Plan comply with the draft Ryde DCP 2011 street setbacks map (above finished ground level). • The Concept Plan retains all existing street reservations and in some circumstances augment them and enhance the character of the spaces for people.	✔
1.5	**SIDE AND REAR SETBACKS**	**2_33**				
	Relate side and rear setback to existing streetscape patterns.			✔	Side and rear setbacks: The Concept Plan side and rear setbacks have been informed by adjacent developments, public domain areas and RFDC separations.	✔
1.6	**FLOOR SPACE RATIO**	**2_35**				
					Floor space ratio: The proposal has undergone a series of design iterations, extensive urban design analysis in consultation with the authorities to achieve the current layout and bulk and resultant approximate GFA of 203,500sqm.	
2	**SITE CONFIGURATION**					
2.1	**DEEP SOIL ZONES**	**2_44**				
	A minimum of 25% of the open space area of a site should be a deep soil zone; more is desirable.		✔		Deep soil zones: • The Concept Plan provides significant areas of open space. Detailed calculations of deep soil zones will be provided at each stage of development.	✔ (except Stage 1)
2.2	**FENCES AND WALLS**	**2_45**				
	Respond to the identified architectural character for the street and/or the area. Clearly delineate the private and public domain without compromising safety and security. Contribute to the amenity, beauty and useability of private and communal open spaces by incorporating some of the following in the design of fences and walls. - Benches and seats - Planter boxes			✔	Fences and walls: Fencing and wall details will be determined at the detailed design phase of each stage of development	✔

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	- Pergolas and trellises - Barbeques - Water features - Composting boxes and worm farms Retain and enhance the amenity of the public domain by: - Avoiding the use of continuous lengths of blanks walls at street level. - Using planting to soften the edges of any raised terraces to the street, such as over sub basement car parking, and reduce their apparent scale. Select durable materials, which are easily cleaned and graffiti resistant.					
2.3	**LANDSCAPE DESIGN**	**2_46**				
	Contribute to streetscape character and the amenity of the public domain. Improve the energy efficiency and solar efficiency of dwellings and the microclimate of private open spaces. Design landscape which contributes to the site's particular and positive characteristics, for example by: - Enhancing habitat and ecology - Retaining and incorporating trees, shrubs, and ground covers endemic to the area, where appropriate - Retaining and incorporating changes of level, visual markers, views and any significant site elements. Contribute to water and stormwater efficiency by integrating landscape design with water and stormwater management. Provide a sufficient depth of soil above paving slabs to enable growth of mature trees. Minimise maintenance by using robust landscape elements.			✔	Landscape design: • The landscape design contributes to a high quality sustainable development and will promote ESD principals through the strategic planting of deciduous trees for solar access in winter, low water demand/ low maintenance plant selection and the selection of quality, durable, recycled hardscape materials in the design where possible. Refer to the Revised Landscape Report (Annexure 10).	✔

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2.4	**OPEN SPACE**	**2_48**				
	The area of communal space required should generally be at least between 25-30% of the site area. Min. Area for private open space at ground or similar space on a structure, such as podium or car park, is 25sqm; the minimum preferred dimension in one direction is 4m.		✔		Open space: • The Concept Plan illustrates public open spaces and communal open spaces which are to be accommodated via podium gardens, public walkways, parks and a public plaza.	✔
2.5	**ORIENTATION**	**2_50**				
	Plan the site to optimise solar access. Select building types which respond to the streetscape whilst optimising solar access. Optimise solar access to living spaces and associated private open spaces by orientating them north. Detail buildings elements to modify environmental conditions, as required, to maximise sun access in winter and sun shading in summer.			✔	Orientation: • The Concept Plan site is south facing with topography sloping towards the south. The orientation places constraints on solar access. The internal grid arrangement of development provides a high level of permeability, through-site linkages and views. The built form creates internal open spaces and adequate building separation for natural daylight access, privacy and view sharing. • Most of the apartments will have NE and SW facing living spaces due to orientation of site and water views to the south.	✔
2.6	**PLANTING ON STRUCTURES**	**2_52**				
	Design for optimum conditions for plant growth by: - Providing soil depth, soil volume and soil area appropriate to the size of the plants to be established. - Providing appropriate soil conditions and irrigation methods. - Providing appropriate drainage. Design planters to support the appropriate soil depth and plant selection. Minimum soil depth for planting.			✔	Planting on structures: Development is to be carried out in accordance with the Concept Plan Landscape Plan (Annexure 10). Planting on structures is proposed. The detailed landscape design will be determined at each stage of development.	✔
2.7	**STORMWATER MANAGEMENT**	**2_54**				

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	On dense urban sites where there is no potential for deep soil zones to contribute to stormwater management, seek alternative solutions. Structural stormwater treatment measures may be used including: - Litter or gross pollutant traps to capture leaves, sediment and litter. - On-site detention storage. Reduce the need for expensive sediment trapping techniques by controlling erosion. Design solutions include: - Landscape design incorporating appropriate vegetation. - Stable(non-eroding) flowpaths conveying water at non-erosive velocities. Consider using grey water for site irrigation.			✔	Stormwater management: • The Concept Plan makes provision for area-wide stormwater management and the management of flood risk.	✔
3	**SITE AMENITY**					
3.1	**SAFETY**	**2_56**				
	Separate residential parking from other building use and control access from public and common areas. Provide direct access from car parks to apartment lobbies for residents. Provide separate access for residents in mixed-use buildings. Provide audio or video intercom for visitor entry. Provide key card access for residents.			✔	Safety: The Concept Plan design addresses surveillance (passive and active), access control, territorial re-enforcement and space management. Refer to Crime Risk Assessment Report (Annexure 7) – Originally lodged with the EA.	✔
	Carry out a formal crime risk assessment for all residential developments of more than 20 new dwellings.		✔		Safety: The Concept Plan design addresses surveillance (passive and active), access control, territorial re-enforcement and space management. Refer to Crime Risk Assessment Report (Annexure 7) – Originally lodged with the EA.	✔

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3.2	**VISUAL PRIVACY**	**2_58**				
	Locate and orient development to maximise visual privacy. Design building layouts to minimise direct overlooking of rooms and private open space.			✔	Visual privacy: • The Concept Plan layout orientates buildings towards the Parramatta River and/ or adjacent public open spaces. Buildings will be provided with adequate setbacks, orientations and layouts designed to maximise views whilst having regard to visual privacy.	✔
4	**SITE ACCESS**					
4.1	**BUILDING ENTRY**	**2_60**				
	Improve the presentation of the development to the street by: - Locating entries so that they relate to the existing street and subdivision pattern, street tree planting and pedestrian access network. - Designing the entry as clearly identifiable element of the building in the street. - Utilising multiple entries-where it is desirable to activate the street edge or reinforce a rhythm of entries along a street. Provide as direct a physical and visual connection as possible between street and entry. Achieve clear lines of transition between public street, the shared private, circulation spaces and apartment unit. Generally provide separate entries from the street for pedestrians and cars and different uses. Provide and design mailboxes to be convenient for residents and not to clutter the appearance of the development from the street.			✔	Building entry: Building envelopes are sited with multiple frontages to streets and public spaces. All buildings will have numerous well defined building entries.	✔
4.2	**PARKING**	**2_62**				

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	Determine the appropriate car parking space requirements in relation to: - The development's proximity to public transport, shopping and recreational facilities. - The density of the development and the local area. - The site's ability to accommodate car parking. This may be affected by other requirements, such as deep soil zones, water table, topography and size and shape of the lot. Give preference to underground car parking, whenever possible. Provide bicycle parking which is easily accessible from ground level and from apartments.			✔	Parking: • At the request of the Department, car parking numbers have been limited based on the Concept Plan site's excellent access to three modes of public transport. • Car parking is based on Ryde DCP 2010 controls and dependant on landuse/ apartment mix (based on a sample mix of 2005 apartments, a maximum of 2724 car parking spaces will be provided)	✔
4.3	**PEDESTRIAN ACCESS**	**2_64**				
	Identify the access requirements from the street or car parking area to the department entrance. Follow accessibility standard AS 1428 (Pt 1 & 2) as a minimum. Provide barrier free access to at least 20 percent of dwellings in the development.		✔		Pedestrian access: • The Concept Plan requires the provision of clear legible pedestrian access through the site to provide access to the foreshore, public open spaces, public transport, communal areas, and development entries. • New through-site pedestrian linkages are proposed.	✔
4.4	**VEHICLE ACCESS**	**2_65**				
	Generally limit the width of driveways to a max of 6m. Locate vehicle entries away from main pedestrian entries and on secondary frontages.		✔		Vehicle access: • The grid layout of the development provides buildings with multiple road frontages.	✔
	PART 3 BUILDING DESIGN					
5	**BUILDING CONFIGURATION**					

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5.1	**APARTMENT LAYOUT**	**3_67**				
	Determine appropriate apartment sizes in relation to: - Geographic location and market demands - The spatial configuration of an apartment, not just its plan e.g. maisonette apartments are often small in sqm but have double-height living spaces. - Affordability: a range of apartment sizes provides more choice for more people. Ensure apartment layouts are resilient over time. Design issues to address may include: - Accommodating a variety of furniture arrangements. - Providing for a range of activities and privacy levels between different spaces within the apartment. - Utilising flexible room sizes and proportions or open plans. - Ensuring circulation by stairs, corridors and through rooms is planned as efficiently as possible thereby increasing the amount of floor space in rooms. Design apartment layouts, which respond to the natural and built environments and optimise site opportunities by: - Providing private open space in the form of a balcony, a terrace, a courtyard or a garden for every apartment. - Orientating main living spaces toward the primary outlook and aspect and away from neighbouring noise sources or windows. - Locating main living spaces adjacent to main private open space. - Locating habitable rooms, and where possible kitchens and bathrooms, on the external face of the buildings thereby maximises the number of rooms with windows. - Maximising opportunities to facilitate natural daylight. - Avoid locating kitchen as part of main circulation spaces, such as a hallway or entry			✔	Apartment layout: • A Market Assessment has been prepared that supports predominant residential use on site (Annexure 10) – Originally lodged with the EA. • A mix of apartment sizes is provided to increase housing choice.	✔

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	space. Ensure apartment layouts and dimensions facilitate furniture removal and placement.					
	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 Single aspect apartments should be limited in depth to 8m from a window. The back of kitchen should be no more than 8m from a window. The width of cross-over or cross-through apartments over 15m deep should by 4m or greater to avoid deep narrow apartment layouts. Buildings not meeting minimum standards listed above must demonstrate how satisfactory daylight and ventilation can be achieved. As a guide, the Affordable Housing Service suggest the following minimum apartment sizes: - 1 bedroom apartment 50m2 - 2 bedroom apartment 70m2 - 3 bedroom apartment 95m2		✔		Apartment layout: • Adequate storage facilities shall be provided to all apartments. • Solar access to living spaces is to be maximised where possible. Apartment sizes are to comply with the minimum sizes provided by Affordable Housing Service.	✔
5.2	**APARTMENT MIX**	**3_70**				
	Provide a variety of apartment types. Refine the appropriate apartment mix for a location by: - Considering population trends in the future as well as present market demands. - Noting the apartment's location in relation to public transport, public facilities, employment areas, schools and universities and retail centres.			✔	Apartment mix: • A Market Assessment has been prepared that supports predominant residential use on site (Annexure 10) – Originally lodged with the EA. • Approximately 2005 apartments between 60 to 115 sq.m for a unit mix of - 10% 1 bed - 75% 2 bed - 15% 3 bed	✔

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	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. Australian Standards are only a minimum. Investigate the possibility of flexible apartment configurations, which support change in the future.					
5.3	**BALCONIES**	**3_71**				
	Provide primary balconies for all apartments with a minimum depth of 2m. Require scale plans of balcony with furniture layout to confirm adequate, useable space when an alternate balcony depth is proposed.		✔		Balconies: All apartments shall be provided with balconies with a minimum depth of 2m.	✔
5.4	**CEILING HEIGHTS**	**3_73**				
	Minimum recommended heights in residential flats or other residential floor of mixed use buildings measured from finished floor level (FFL) to finished ceiling level (FCL): - 3.3m minimum for ground floor to promote future flexibility of use. - 2.7m min for all habitable rooms, 2.4m preferred min for non-habitable rooms, however 2.25m permitted. - For two storey units with a two storey void space, 2.4m min ceiling heights. - Attic spaces 1.5m min wall height at edge of room with 30 degree min ceiling slope. Developments which seek to vary the recommended ceiling heights must demonstrate that apartments will receive satisfactory daylight.		✔		Ceiling heights: • Provide flexible spaces with higher ceilings on ground floors. 2.7m for all other floors with habitable rooms.	✔
5.5	**FLEXIBILITY**	**3_75**				

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	Provide robust building configurations, which utilise multiple entries and circulation cores, especially in larger buildings over 15m long. - Thin building cross sections, which are suitable for residential or commercial uses. - A mix of apartment types. - Higher ceilings in particular on the ground floor and first floor. - Separate entries for the ground floor level and the upper levels. - Sliding and/or movable wall systems. Provide apartment layouts, which accommodate the changing use of rooms. Utilise structural systems which support a degree of furniture change in building use or configuration Promote accessibility and adaptability by ensuring: - The number of accessible and visitable apartments is optimised. - Adequate pedestrian mobility and access is provided.			✔	Flexibility: • Provide flexible spaces with higher ceilings on ground floors. 10% of developments will be adaptable dwellings.	✔
5.6	**GROUND FLOOR APARTMENTS**	**3_77**				
	Optimise the number of ground floor apartments with separate entries and consider requiring an appropriate percentage of accessible units. 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: • 10% of developments will be adaptable dwellings. Ground floor apartments will have separate terraces/ courtyards.	✔
5.7	**INTERNAL CIRCULATION**	**3_79**				
	In general where units are located off a double loaded corridor the number of units accessible from a single core should be limited to 8.		✔		Internal circulation: Building layouts will enable provision of multiple building entries and through site linkages to maximise circulation.	✔
5.8	**MIXED USE**	**3_80**				
	Choose a mix of uses that compliment and reinforce the charter, economics and function of the local area.			✔	Mixed use: • The Concept Plan comprises 193,500sq.m GFA residential +	✔

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	Choose compatible mix of uses. Consider building depth and form in relation to each use's requirements for servicing and amenity. Design legible circulation systems, which ensure safety of users. Ensure building positively contributes to public domain. Design for acoustic privacy from the beginning of the project to ensure that future services, such as air conditioning, do not cause acoustic problems later. Recognising the ownership /lease patterns and separating requirements for purposes of BCA for considerations.				10,000sq.m GFA commercial/ retail. • Commercial/ retail uses will be provided in key locations such as activity nodes, particularly around the central foreshore plaza open space. • Convenience retailing, cafes and the like will be encouraged in high use areas adjoining public open spaces. Mixed uses will activate public spaces, create a sense of place and draw people into the foreshore neighbourhood.	
5.9	**STORAGE**	**3_82**				
	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 8m2 - three plus bedroom apartments 10m3		✔		Storage: Adequate storage areas are to be provided to all apartments.	✔
6	**BUILDING AMENITY**					
6.1	**ACOUSTIC PRIVACY**	**3_83**				
	Utilise the site and building layout to maximise the potential for acoustic privacy by providing adequate building separation with the development and from neighbouring buildings.			✔	Acoustic privacy: • Acoustic privacy is generally maintained by ensuring adequate separation between buildings. Habitable rooms are to be orientated away from each other. • Development along Church Street and Constitution Road has been setback to mitigate acoustic impacts. • Detailed Acoustic Assessments shall be prepared for each stage of development.	✔

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6.2	**DAYLIGHT ACCESS**	**3_84**				
	Living rooms and private open spaces for at least 70% of apartments in a development should receive a min 3 hours direct sunlight between 9am and 3pm in mid winter. In dense urban areas min. 2 hours may be acceptable. Limit the number of single-aspect apartments with a southerly aspect to a maximum of 10% of total units.		✔		Daylight access: • The Concept Plan site is south facing with topography sloping towards the south. The orientation places constraints on solar access. The internal grid arrangement of development provides a high level of permeability, through-site linkages and views. The built form creates internal open spaces and adequate building separation for natural daylight access, privacy and view sharing.	✔
6.3	**NATURAL VENTILATION**	**3_86**				
	Building depths which support natural ventilation typically range from 10-18m. 60% of residential units should be naturally cross ventilated. 25% of kitchens should have access to natural ventilation.		✔		Natural ventilation: Building layouts have been designed to maximise the number of apartments that will benefit from cross ventilation.	✔
7	**BUILDING FORM**					
7.1	**AWNINGS AND SIGNAGE**	**3_88**				
	Awnings encourage pedestrian activity on streets. Signage should be carefully considered and integrated into the development.			✔	Awnings and signage will be provided as follows: • Provision for awnings above retail/cafe areas. • Provision for awnings above building entries. • Provision for signage above retail/cafe areas.	✔
7.2	**FACADES**	**3_89**				
	Compose facades with appropriate scale, rhythm and proportion, which respond to building uses and contextual character. Design facades to reflect the orientation of the site using elements such as sun shading, depending on orientation.			✔	Facades: Vertical and horizontal building elements, textures, materials and colours will be used to articulate building facades.	✔
7.3	**ROOF DESIGN**	**3_91**				
	Relate roof design to the desired built form.			✔	Roof design: • Roof design is to consider views from the Parramatta River, views	✔

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	Design the roof to relate to the size and scale of the building. Design roofs to respond to the orientation of the site, for example by using eaves and skillion roofs to respond to sun access. Minimise the visual intrusiveness of service elements by integrating them into the design of the roof. These elements include lift over runs, service plants, chimneys, vent stacks, telecommunication infrastructures, gutters, downpipes and signage. Support the use of roofs for quality open space in denser urban areas by - Providing space and appropriate building systems to support the desired landscape design. - Incorporating shade structures and wind screens to encourage open space use. Ensuring open space is accessible.				from existing and future development and solar access and surrounding neighbours.	
8	**BUILDING PERFORMANCE**					
8.1	**ENERGY EFFICIENCY**	**3_93**				
	Incorporate passive solar design techniques to optimise heat storage in winter and heat transfer in summer by: - Maximising thermal mass in floor & walls in northern rooms. - Hard floor finishes instead of carpet. - Limiting number of single aspect apartments with southerly aspect to max 10%. - Insulating roof/ceiling to R2.0, external walls to R1.0 and floor including separation from basement parking to R1.0. Improve control of mechanical space heating & cooling by: - Designing apartments so that entries open into lobbies or vestibules and are isolated from living areas by doorways.			✔	Energy efficiency: • Shadow Diagrams and BASIX Certificates will be provided at the Project or Development Application stage of development of each Stage. • Energy efficient appliances and efficient hot water systems will be provided to minimise energy consumption.	✔

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	Provide or plan for future installation of photovoltaic panels. Improve efficiency of hot water systems. Reduce reliance on artificial lighting. Maximise the efficiency of household appliances.					
8.2	**MAINTENANCE**	**3_95**				
	Select manually operated systems, such as blinds, sunshades, pergolas and curtains in preference to mechanical systems.			✔	Maintenance: • Selection of low maintenance building materials.	✔
8.3	**WASTE MANAGEMENT**	**3_96**				
	Incorporate existing built elements into new work, where possible. Provide every dwelling with a waste cupboard or temporary storage area of sufficient size to hold a single days waste and enable source separation Supply waste management plan with DA.		✔	✔	Waste management: • Prepare Waste Management Plans for each stage of development. Provide adequate waste storage cupboards for each apartment.	✔
8.4	**WATER CONSERVATION**	**3_97**				
	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.		✔		Water efficiency : • AAA (or higher) rated shower heads and basin outlets are proposed. • Roof rainwater will be collected and stored in rainwater tanks across the site and reused for irrigation of t6he landscaped areas, laundries, toilets and car wash bays. Predominant use of native species.	✔