JOINT REGIONAL PLANNING PANEL
(Sydney East Region)

JRPP No	**2011SYE115**
DA Number	**LDA 2011/578**
Local Government Area	**City of Ryde**
Proposed Development	**Construction of Building B as part of a Part 3A Concept Plan approval by the Department of Planning (MP09_0195) for a mixed use residential/ retail development with basement carparking and private/public infrastructure provision.** **Building B is 12 storeys with a total of 117 residential apartments and 137 car parking spaces within 3 basement levels.**
Street Address	**120-128 Herring Road, Macquarie Park**
Applicant/Owner	**Applicant: Toga Macquarie Development Pty Ltd** **Owner: Baptist Union of NSW**
Number of Submissions	**Four**
Recommendation	**Approval with Conditions**
Report by	**Sandra McCarry** **Senior Town Planner** **City of Ryde**

Assessment Report and Recommendation

1. EXECUTIVE SUMMARY

On 20 January 2011, approvals were granted by the Deputy Director General for 3 applications as follows:

- Concept Plan (MP09_0195) for a mixed use residential/retail development comprising 4x12 storey and 1x9 storey building envelopes with basement car parking, road works and landscaping
- Project Application (MP09_0217) for staged subdivision into 7 allotments comprising 5 residential allotments and 2 road allotments for the access road; and
- Project Application (MP09_0218) for the construction of a 12 storey mixed use residential/retail building (Building A) providing 123 apartments, ground floor retail space, basement car parking for 152 cars and construction of a new local access road.

Modification MP09_195 Mod 1 was approved on 11 July 2011. This application approved modification to Building B to reduce the height of the building from 15 storeys to 12 storeys as required by condition BI of the concept approval as well as some other minor changes.

The following report is an assessment for construction of a residential building known as Building B as part of the overall redevelopment of 120-128 Herring Road.

Building B is 12 storeys with maximum RL 105.8, containing a total of 117 apartments (12 x studio, 68 x 1 bedroom and 37 x 2 bedrooms) and 137 car parking spaces within 3 basement level parking. The site is located on the western side of Herring Road and is bounded by Macquarie University to the north, Building A to the east (Building A is approved under Part 3A), Building C to the west (only concept approval) and new access road (to be constructed) to the south.

Building B generally complies with the concept approval for the building and the development is unlikely to result in any unacceptable adverse impact on the amenity of the locality. A number of variations in relation to the Residential Flat Design Guidelines such as building depth and deep soil will be justified in the report.

During the notification period, 4 submissions were received which raised concerns in respect of height of the building, increase in traffic, insufficient parking, overshadowing to neighbouring buildings, privacy, not in keeping with the area and no new infrastructure to support the proposal. This included a submission from Macquarie University stating they were generally supportive of the proposal but raised concerns about encroachment of rock anchorage and cranes overhang onto their property. The details of the submissions are discussed in full under Section 12 of the report.

The development application is recommended for approval subject to appropriate conditions of consent.

2. APPLICATION DETAILS

Name of Applicant: Toga Macquarie Developments P/L

Owner of the Site: Baptist Union of NSW

Estimated value of works is: Building B: $29,053,000.00

Disclosures: No disclosures with respect to the Local Government and Planning Legislation Amendment (Political Donations) Act 2008 have been made by any persons.

3. SITE DESCRIPTION & LOCALITY

The subject site is known as 120-128 Herring Road, Macquarie Park with Building B located within 126-128 Herring Road. The legal description of the land is:

Lot B in DP 368446 (126-128 Herring Road)
Lot 1 in DP 876482 (120-124 Herring Road)

Note: The site has been approved for subdivision (Project Application - MPO9_0217 for staged subdivision into 7 allotments comprising 5 residential allotments and 2 road allotments for the access road). Each of the 5 residential buildings will be on separate allotments and the new local access road on 2 allotments (to be dedicated to Council).

The site is located on the western side of Herring Road and is bound by Macquarie University to the north, future residential developments to the east (Building A) and west (Building C) and a new access road to the south.

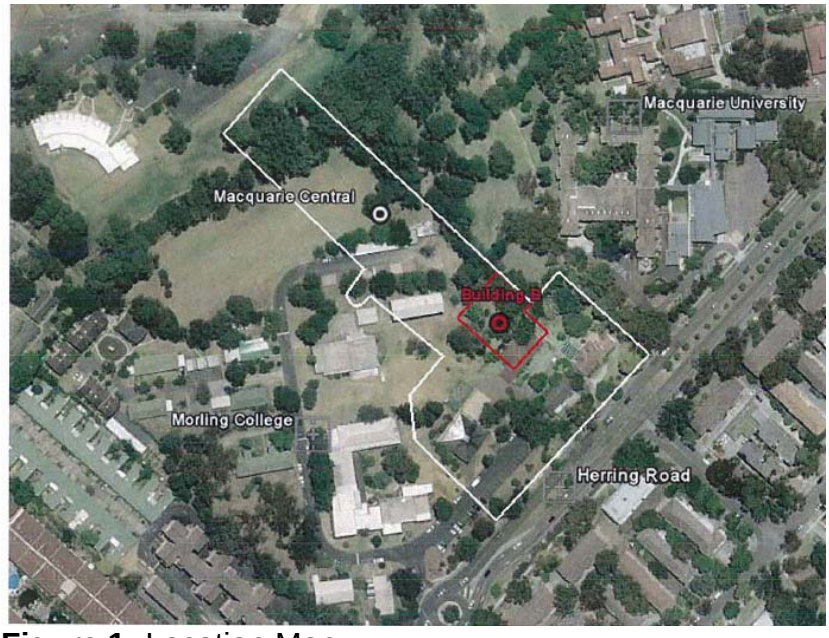


Figure 1: Location Map

4. SITE DETAILS

Area
Total Site Area: 1847m² (for proposed new lot for Building B).

Frontages:
Frontage to proposed new road: 45.4m

Depth of allotment: 42m/38.4m

5. PROPOSAL

Consent is sought for the construction of Building B located directly behind Building A (which was approved by the Department of Planning on 20 January 2011.)

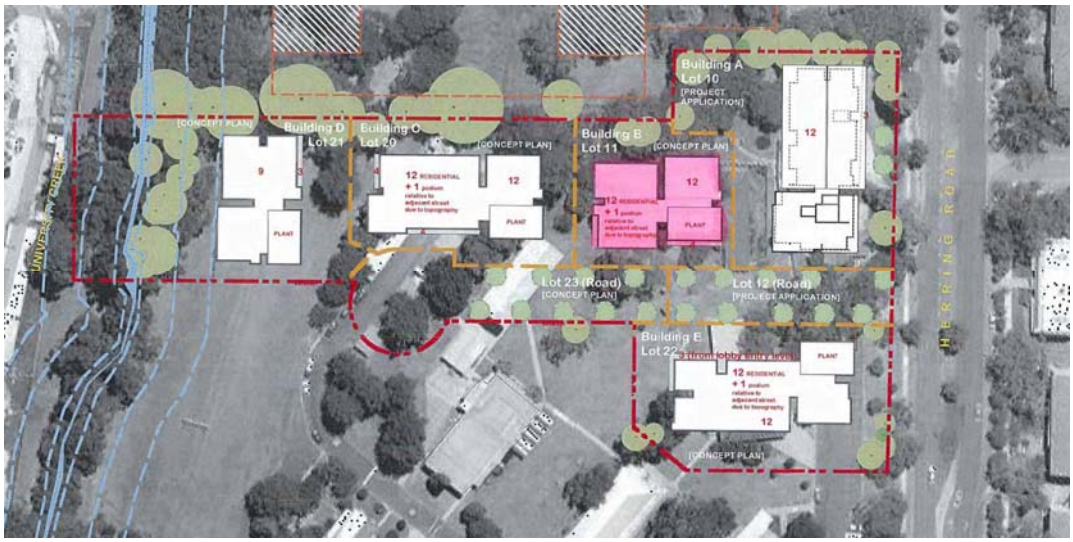


Figure 2: The diagram shows the location and layout buildings within the approved concept. Building B is highlighted.

Below is the numerical overview:

Description:	**Approved Concept**	**Proposed Building B**
No. of Storeys/RLs	Building B: 12 Residential storeys + 1 part podium. Ground RL 65.300 Parapet RL 103.100 Plant RL 105.900	12 storeys + 1 part podium Ground RL 65.300 Parapet RL 103.100 & 103.400 Plant RL 105.800
GFA	The overall approved GFA for the whole development is 47,718m^2 with Building B comprising 8120m^2	8119m^2
Car Parking	The concept approval comprised 561 apartments & 667 car parking space. Building B = 136 (indicative)	Building B = 137 spaces including 20 visitor spaces.
No of Apartments and mix:	114 (indicative)	117

- Studio/smaller 1 bedroom - 1 bedroom units - 2 bedroom units		12 (10.2%) 68 (58.1%) 37 (31.6%)

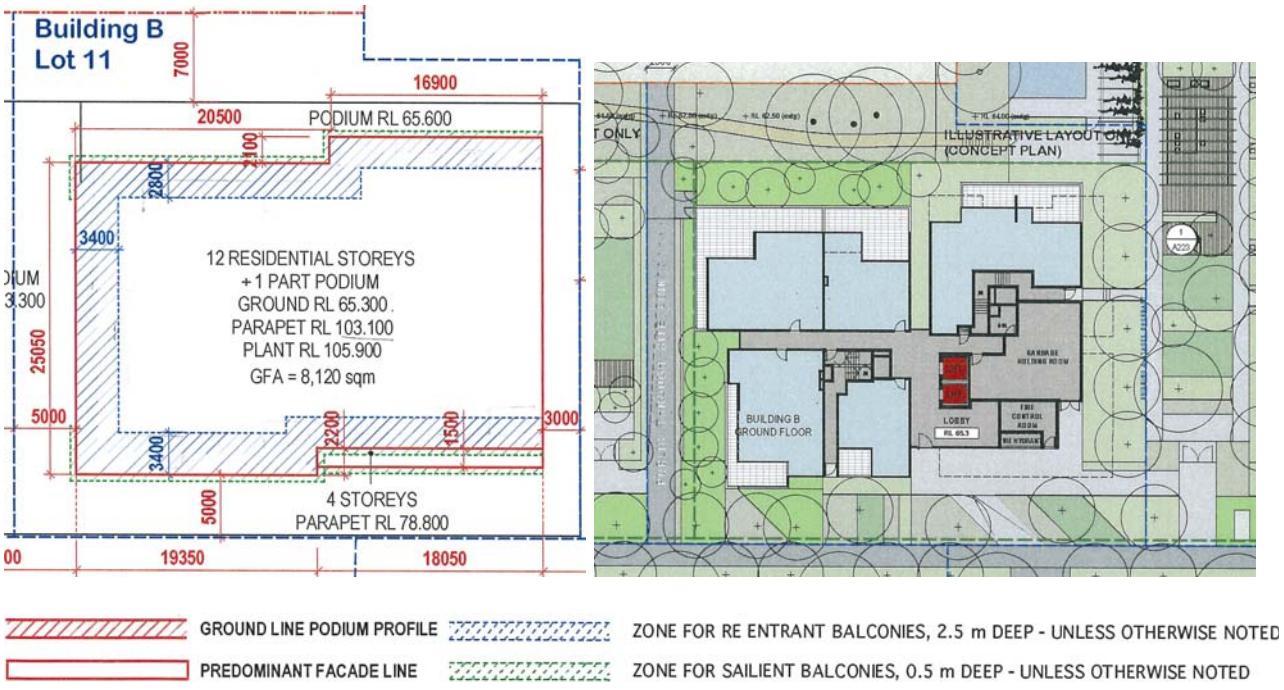
Changes to Concept Approval

As part of the concept approval, building envelopes were approved as part of a conceptualised staged development. Whilst the height and footprint of the conceptual plans has been approved, the buildings were indicative in terms of layout. This development application proposes to amend the pre-approved building in terms of the layout of the apartments and encroachment into the balcony zone. The balcony zone is areas approved for balconies and it is now proposed to encroach into this area with floor space. The overall GFA, predominant façade line and setbacks have not been altered.

The diagrams below illustrate the concept approved urban form with the outline of the proposed building imposed over.

The variations to the building envelope are mainly encroachment into the balcony zone and changes to the building form by deleting the break in the northern section of the building; however, the building is still within the predominant façade line. The concept approval was indicative only and the encroachment of the building into the balcony zone and change to building form are not considered to have any adverse impact in terms of bulk and scale.

The building will not result in any increase to the maximum approved height, minimum setbacks or approved parking numbers and complies with the gross floor area approved under the concept approval. The proposal complies with the solar and ventilation requirements under the Residential Flat Design Code. The encroachments will not result in any reduction in the minimum approved building setbacks to the new local road, adjoining property boundaries or side setbacks between buildings.



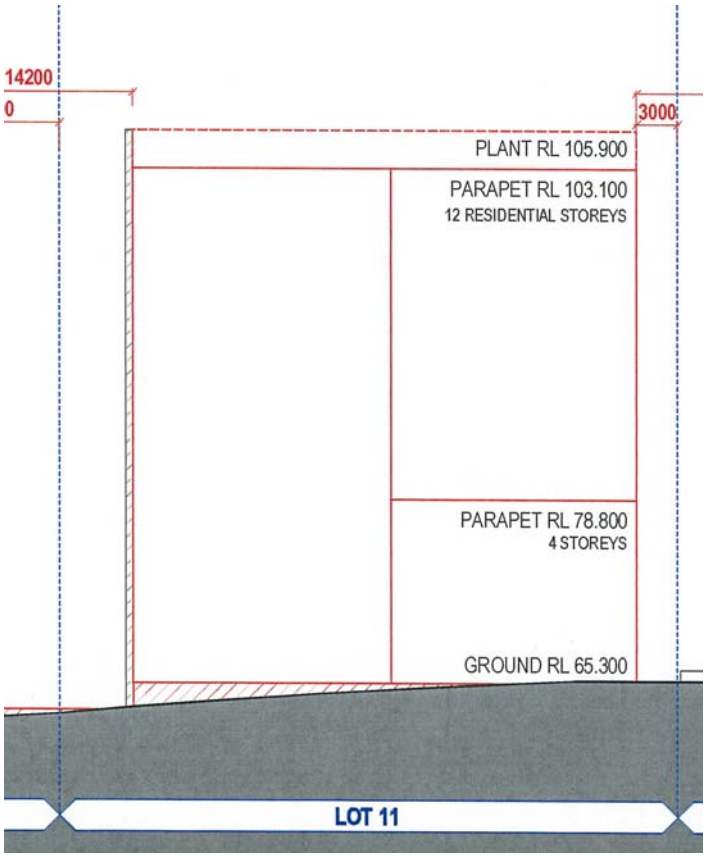
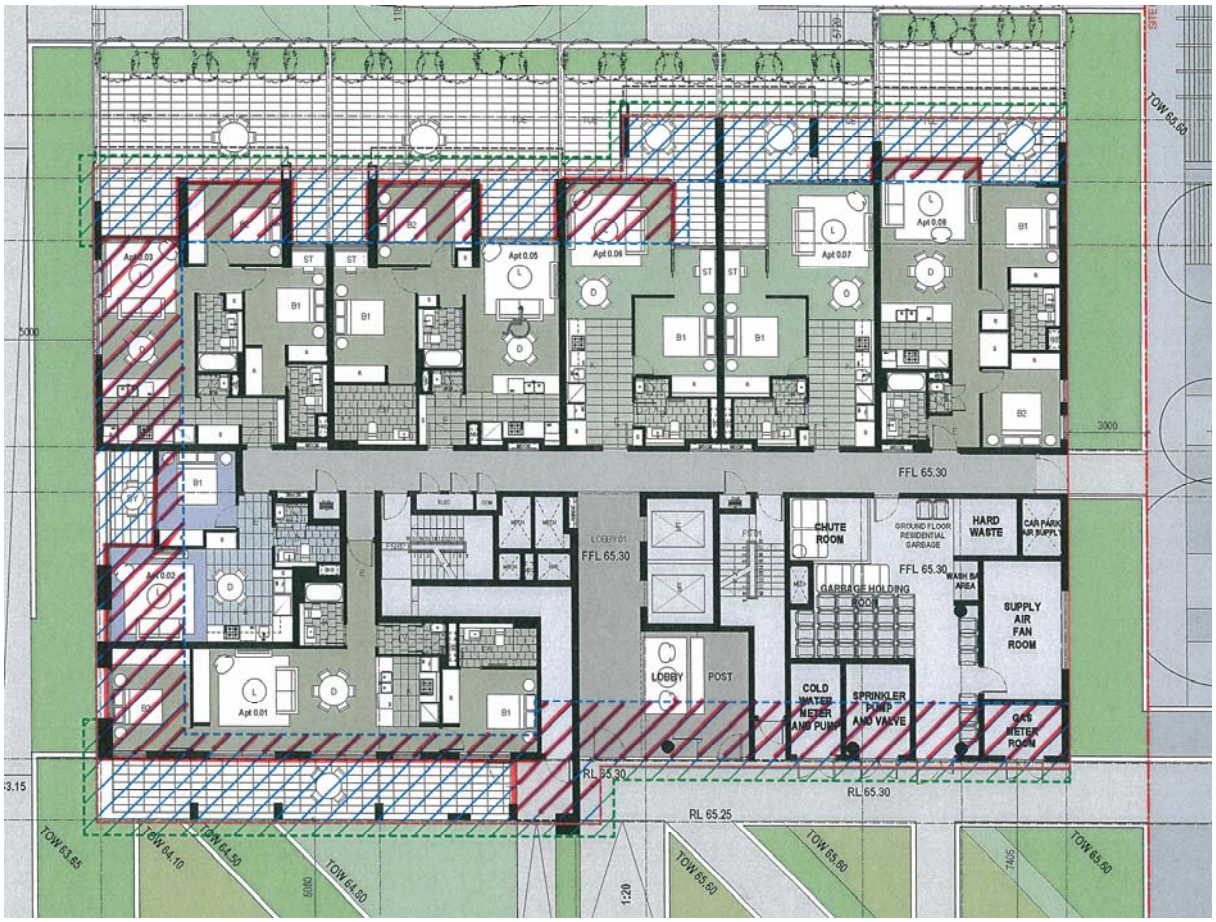


Figure 3 – Approved Urban Form Control and indicative typical floor layout and approved Urban Form Control for Height



GROUND LINE PODIUM PROFILE

PREDOMINANT FACADE LINE

ZONE FOR RE ENTRANT BALCONIES, 2.5 m DEEP - UNLESS OTHERWISE NOTED

ZONE FOR SAILIENT BALCONIES, 0.5 m DEEP - UNLESS OTHERWISE NOTED

Ground level: Area highlighted in red denotes encroachment into balcony zone.

Figure 4a – Outline of proposed building imposed over the approved concept urban form diagram

Levels 1- 11: Area highlighted in red denotes encroachment into balcony zone.

Figure 4b – Outline of proposed building imposed over the approved concept urban form diagram

Figure 5 – Outline of proposed building imposed over the approved concept urban height diagram

6. BACKGROUND

Previous Approvals:

On 20 January 2011, approvals were granted by the Deputy Director General for 3 applications as follows:

- **MP09_0195** Concept Plan as described below:
  (a) Use of the site for residential and retail purposes and open space/recreation facilities
  (b) Indicative building envelopes for 5 separate buildings with heights ranging from 9 to 12 storeys
  (c) Basement level and at-grade car parking
  (d) Public internal road, pedestrian and cycle pathway, and, parking infrastructure
  (e) Public pedestrian access between proposed Buildings B and C
  (f) Provision of a riparian corridor and ecological rehabilitation/protection works and associated landscaping.

  Part B of the approval listed three conditions requiring modifications to the approval:

  B1. Height - The plans described in Part A — Terms of Approval A2 shall be modified as follows;

a. The height of Building B shall be reduced from 15 storeys to a maximum of 12 storeys.

B2. Solar Access - The plans described in Part A — Terms of Approval A2 shall be modified as follows;

a. The building envelopes and/or unit layouts and mix of each of Buildings B, C, D and E shall be amended to ensure each building separately complies with the requirement that 70% of units achieve 2 hours solar access in mid winter as prescribed by the provisions of the RFDC.

B3. Pedestrian Access - The plans described in Part A Terms of Approval A2 shall be modified as follows;

a. A pedestrian/cycleway, a minimum of 2.5m in width, shall be provided across the proposed Lot 11 (Building B) to provide a 24 hour/7 day a week connection by right-of-way easement and be located between the new internal road and the north-eastern (side) boundary with the Macquarie University. The design and specifications (including lighting) shall be agreed with the Council prior to the commencement of construction and the access shall be completed and operational prior to the issue of an Occupation Certificate for Building C.

- **MPO9_0217** Project Application for staged subdivision into 7 allotments comprising 5 residential allotments and 2 road allotments for the access road; and
- **MPO9_0218** Project Application for the construction of a 12 storey mixed use residential/retail building (Building A) providing 123 apartments, ground floor retail space, basement car parking for 152 cars and construction of a new local access road.

The above 3 conditions, B1, B2 & B3 imposed by Approval MP09_0195 have been satisfied by:

- MP09_195 Mod 1 which was approved 11 July 2011 reduced the height of Building B from 15 to 12 storeys. This application also resulted in 1,013m^2 reduction in GFA and minor amendments to the building façade.

- As part of this application, information has been submitted from Cundall Consultants demonstrating that 70.9% of the apartments would receive 2 hours solar access in mid winter, as prescribed by the provisions of the RFDC.

- The submitted plans show a 2.5m wide pedestrian/cycleway path adjacent to the north-west side of Building B providing a connection to Macquarie University. **Condition 24** has been imposed requiring the design and specifications to be in accordance with “Paving Type B” as contained in Council’s Public Domain Technical Manual and details to be submitted with the Construction Certificate.

Under Schedule 3 of the Concept Approval entitled “Future Environmental Assessment Requirements” future applications are required to consider the following matters:

- Flood Levels
- Threatened species

- Loss of the childcare facility
- SEPP 65
- Landscaping
- Travel Access Guide (TAG)/Green Travel Plan and
- Car share Scheme.

Building B is not affected by overland flow, threatened species and does not require a childcare facility to be provided as part of this application. SEPP 65, landscaping, Travel Access Guide/Green Travel Plan and car share scheme forms part of this assessment and are discussed as part of this report.

Council approved LDA 2011/626 on 16 January 2012 for excavation of the basement associated with a future residential flat building (Building B).

Current Development Application:

Following a preliminary assessment of the current LDA on 29 November 2011, the following concerns were raised:

1. No loading/service bay provided on site with the loading/service area being located on the proposed new road. Concerns were also raised about whether loading facilities were considered for the rest of the development site as if it were proposed to provide them on the road this will lead to traffic and parking issues.
2. Various concerns were raised by Council's Urban Design Review Panel in respect to the layout of apartments, afternoon sun into apartments, external finishes and building articulation on the ground floor.
3. Details of Travel Access Guide to be submitted.

Response:

1. The applicant agreed to provide an off street loading bay/zone adjacent to Building B. A concept plan of the loading bay was submitted detailing the location, together with an overall strategy detailing proposed loading bays for Buildings C, D & E.

2. The applicant provided information to address concerns raised by the UDRP. This matter has been discussed later in the report under the heading SEPP 65.

3. The applicant has advised that a Travel Access Guide/Green Travel Plan will be given to residents and owners of the apartments and will include information such as:
   - A list of the green travel options available in the area
   - Information about the car share scheme available to Macquarie Central residents
   - Maps detailing the location of bike racks, train station, bus stops and car share spaces
   - Service details for bus and train (e.g. first and last service; frequency; weekends and weekdays; fare information)

- Access arrangements for people with disabilities on public transport routes and at train stations
- Key visual landmarks for people on foot and unfamiliar with the area, closest cross street
- Estimated travel time from the closest major centres or interchanges and
- Telephone numbers and web addresses for public transport service providers.

7. APPLICABLE PLANNING CONTROLS

The following legislation, planning policies and controls are of relevance to the development:

- Environmental Planning and Assessment Act, 1979.
- State Environmental Planning Policy No 55 – Remediation of Land (SEPP 55).
- State Environmental Planning Policy No 65 – Design Quality of Residential Flat Buildings (SEPP 65).
- State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 (BASIX SEPP).
- State Environmental Planning Policy (Major Development) 2005 (Major Development SEPP).
- Deemed SEPP – Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 (Sydney Harbour SREP).
- Ryde Local Environmental Plan 2010 (Ryde LEP 2010).
- Ryde Development Control Plan 2010 (Ryde DCP 2010) – Part 4.5 Macquarie Park Corridor.

8. PLANNING ASSESSMENT

Matters for consideration pursuant to Section 79C of the Environmental Planning & Assessment Act 1979:

8.1 State Environment Planning Policy (Major Development) Amendment 2011

On 13 May 2011 the State Environmental Planning Policy (Major Development) 2005 (SEPP Major Development) was amended by the State Environmental Planning Policy (Major Development) Amendment 2011 (the SEPP Amendment). The changes meant that proposals for residential, commercial and retail development or for coastal subdivision that were within the classes formerly included in the SEPP Major Development will now require a development application to be lodged with Council for assessment and determination under the appropriate provisions of Part 4 of the EP&A Act, hence the lodgement of this application for Building B.

In assessing development under Part 4 where there is an approved concept plan, the provisions of the Major Development SEPP will be relevant under section 79C of the EP&A Act.

In particular, the SEPP provides that, where there is an approved concept plan:

- Development within the terms of the concept plan can be carried out with consent.
- The development standards in the concept plan will have effect.
- A consent authority must not grant consent unless the development is generally consistent with the provisions of the concept plan approval and.
- Consent can be granted without complying with the requirements under any relevant environmental planning instrument or masterplan.

The proposal is generally consistent with the approved concept plan.

8.2 State Environmental Planning Policy No. 55 – Remediation of Land

The requirements of State Planning Policy No. 55 – Remediation of Land apply to the subject site. In accordance with Clause 7 of SEPP 55, Council must consider if the land is contaminated, is it suitable for the proposed use and if it is not suitable, can it be remediated to a standard such that it will be made suitable for the proposed use.

The applicant has submitted a Phase 2 Contamination Assessment report by JBS Environmental P/L. The contamination assessment filled in the data gaps from the previous assessment (Phase 1) and based on their findings concluded:

- *The site in its current condition is considered suitable for the intended mixed residential with minimal soil access and commercial (retail) land uses without further investigation or need for long-term site management.*
- *Appropriate site management controls successfully implemented during development of the site for the intended land uses will adequately manage any unexpected finds through appropriate unexpected finds protocols.*

Council's Environmental Health Officer has raised no objections to this development subject to a condition of consent. (**Condition 72**)

8.3 State Environmental Planning Policy No 65 – Design Quality of Residential Flat Buildings

SEPP 65 came into force on 26 July 2002 and applies to the proposed development because it comprises three or more storeys and contains four or more self-contained dwellings.

The SEPP aims to improve the design quality of residential flat development in New South Wales. The SEPP recognises that the design quality of residential flat development is of significance for environmental planning for the State due to the economic, environmental, social and cultural benefits of high quality residential flat building design.

The proposal has been assessed against the following matters relevant to SEPP 65, for consideration:

- Urban Design Review Panel prelodgement comments
- The ten SEPP 65 Design Quality Principles and
- The NSW Residential Flat Design Code guidelines, published by the Department of Planning and NSW Government Architect in September 2002.

Urban Design Review Panel prelodgement comments

Council's Urban Design Review Panel considered the application on 18 November 2011 and made the following comments:

The Panel is generally supportive of the proposal. The form and massing is considered acceptable. The Panel notes that the proposal is part of an approved Part 3A Concept Plan. The Applicant asserts that the proposal fits entirely within the approved Building B envelope within the Concept Plan. Communal facilities, including an outdoor swimming pool and below-grade parking access are shared with the approved Building A to the east.

Ground Floor Plan
The Panel is concerned that all loading and service activities (garbage collection, moving, tradesmen etc.) will occur on the main street address in close proximity to the main building entrance, with all vehicles parked in the new address street. Noting that the open space between Buildings A and B and to the southwest of the long ground floor corridor extended does not serve any other significant open space function, the panel recommends that a vehicle manoeuvring and parking area be established here, accessed from the new street and suitably screened by walls and /or landscaping.

Comment:
The applicant has agreed to provide a loading bay adjacent to the eastern elevation of Building B. This is shown on amended architectural plan No A204.

The panel also recommends that the terrace to Unit 0.01 be widened for part of its length to make it more useable.

Comment:
The applicant has advised that the terrace to Unit 0.01 sits above ground level on top of the basement which protrudes above the ground. The widening of the terrace will result in the balcony and basement level encroaching within the approved setback zone approved by the concept plan. The balcony is 2m wide and complies with the minimum balcony dimension required under SEPP 65. The proposed is considered acceptable.

Typical Floor Plan
The panel notes the following concerns and suggestions in relation to the typical units:

- *Units in the 07, 08 and 11 lines have kitchens immediately adjoining the front door, compromising amenity and creating potential circulation conflicts.*

- *Units in the 05 and 06 lines have living rooms which narrow down at their outer wall adjoining the balcony. This can be remedied by moving the wall between the balcony and B2 to align with the wall between the dining area and bathroom. B2 could extend further out from the building face to maintain the floor area of B2.*

- *Units in the 07 and 08 line have very deep balconies which restrict daylight to B1 via a study. It is recommended that the balconies be relocated so that they extend across the width of the living area only. It may be advantageous to "flip" the units so that the balconies adjoin as at present.*

- *The projecting blade walls between Units 07 and 08 and 08 and 09 line will cut off winter sun to Units 08 and 09 line. The panel recommends that these walls be removed or that large openings are provided in them.*

Comment:
The following changes were made:
- Part of the internal living room wall which separates the living room from the adjoining bedroom – units 1.05 & 1.06 and all levels above modified resulting in living room no longer narrowing down at the northern end.
- Projecting wall blade between units 08 & 09 and all levels above modified to include opening with sliding louvre to provide additional sun to balcony and living areas. No changes to wall between 07 & 08 as this would result in privacy issues between balconies.
- Council's City Urban Designer has reviewed the changes and whilst there were still apartments with entry via kitchen area (apartment 05 line), minor changes to some of the apartments entrance ie change of flooring material and wider passage were made. Council has no objections to the proposed layouts.

Solar Performance – NW Façade

The panel is concerned about the penetration of afternoon summer sun to the units adjoining the northwest facade of the building (02, 03 and 05 lines). Fixed and or sliding/adjustable louvers are to be provided to all windows and the 03 and 05 balconies.

Comment:
Perspective drawings of the outer wall on the western side showing the summer sun demonstrated that the building is in full shadow at 1pm, partially shadowed between 2pm and 5pm and in full sun until 7pm. The drawings demonstrated that windows of apartment 03 lines are narrow slot windows and the balcony windows of unit 02 line are in full shadow in afternoon. In these circumstances louvres were not necessary. Sliding vertical louvre panels were however provided for some other west facing apartment windows.

Environmental Performance

The panel is particularly concerned about the building's performance in terms of cross-ventilation, winter solar access and the number of south facing units. It recommends that Council review this aspect of the proposal in detail.

Comment:
The following changes were made:
- Additional windows were provided on the south east wall of the living areas to ensure light penetration to the south facing apartments.

Exterior Finishes and Maintenance
The panel notes that almost all of the exterior surfaces of the building are to be painted. It is recommended that alternative more durable finishes be considered for some of the exterior elements of the building.

Comment:
The applicant has advised that the proposed external wall treatment is painted precast. This is the industry standard for residential flat developments across Metropolitan Sydney and is hard wearing, requiring minimal maintenance compared with other finishes. Furthermore, the chosen finishes relate to the approved Building A and therefore a consistency of product will continue to be maintained across this site. Council's City Urban Designer has reviewed the schedule of finishes and has raised no objections.

Building articulation
The panel notes there some areas of largely blank wall. This occurs on part of the eastern façade and around the base of the building where there is a significant change of level. These areas require greater articulation. Alternatively, around the base of the building landscaping could be used to screen the wall. The project architects noted that they are still considering materials and this may provide greater articulation through modulation of the eastern façade.

Comment:
The applicant has advised that the building includes a series of jointing between the precast panels to break up the expanse of the walls. A condition has been imposed requiring amendment to the landscaping plan to include taller trees to screen the ground floor of the building on the southern and western elevations. Furthermore, there are large raised planters along the eastern elevation and substantial landscaping in the courtyard between Buildings A and B. The landscape treatments will provide a buffer to the base of the building and soften the eastern façade. Council's City Urban Designer is satisfied with the proposed landscaping and **Condition 1(b)** has been imposed requiring the additional landscaping.

SEPP 65 Design Quality Principles

The following table provides an assessment of the proposed development against the 10 Design Quality Principles of SEPP 65:

SEPP 65 Design Principle	Comments	Comply?
Principle 1: Context Good design responds and	Contextually, the proposed Building B is part of the five residential building	Yes

SEPP 65 Design Principle	Comments	Comply?
contributes to its context. Context can be defined as the key natural land 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.	envelopes approved by the Department of Planning under Part 3A. The proposed development is located adjacent to Macquarie University, in close proximity to the Macquarie Shopping Centre and the railway station with residential flat buildings of three to four storeys high to the south and east. The Macquarie University, which abuts the northern boundary of the site, has a concept plan approval for additional commercial and education floor space with student accommodation with maximum building height of up to 28 storeys. The height of this development is consistent with recent approvals.	
Principle 2: Scale Good design provides an appropriate scale in terms of the bulk and height that suits the scale of the street and surrounding buildings. Establishing an appropriate scale requires a considered response to the scale of existing development. In precincts undergoing a transition, proposed bulk and scale needs to achieve the scale identified for the desired future character of the area.	The concept approval for the residential buildings set the parameters for appropriate scale and height. Building B is 12 storeys and follows the overall concept of 5 x 12 storey buildings. The future character of the area for medium to high density development has been established by the Macquarie University concept plan which range in height between 5 to 28 storeys buildings. The height of this development provides a suitable scale transition between the taller buildings located to the north (Macquarie University) and lower developments to the south and east.	Yes
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. 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 development incorporates design features and architectural quality generally consistent with the *Residential Flat Design Pattern Book* published by the NSW Government (2001). Additionally, the design and appearance of the development is consistent to the overall concept approval with the building located behind Building A.	Yes
Principle 4: Density Good design has a density	The proposed residential density, being 117 units is considered appropriate. The	Yes

SEPP 65 Design Principle	Comments	Comply?
appropriate for the site and its context, in terms of the floor space yields (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 desired future density. Sustainable densities respond to the regional context, availability of infrastructure, public transport, community facilities and environmental quality.	site is located within the Macquarie Park Corridor with close access to retail/commercial and educational facilities and walking distance to public transport. The proposal therefore maximises residential density in relation to established facilities/services.	
Principle 5: Resource, energy and water efficiency Good design makes efficient use of natural resources, energy and water throughout its 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 principals, efficient appliances and mechanical services, soil zones for vegetation and reuse of water.	The provision of a residential development of this density with good transport links and immediate proximity to retail, education, entertainment, recreation and employment provides for efficient use of existing resources and facilities. The proposed development is considered suitable with respect to resource, energy and water efficiency. The proposal meets minimum BASIX targets for thermal comfort, energy and water efficiency.	Yes
Principle 6: Landscape Good design recognises that together landscape and building operate 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 by co-ordinating water and soil management, solar access, micro-climate, 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	The landscape design for Building B provides areas for communal open space for the occupants of Buildings A & B. A range of plantings is proposed and considered suitable for the proposed use. The landscaping will also soften the appearance of the development. Planting within the front setback will breakdown/soften the development when viewed from the new road. **Condition 1(b)** has been imposed to provide details of taller trees to screen the ground floor of the building on the southern and western elevations.	Yes

SEPP 65 Design Principle	Comments	Comply?
character. Landscape design should optimise useability, privacy and social opportunity, equitable access and respect for neighbours' amenity, and provide practical establishment and long term management.		
Principle 7: Amenity 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 proposal will achieve adequate levels of natural ventilation and cross ventilated units. There is sufficient sunlight access to living areas and private open space to the majority of dwellings. A report prepared by Cundall Consultants demonstrates that the building will achieve natural ventilation as per the SEPP 65 requirement, as discussed further in this report. The orientation and configuration of the apartments minimises opportunities for overlooking between units. The layout allows for the maximum number of units to face north and to take advantage of distant views. Where there is potential for impacts on visual privacy, appropriate screening is proposed to minimise such impacts. Shared common courtyards with Building A offer outdoor amenities such as a swimming pool/entertaining area. Acceptable storage is provided to all dwellings both internally and in the basement parking areas. All units are provided with sufficient indoor and outdoor living spaces. Balconies are at least 2 metres in depth and are directly accessible from main living areas. All levels are accessible from a central lift with ease of access and mobility provided.	Yes
Principle 8: Safety and security Good design optimises safety and	The proposal makes a positive contribution with respect to safety and	Yes

SEPP 65 Design Principle	Comments	Comply?
security, both internal to the development and for the public domain. This is achieved by maximising overlooking of public and 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 a clear definition between public and private spaces.	security. Passive surveillance opportunities are provided with balconies and windows facing the new road and the western side pathway. Entrance points are clearly identified and public and private space is clearly delineated through secure entrances and the use of perimeter planting.	
Principle 9: Social dimensions and housing affordability 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 provisions 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. New developments should address housing affordability by optimising the provision of economic housing choices and providing a mix of housing types to cater for different budgets and housing needs.	The proposed development provides a high degree of one and two bedroom apartments, with some smaller 1 bedroom/studio apartments. However the proposed unit mix is considered appropriate, given that the site adjoins Macquarie University. The smaller size apartments will provide for a range of affordable/student accommodation, addressing the need for provision of economic housing choice within an area with good public transport access, social and commercial facilities. Adaptable units are also proposed.	Yes
Principle 10: Aesthetics 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 the desirable elements of the existing streetscape, or, in precincts undergoing transition, contribute to the desired future character of the area.	The building aesthetics are considered appropriate. The appearance of the development presents a contemporary design which is compatible with the existing approved Building A. The building has a distinctive back and front appearance with indentations to provide architectural interests.	Yes

Residential Flat Design Code

The following table provides an assessment of the proposed development against the Residential Flat Design Code (RFDC) guidelines.

Residential Flat Design Code	Comment	Comply
Local context: Primary development controls		
Building height • To ensure future development responds to the desired future character of the street and local area. • To allow reasonable daylight access to all developments and the public domain.	The proposed development exceeds the maximum height of 27.5m and 21.5m permitted under the Ryde LEP 2010. However, the heights of each of the buildings have been approved under the Part 3A concept approval. This application cannot be refused based on non-compliance with the height requirement. The proposal will provide at least three hours of solar access to the share communal area and to 70% of the apartments.	Yes
Building depth Control over building depth is important as the depth of a building will have a significant impact on residential amenity for the building occupants. In general, narrow cross section buildings have the potential for dual aspect apartments with natural ventilation and optimal daylight access to internal spaces. In general, apartment building depth of 10-18 metres is appropriate. Developments that propose wider than 18 metres must demonstrate how satisfactory day lighting and ventilation are to be achieved.	The maximum building depth is 24.4 metres, which is more than the maximum recommended 18 metres. However, the building will provide satisfactory daylight and natural ventilation. These aspects have been discussed further in this report. As these aspects are satisfactory, no objection is raised to the variation.	No – (variation acceptable)
Building separation For buildings over three storeys it is recommended that building separation increase in proportion to building height to ensure appropriate urban form, adequate amenity and privacy for building occupants. Suggested dimensions within a development, internal courtyards and between adjoining site are: • Up to nine storeys and above/over	This proposal is 12 storeys/ over 25m with proposed building separation of (as approved by concept Plan): Between A & B – 15m to 20m Between B & C – 14.2m to 17. The western elevation of Building A faces Building B with a separation of between 15m to 20m. Levels 5 to 10 of Building A have side privacy louvres along the western elevation	No (variation acceptable)

Residential Flat Design Code	Comment	Comply
25 metres – 24m between habitable rooms/balconies – 18m between habitable/balconies and non-habitable rooms – 12m between non-habitable rooms • Developments that propose less than the recommended distances must demonstrate that daylight access, urban form and visual and acoustic privacy has been satisfactorily achieved.	and Building B with high light windows off the living rooms. Therefore sufficient privacy controls are provided to reduce any overlooking concerns. The separation between Building B & C is also non-compliant; however, the development maintains privacy along the western elevation of Building B (facing Building C) by the use of sliding vertical louvre or the provision of high light windows. These measures will adequately manage any direct overlooking between the buildings.	
Street setbacks • Street setbacks should relate to the desired streetscape character, the common setback of buildings in the street, the accommodation of street tree planting and the height of buildings and daylight access controls. • Relate setbacks to area's street hierarchy. • Identify the quality, type and use of gardens and landscape areas facing the street.	The subject building addresses the new internal road (to be constructed) and is within the Macquarie University Station Precinct. Under the Ryde DCP 2010, a 5 metre setback is required to this new road. The building is setback (including balconies) 5.0 to 7.0 metres from the new road boundary. Trees and perimeter planting are proposed along the street frontage will support the appearance of the development from within the public domain.	Yes
Side and rear setbacks Side setbacks should minimise the impact of light, air, sun and privacy, views and outlook for neighbouring properties, including future buildings and retain a rhythm or pattern that positively defines the streetscape so that space is not just what is left over from the building form. Rear setbacks should maintain deep soil zone to maximise natural site drainage and protect the water table; maximise the opportunity to retain and reinforce mature vegetation; optimise the use of land at the rear and surveillance of the street at the front and maximise building separation to	The side and rear setbacks of Building B are determined by the approved concept plan. The proposed setbacks are in accordance with the approved concept setbacks.	Yes

Residential Flat Design Code	Comment	Comply
provide visual and acoustic privacy.		
Floor Space Ratio Test the desired built form outcome against proposed floor space ratio to ensure consistency with building height- building footprint the three dimensional building envelope open space requirements.	A maximum FSR of 2:1 is permitted on the site under the RLEP. The proposal for the whole site has a floor space ratio of 2.5:1 which does not comply with Council's RLEP, however the proposal is approved under Part 3A and the proposal is in accordance with the approved gross floor area. Building B concept plan allowed 8120m^2 of floor space - this DA proposes 8119m^2.	Yes
Part 2: Site Design		
Site analysis Development proposals need to illustrate design decisions, which are based on careful analysis of the site conditions and their relationship to the surrounding context. By describing the physical elements of the locality and the conditions impacting on the site, opportunities and constraints for future residential flat development can be understood and addressed in the design.	The architectural drawings include a thorough site analysis of the conditions affecting the site and the local context, opportunities and constraints.	Yes
Site configuration: deep soil zones Optimise the provision of consolidated deep soil zones within a site. Optimise the extent of deep soil zones beyond the site boundaries by locating them contiguous with the deep soil zones of adjacent properties. Promote landscape health by supporting for a rich variety of vegetation type and size. Increase the permeability of paved areas by limiting the area of paving and/or using pervious paving materials. A minimum of 25% of the open space area of a site should be a deep soil zone; more is desirable. Exceptions	The amount of deep soil planting for Building B is approximately 144m^2 (7.8%) located primarily along the northern boundary of the site. This is less than the minimum recommended 25% however the overall development of the 5 buildings provides 36% of deep soil. Therefore whilst the deep soil component for Building B is non compliant other stages of the development have a higher percentage resulting in the overall development complying.	Yes

Residential Flat Design Code	Comment	Comply
may be made in urban areas 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 flat building.		
Site configuration: fences and walls Respond to the identified architectural character for the street and/or the area; contribute to the amenity, beauty and useability of private and communal open spaces and retain and enhance the amenity of the public domain. Clearly delineate the private and public domain without compromising safety and security. Select durable materials, which are easily cleaned and graffiti resistant.	No fencing is proposed and the podium walls are well landscaped, deterring the potential for graffiti. The public and private domains are clearly delineated with perimeter planting between the boundary and front building lines along the street frontage.	Yes
Site configuration: landscape design Improve the amenity of open space with landscape design which provides appropriate shade from trees or structures, accessible routes through the space, screening, allows for locating artworks. Contribute to streetscape character and the amenity of the public domain. Design landscape that contributes to the site's particular and positive characteristics. Contribute to water and stormwater efficiency by integrating landscape design with water and stormwater management. Provide sufficient depth of soil above paving slabs to enable growth of mature trees.	Landscaping is provided within the front setback and accessible garden areas. Council's Landscape Architect has raised no objections to the proposed landscaping.	Yes

Residential Flat Design Code	Comment	Comply
Minimise maintenance by using robust landscape elements.		
Site configuration: open space Provide communal open space that is appropriate and relevant to the context and the building's setting. Where communal open space is provided, facilitate its use for the desired range of activities. Provide private open space for each apartment capable of enhancing residential amenity. Locate open space to increase the potential for residential amenity. Provide environmental benefits including habitat for native fauna, native vegetation and mature trees, a pleasant microclimate, rainwater percolation and outdoor drying area. The area of communal open space required should generally be at least between 25 and 30% of the site area. Larger sites and brownfield sites may have potential for more than 30%. 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 a contribution to public open space. The minimum recommended area of private open space (POS) for each apartment at ground level or similar space on a structure, such as on a podium or car park, is 25m², the minimum preferred dimension in one	No communal open space is provided for Building B site however the site shares an external courtyard area with Building A which has a swimming pool, gym and seating area located between Buildings A & B. The location of this communal area is considered appropriate as it is easily accessible from the two buildings. The open space area is capable of facilitating active and passive recreational opportunities, with an open grassed area and outdoor seating and tables. **Condition 11** has been imposed requiring the area between the two buildings to be readily accessible and that residents of Building B are allowed full access to this communal area. Ground floor apartments are provided with private open space (POS) of more than $25m^2$ and a minimum dimension of 4 metres, as required, except for apartment 02 which has a POS of $8.6m^2$. However this apartment sits above ground and does not have a podium terrace, furthermore the RFDC area for studio balconies is $6m^2$ as such meets the requirement for studio balconies.	Yes

Residential Flat Design Code	Comment	Comply
direction is 4.0m.		
Site configuration: orientation Plan the site to optimise solar access by positioning and orienting buildings to maximise north facing walls, providing adequate building separation within the development and to adjacent buildings. Select building types or layouts which respond to the streetscape while optimising solar access. Optimise solar access to living spaces and associated private open spaces by orienting them to the north. Detail building elements to modify environmental conditions, as required, maximising sun access in winter and sun shading in summer.	The orientation of the building is considered appropriate, addressing the new street and maximum number of north facing units. This will maximise environmental design opportunities including natural air circulation and solar access. The proposed development achieves solar access to private open spaces and living areas to 83 of the 117 units (71%), achieving adequate solar access.	Yes
Site configuration: planting on structures 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 etc.	The soil depth map illustrate that the rear area of the open space area will be of deep soil/inground with existing trees in this area retain. A Condition of Consent has been imposed requiring that species appropriate for the soil depth provided are planted, in accordance with the RFDC soil depth and dimension standards (**Condition 1(b)***).*	Conditioned to comply
Site configuration: stormwater management Reduce the volume impact of stormwater on infrastructure by retaining it on site. Optimise deep soil zones. All development must address the potential for deep soil zones. On dense urban sites where there is no potential for deep soil zones to contribute to stormwater management, seek alternative solutions.	Council's Development Engineer has reviewed the proposed stormwater management measures and considers them to be generally adequate. A number of Conditions of Consent are recommended to ensure appropriate stormwater management (**Conditions 42, 47, 88, 89 & 90**) A condition has been imposed as recommended by Council's Development Engineer requiring appropriate erosion and sediment control measures during the undertaking of works on the site	Conditioned to comply

Residential Flat Design Code	Comment	Comply
Protect stormwater quality by providing for sediment filters and traps etc. Reduce the need for expensive sediment trapping techniques by controlling erosion. Consider using grey water for site irrigation.	(**Condition 53**).	
Site amenity: safety Reinforce the development boundary to strengthen the distinction between public and private space. This can be actual or symbolic. Optimise the visibility, functionality and safety of building entrances. Improve the opportunities for casual surveillance by orienting living areas with views over public or communal open spaces, where possible. Minimise opportunities for concealment. Control access to the development.	Public and private space is clearly delineated through the use of landscaping elements. The proposed development is considered acceptable with respect to safety. The design provides for adequate passive surveillance of the street and communal open space. Appropriate access control is provided throughout various parts of the development, including the residential lobbies, units and the residential secure parking areas though secure doors and roller shutters. Conditions of Consent requiring CCTV and the incorporation of other safety and security measures as recommended by the Police have been imposed (**Conditions 65 to 71**).	Yes
Site amenity: visual privacy Locate and orient new development to maximise visual privacy between buildings on site and adjacent buildings. Design building layouts to minimise direct overlooking of rooms and private open spaces adjacent to apartments. Use detailed site and building design elements to increase privacy without	As noted under 'Building Separation' above, appropriate mitigation measures are provided to manage visual privacy between dwellings. Privacy screens are proposed along the western windows of Building A to manage privacy between Buildings A & B. Along the western elevation of Building B privacy screens or high light windows are proposed which will provide privacy between Buildings B	Yes

Residential Flat Design Code	Comment	Comply
compromising access to light and air.	& C.	
Site access: building entry Improve the presentation of the development to the street (i.e. designing the entry as a clearly identifiable element of the building in the street, ground floor apartment 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 the street and the entry.	The main entry point to Building B is via the front entry located off the new road. The entry point is legible with clear lines of vision between the entrance and the street. Entrances are appropriately secured. Mailboxes can be assessed from the lobby area or via entry from street.	Yes
Site access: parking Determine the appropriate car parking space requirements in relation to proximity to public transport, shopping and recreational facilities, density etc. Limit the number of visitor parking spaces, particularly in small developments. Give preference to underground parking, whenever possible. Where above ground enclosed parking cannot be avoided, ensure the design of the development mitigates any negative impact on streetscape and amenity. Provide bicycle parking, which is easily accessible from ground level and from apartments.	A total 137 car parking spaces are proposed for Building B (including 13 accessible and 20 visitors). Ryde DCP 2010 car parking rate of: 0.6 to 1 space/one bedroom 0.9 to 1.2 space/2 bedroom 1.4 to 1.6 space/3 bedroom 1 visit/ 5 dwelling. = 106 to 149 spaces to be provided The proposal provides 137 car parking spaces (117 residential spaces and 20 visitor spaces). Parking spaces are located in three basement car parking levels with access via the carpark entry from Building A. **Condition 85** has been imposed requiring signage being provided to direct residents/visitors to the entrance to the carpark via Building A.	Yes
Site access: pedestrian access Utilise the site and its planning to optimise accessibility to the development. Promote equity by ensuring the main building entrance is accessible for all from the street and from car parking	The applicant's Access Review Report prepared by Morris-Goding Accessibility Consulting, dated 26 October 2011, makes recommendations for compliance with the relevant Australian Standards and Ryde DCP 2010 controls.	Yes

Residential Flat Design Code	Comment	Comply
areas. Design ground floor apartments to be accessible from the street, where applicable, and to their associated private open space. Maximise the number of accessible, visitable and adaptable apartments in a building. Australian Standards are only a minimum. Separate and clearly distinguish between pedestrian access ways and vehicle access ways. 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% dwellings in the development.	A Condition of Consent (**Condition 34**) is imposed requiring compliance with the Ryde DCP 2010 and the recommendations contained in the above report. The report states that the recommendations should be addressed prior to Construction Certificate and are achievable. Barrier free access is provided within the development.	
Site access: vehicle access • Generally limit the width of driveways to six metres. • Locate vehicle entries away from main pedestrian entries and on secondary frontages.	The driveway to the carpark is part of Building A which has been approved under part 3A – Project Application MP-0218. A concept plan has been provided to provide a loading bay in between Buildings A & B as this was considered the most suitable location for a loading bay for service vehicles to the site and is located away from main pedestrian entries.	Yes
Part 3: Building Design		
Building configuration: apartment layout Single-aspect apartments should be limited in depth to 8.0m from a window. Back of kitchen to be no more than 8m from window. Comparative unit sizes: internal area	The smaller 1 bedroom apartment/studio apartment are 49m^2 - complies. Single aspect 1 bedroom units are 54m^2, 2 bedroom corner /cross through units are 76.5m^2 , which is less than the minimum recommended size. However, these units demonstrate adequate levels of internal amenity, with the north facing	No (variation acceptable)

Residential Flat Design Code	Comment	Comply
(external area): • Studio 38.5m2 (6m²) • 1br cross-through 50m² (8m²) • 1br loft 62m² (9.4m²) • 1br single-aspect 63.4m² (10m²) • 2b corner 80m² (11m²) • 2br cross-through 89m2 (21m²) • 2br cross-over 90m² (16m²) • 2br corner with study 121m² (33m²) • 3br 124m² (24m²) 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. Minimum apartment sizes that do not exclude affordable housing are: • 1 bedroom apartment 50m^2 • 2 bedroom apartment 70m^2 • 3 bedroom apartment 95m^2	units achieving satisfactory lighting and natural ventilation, with generous sized bedroom dimensions and adequate space to allow for flexibility in furniture configuration over the life of the units. Accordingly, the non-compliance is considered acceptable. All of the units achieve the size for affordable housing and have open space directly accessible off the main living area, with balcony dimensions of 2.0 metres and adequate spaces. The backs of kitchens are within 8.0 metres from a door or window, thereby provided with adequate natural ventilation.	Yes
Building configuration: apartment mix Provide a variety of apartment types. Refine the appropriate apartment mix for a location by: • Considering population trends. • Noting the apartment's location in relation to public transport, public facilities, etc. • Locate a mix of apartments on the ground level. • Optimise the number of accessible and adaptable apartments. Investigate the possibility of flexible apartment configurations.	The proposed development provides the following unit mix: • Studio/smaller 1 bedroom: 12 (10.2%) • 1 bedroom: 68 (58.1%) • 2 bedroom: 37 (31.6%) This unit mix does not contain any three bedroom apartments; however, given the location (next to Macquarie University) the future and current trend is for smaller apartments to accommodate students and couples, rather than families within this location. The proposal does provide for a variety of apartment types. Adaptable units are provided and clearly illustrated on the architectural drawings.	Yes
Building configuration: balconies Provide at least 1 primary balcony. Primary balconies should be located	Each unit is provided with a primary balcony that is directly accessible off the main living area.	Yes

Residential Flat Design Code	Comment	Comply
adjacent to the main living areas, sufficiently large and well proportioned to be functional and promote indoor/outdoor living. Design and detail balconies in response to the local climate and context. Design balustrades to allow views and casual surveillance of the street while providing for safety and visual privacy. Coordinate and integrate building services, such as drainage pipes, with overall facade and balcony design. Consider supplying a tap and gas point on primary balconies. Provide primary balconies for all apartments with a min. depth of 2.0m.	It is considered that balconies are appropriately located to maximise solar access, however due to the orientation of the building, there will be some units which will have balconies facing south. Balconies are also well positioned and screened to optimise privacy from other parts of the development and the adjoining properties. Glass balustrades and the location of balconies allows for casual surveillance of the street and public domain surrounding the site. Drainage and building services are integrated into the building design and will not result in any undesirable visual impacts on the façade. All balconies have a depth of at least 2.0 metres.	
Building configuration: ceiling Heights Design better quality spaces in apartments by using ceilings to define a spatial hierarchy between areas of an apartment using double height spaces, raked ceilings, changes in ceiling heights and/or the location of bulkheads, maximise heights in habitable rooms by stacking wet areas from floor to floor, promote the use of ceiling fans. Recommended minimum floor to ceiling heights: • 2.7m for all habitable rooms on all floors; and • 2.4m is the preferred minimum for all non-habitable rooms, however, 2.25m is permitted.	Floor to ceiling heights are at least 2.7 metres for all residential dwellings.	Yes
Building configuration: flexibility Provide apartment layouts, which	All units are of an appropriate size and layout to allow for flexibility in	Yes

Residential Flat Design Code	Comment	Comply
accommodate the changing use of rooms. Utilise structural systems, which support a degree of future change in building use or configuration. Promote accessibility and adaptability by ensuring the number of accessible and visitable apartments is optimised and adequate pedestrian mobility and access is provided.	changing use of rooms through furniture layouts. One & two bedrooms adaptable units are provided on each floor, providing sufficient opportunity for reconfiguration of apartments to suit the requirements of disabled persons. This is clearly demonstrated on the architectural drawings and detailed in the Access report.	
Building configuration: ground floor apartments • Optimise the number of ground floor apartments with separate entries and consider requiring an appropriate percentage of accessible units. This relates to the desire streetscape and topography of the site. • Provide ground floor apartments with access to private open space, preferable as a terrace or garden.	Only one ground floor unit has a separate entry via the courtyard area as the majority of the ground floor units are located on a raised podium with a north facing courtyard area. Due to the topography and the raised podium, direct separate entries are not possible, however all apartments have access to private open space.	Yes
Building configuration: internal Circulation 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 8. Exceptions may be allowed for: - Adaptive reuse buildings - Where it can be demonstrate achievement of the desired streetscape character and entry response - Demonstrate a high level of amenity for common lobbies, corridors and units	Apartments are accessed via a central lift area. Eight units off main corridor and two units off another shorter lobby, with both lobbies serviced by two lifts.	Yes
Building configuration: storage Locate storage conveniently for apartments. Options include providing at least 50% of the required storage within each apartment, dedicated storage rooms on each floor, providing dedicated and/or leasable secure	Each unit is provided with storage within the apartment and there are 117 storage compartments within the three basement levels. **Condition 12** has been imposed requiring that each apartment has the required storage facilities.	Yes

Residential Flat Design Code	Comment	Comply
storage in internal or basement car parks. Where basement storage is provided ensure that it does not compromise natural ventilation in car parks or create potential conflicts with fire regulations, exclude it from FSR calculations. Provide accessible storage facilities at the following rates: • Studio apartments 6m³ • 1 bedroom apartments 6m³ • 2 bedroom apartments 8m³ • 3 plus bedroom apartments 10m³.		
Building amenity: acoustic privacy Utilise the site and building layout to maximise the potential for acoustic privacy by providing adequate building separation within the development and from neighbouring buildings. Arrange apartments within a development to minimise noise transition between flats. Design the internal apartment layout to separate noisier spaces from quieter. Resolve conflicts between noise, outlook and views by using double glazing, operable screened balconies, and continuous walls to ground level courtyards where they do not conflict with streetscape.	Appropriate building separation is provided to ensure acoustic privacy is maintained between the subject site and development on adjoining properties. The apartment layout is considered appropriate, as similar uses such as kitchens, living areas and bedrooms are located opposite the same uses of adjoining units, as much as it appears practical.	Yes
Building amenity: daylight access Plan the site so that new residential flat development is oriented to optimise northern aspect. Ensure direct daylight access to communal open space between March and September and provide	The site is orientated so that the majority of units are orientated north, east or west. The portion of communal open space adjacent to eastern side of the building receives sufficient levels of sunlight access in mid-winter. In the	Yes

Residential Flat Design Code	Comment	Comply
appropriate shading in summer. - Living rooms and private open spaces for at least 70% of apartments in a development should receive a minimum of 3 hours direct sunlight between 9.00am and 3.00pm in mid winter. In dense urban areas a minimum of 2 hours may be acceptable. - Limit the number of single-aspect apartments with a southerly aspect (SW-SE) to a maximum of 10% 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 how energy efficiency is addressed.	summer months, trees and landscaping will ensure appropriate shading of communal open space. Light wells are not used as part of the proposed development. 83 of the 117 units (71%) receive sunlight access to balconies and main living areas in mid-winter. 11 units (10%) are primarily south. Additionally, the proposal meets the appropriate BASIX targets for thermal comfort, energy efficiency and water.	
Building amenity: natural ventilation Building depths, which support natural ventilation typically range from 10 to 18m. 60% of residential units should be naturally cross ventilated and 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.	The proposed building has a building depth of 24m. Despite this, the proposed development provides adequate natural ventilation to units and kitchens in accordance with the RFDC. 68% (eighty) of apartments are naturally cross-ventilated.	Yes
Building form: awnings and signage **Awnings –** **Signage –** Signage should be integrated with the design of the development by responding to scale, proportions and architectural detailing.	An awning is not required for the proposed building. Building identification signage is to be located adjacent to the entrance and flush with the wall and non-illuminated. This will allow for residents and visitors to identify the building without the signage	N/a Yes

Residential Flat Design Code	Comment	Comply
Signage should provide clear and legible way-finding for residents and visitors.	dominating the façade. A condition of consent is imposed to ensure the building identification signage is flush with the wall and not illuminated (**Condition 8**).	
Building form: facades Consider the relationship between the whole building form and the facade and/or building elements. The number and distribution of elements across a facade determine simplicity or complexity. Columns, beams, floor slabs, balconies, window openings and fenestrations, doors, balustrades, roof forms and parapets are elements, which can be revealed or concealed and organised into simple or complex patterns. Compose facades with an appropriate scale, rhythm and proportion, which respond to the building's use and the desired contextual character.	The design of the façade incorporates a number of different building elements including recessed balconies, louvre across the balconies, windows and glazed balustrades. These elements add interest to the design of the façade and enhance its aesthetics when viewed from the public domain. The Urban Design Panel has no issue with the design/articulation of the building.	Yes
Building form: Roof design Relate roof design to the desired built form. Some design solutions include: Articulating the roof, using a similar roof pitch or material to adjacent buildings, using special roof features, which relate to the desired character of an area, to express important corners etc.	The roof is a flat roof and is well integrated with the overall building design. The design of the building is in keeping with the approved Building A located east of Building B. Materials, colours and finishes of the roof and top floor complement the overall development.	Yes
Building performance: energy efficiency Incorporate passive solar design techniques to optimise heat storage in winter and heat transfer in summer. Improve the control of mechanical space heating and cooling. Provide or plan for future installation of photovoltaic panels. Improve the efficiency of hot water systems. Reduce reliance on artificial lighting.	A Condition of Consent has been imposed requiring compliance with the BASIX commitments made within this DA (**Condition 3**). The proposal achieves an energy efficiency score of 22 (20 to pass).	Yes

Residential Flat Design Code	Comment	Comply
Maximise the efficiency of household appliances.		
Building performance: maintenance Design windows to enable cleaning from inside the building, where possible. Select manually operated systems, such as blinds, sunshades, pergolas and curtains in preference to mechanical systems. Incorporate and integrate building maintenance systems into the design of the building form, roof and facade. Select durable materials, which are easily cleaned and are graffiti resistant.	The proposal is considered acceptable with respect to maintenance. The proposed external wall treatments include painted precast which is hard wearing and requires minimal maintenance. The chosen finishes relate to the approved Building A.	Yes
Building form: waste management Incorporate existing built elements into new work and recycle and reuse demolished materials, where possible. Specify building materials that can be reused and recycled at the end of their life. Integrate waste management processes into all stages, of the project, including the design stage. Support waste management during the design stage. Prepare a waste management plan. Locate storage areas for rubbish bins away from the front of the development where they have a significant negative impact on the streetscape, on the visual presentation of the building entry and on the	A Waste Management Plan has been submitted as part of the DA. Waste management has been incorporated into the building design through dedicated waste storage area. Council's Environmental Health Officer has recommended a number of Conditions to ensure appropriate waste management. These recommendations have been imposed as Conditions of Consent. The rubbish bins storage area in located at the front of the building with access to the street. This is necessary as the bins will be collected from a designated waste collection area outside of the building. Council's waste contractor will provide a "runner" to move the bins from the waste room to the kerbside collection and return them to the	Yes

Residential Flat Design Code	Comment	Comply
amenity of residents, building users and pedestrians. Provide every dwelling with a waste cupboard or temporary storage area of sufficient size to hold a single day's waste and to enable source separation. Incorporate on-site composting, where possible, in self contained composting units on balconies or as part of the shared site facilities.	storage area. Each floor has a rubbish chute leading directly to the ground floor rubbish room	
Building form: water conservation Use AAA rated appliances to minimise water use. Collect, store and use rainwater on site. Incorporate local indigenous native vegetation in landscape design. Consider grey water recycling.	A Condition of Consent has been imposed requiring compliance with the BASIX commitments made within this DA (**Condition 3**). The proposal achieves a water efficiency score of 40 (40 to pass).	Yes

8.4 State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

The development is defined as 'BASIX Affected Development' under the *Environmental Planning and Assessment Regulation 2000*.

The applicant has provided an Assessor Certificate and BASIX Certificate:

- BASIX No. 397029M-02 dated 27 October 2011, Assessor Certificate No. 19617716, Assessor Number 60865.

The certificate indicates that the development will achieve the required target scores for water efficiency, thermal comfort and energy efficiency as follows:

- Water: 40 (Target 40)
- Thermal Comfort: Pass (Target Pass)
- Energy: 22 (Target 20)

A condition has been imposed in accordance with the *Environmental Planning & Assessment Regulation, 2000* requiring compliance with the *Schedule of BASIX Commitments* made in the Certificates (**Condition 3**)

8.5 Deemed SEPP – Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005

SREP (Sydney Harbour Catchment) 2005 applies to the subject site and has been considered in this assessment. The proposed development is consistent with the planning principles for the Sydney Harbour Catchment as it will not adversely impact upon the health of the catchment, the natural assets of the catchment, the functioning of natural drainage systems on floodplains, the visual qualities of the Sydney Harbour, and water run-off from the site is to be adequately controlled.

8.6 Ryde Local Environmental Plan 2010 (RLEP 2010)

The following is an assessment of the proposed development against the applicable provisions from the Ryde LEP 2010.

Zoning and Objectives

The site is zoned B4 – Mixed Use under Ryde LEP 2010. The use would be defined as a residential flat building. This use is permissible in the zoning with the consent of the consent authority.

The consent authority must have regard to the objectives for development in a zone when determining a development application in respect of land within the zone. The objectives for the B4 Mixed Use zone are as follows:

- To provide a mixture of compatible land uses.
- To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.
- To create vibrant, active and safe communities and economically sound employment centres.
- To create safe and attractive environments for pedestrians.
- To recognise topography, landscape setting and unique location in design and land-use.

The proposal meets the objectives of the zone though providing housing stock for a range of markets such as students and employees of the University and the Macquarie Park Corridor. The subject site is located within walking distance of bus services and retail and commercial services and is therefore considered to be a suitable location for this development. The development will provide a safe environment for residents and pedestrians with a walkway to Macquarie University.

Mandatory Requirements

Clause 4.3: Height of Buildings

The height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map.

The maximum height allowed on this site is 21.5m at the rear and 27.5m adjacent to Herring Road.

The building height at the top of the plant parapet is 44m (RL 105.8), which exceeds Council's height control by 22m. The height of the building has already been approved via the concept plan. As detailed under SEPP (Major Development) Council's height requirement is not applicable.

Clause 4.4(2)– Floor Space ratio

The maximum floor space ratio for a building on any land is not to exceed the floor space ratio shown for the land on the Floor Space Ratio Map.

The site has a maximum floor space ratio of 2:1 and once again this requirement is superseded by the Part 3A approval which approved the gross floor area for Building B at 8120m^2. The proposal will have a gross floor area of 8119m^2, complying with the Part 3A approval.

Clause 5.10 (5) & 7 - Heritage Impact & Archaeological sites

Schedule 5 of RLEP 2010 lists the Macquarie University (Ruins) to the north of the site as a heritage item – local significant.

Council's Heritage Officer has verbally confirmed that the proposal will have no impact on the heritage significance (as the ruins are located in the middle of the Macquarie University site, away from the subject site).

Clause 6.2 Earthworks

Council has approved a separate application for the excavation and earthworks for Building B. This clause was considered in the assessment of that DA and is not applicable to this DA.

Clause 6.6 Macquarie Park Corridor:

The site is located within the Macquarie Park Corridor and the objectives of the Macquarie Park Corridor are as follows:

a) To promote the corridor as a premium location for globally competitive businesses with strong links to the Macquarie University and research institutions and an enhanced sense of identity.
b) To implement the State Government's strategic objectives of integrating land use and transport, reducing car dependency and creating opportunities for employment in areas supported by public transport.
c) To guide the quality of future development in the corridor.
d) To ensure that the corridor is characterised by a high-quality, well-designed and safe environment that reflects the natural setting, with three accessible and vibrant railway station areas providing focal points.
e) To ensure that residential and business areas are better integrated and an improved lifestyle is created for all those who live, work and study in the area.

The proposal meets these objectives as it is consistent with the recently approved Concept Plan for the site, which provides a mix of apartments to provide housing stock to within the locality.

8.7 Ryde Development Control Plan 2010

The following sections of DCP 2010 are relevant to the proposed development:

Part 4.5 of DCP 2010 – Macquarie Park Corridor

This part of the DCP provides a framework to guide future development in the Macquarie Park Corridor, North Ryde. The DCP specifies built form controls for all development within the Corridor and sets in place urban design guidelines to achieve the vision for Macquarie Park as a vibrant community, as a place to live, work and visit. The following compliance table indicates the proposal's compliance with this part:

Control	Comments	Comply
S3.0 – Structure Plan		
3.2 Street Network 1. Provide new public streets as shown in the Street Network Structure Plan.	The Street Network Structure Plan requires new roads within the site which would have eventually connected up to existing roads and proposed roads in Macquarie University. The plan required 3 new local roads across the subject site. However, due to the Concept Approval for Macquarie University, this street network cannot be achieved. The Department of Planning granted approval for one main access road on the site which terminates at the end of the site and a pedestrian/cycleway between Buildings B & C which will provide access and connectively to the university. The road will be dedicated to Council once the development of the whole site is completed.	No – Variation acceptable
3.3 Open Space Network 1.Provide public open space as shown in Figure 4.5.06 Open Space Network.	The site is not required to provide any public open space.	N/A
3.4 Built Form Network 1.Buildings are to be designed in accordance with s6.0. 2.Refer to City of Ryde LEP 2010 for Building Height & Floor Space Ratio controls.	See Section 6 below. Non Compliance with building height and floor space ratio controls	See below No – see previous discussion
S4.0 – Special Precinct – Macquarie University Station Precinct		
4.2.2 Public Domain	Not required.	N/A
4.3.3 Site & Building Design		

Control	Comments	Comply
Height 1. Development should comply with Figure 4.5.35 which indicates the maximum number of permissible storeys and supplements the height of buildings indicated on the Adopted LEP 2008 Height Controls (as per Adopted Amendment 1).	The building height indicated on the map is 8 storeys – the development is 12 storeys as approved under Part 3A.	No (variation acceptable)
Setback + Building Zone 1. Ensure that the critical building alignments shown in Figure 4.5.36 are provided. Critical building alignments are to be determined by setting out the minimum setback from the closest point to the boundary along the street. This control is necessary to ensure a spatial consistency along streets in the context of irregular and unaligned property boundaries. At least 85% of the building frontage (on all levels) is to be built to this setback. 2. Provide street setbacks and build-to lines as shown in Figure 4.5.36. 3. Underground carparking is not permitted to encroach into setback areas unless it can be demonstrated that the basement is designed to support significant mature trees and deep root planting. Refer to the Part Section Street Setbacks for setback controls on sites outside the area of this detail plan.	A 5m minimum setback from street boundary is required. Building B will be setback 5 to 7m from the street front boundary. No other street boundary. Basement carparking encroaches into setback area. This was approved under the concept approval.	Yes
4.3.4 Public Domain Interface **Vehicular Access + Parking** 1. Driveways and vehicular crossings are not preferred along ii. Herring Road, for the block south of Waterloo Road 2. Driveways and vehicular crossings are to be provided from secondary streets	New secondary road to be provided. Vehicle driveway is located at Building A (approved via Part 3A) with access from the secondary road.	Yes

Control	Comments	Comply
wherever possible. 3. Vehicle access should not ramp along boundary alignments facing a street or public open space. 4. Refer to Section 6.1 for additional vehicular access and parking controls applicable to all development.	Car parking complies with Ryde DCP 2010.	
S5.0 Public Domain - Not applicable, the street is not part of the application		
S6.0 – Site & Building Design		
6.1.6 Building Separation 1. Building separation as recommended by the NSW RFDC. RFDC requires: **-** Up to nine storeys and above/over 25 metres – 24m between habitable rooms/balconies – 18m between habitable/balconies and non-habitable rooms – 12m between non-habitable rooms Developments that propose less than the recommended distances must demonstrate that daylight access, urban form and visual and acoustic privacy has been satisfactorily achieved.	The proposed building separation of (as approved by concept Plan): Between A & B – 15m to 20m Between B & C – 14.2m to 17. The western elevation of Building A faces Building B with a separation of between 15m to 20m. Levels 5 to 10 of Building A have side privacy louvers' along the western elevation and Building B with high light windows off the living rooms. Therefore sufficient privacy controls are provided to reduce any overlooking concerns. The separation between Building B & C is also non compliant however the development maintains privacy along the western elevation of Building B (facing Building C) by the use of sliding vertical louvres or the provision of high light windows. These measures will adequately manage any direct overlooking between the buildings.	No (variation acceptable)
6.1.8 Site coverage & Deep Soil Areas 1. Where sites fall within a "special Precinct", a minimum of 15% of the developable area of a site must be provided as deep soil area.	Deep soil planting for Building B is approximately 144m^2 (7.8%). This is less than the minimum 15% however the overall development of the 5 buildings provides 36% of deep soil. Whilst the deep soil component for Building B is non compliant other stages of the development have a higher percentage resulting in the overall development complying.	Yes
6.1.9 Building Articulation 1. Facades are to be composed with an appropriate scale, rhythm & proportion.	The Urban Design Review Panel has reviewed the proposal and is supportive of the proposal. Where there are areas of large blank walls additional landscaping	Yes

Control	Comments	Comply
2. Facade design is to reflect and respond to the orientation of the site using elements such as sun shading and environmental controls where appropriate. 3. Building services such as roof plant and parking ventilation are to be coordinated and integrated with the overall façade and building design, and screened from view. Roof forms, building services and screening elements are to occur within the overall height controls. 4. Ventilation louvres and car park entry doors are to be coordinated with the overall façade design.	will be provided to screen the wall. The plant room on the roof is set in from the front façade and within the overall height. Ventilation louvres are provided along the western façade and are integrated with the overall façade design.	
6.1.10 Ceiling Heights 1. Minimum ceiling heights are to be provided as SEPP 65	2.7m floor to ceiling height.	Yes
6.1.13 Topography & Building Interface 1. Level changes across sites are to be resolved within the building footprint. 2. Where buildings are set back from the street boundary, entries are to be provided at street level wherever possible. 3. An accessible path of travel is to be provided from the street through the main entry door of all buildings. 4. The maximum height of retaining walls within the front, a side and rear setback is not to exceed 1.2m.	The site has a slight fall from front to rear with a cross fall from east to west with the level changes kept within the building footprint. An accessible path of travel is provided from the street to the main entry with no retaining was greater than 1.2m within the side or rear setbacks.	Yes
6.1.15 Environmental Performance 1. Residential development is to comply with BASIX requirements.	The proposed development is consistent with the BASIX SEPP, achieving the following scores for water and energy efficiency and thermal comfort: • Water efficiency: 40 (40 to pass); • Thermal comfort: Pass; and • Energy efficiency: 22 (20 to pass). The proposed development achieves the intent of the controls regarding	Yes

Control	Comments	Comply
	environmental management through achievement of BASIX scores.	
6.1.16 Wind Impact 1 All applications for buildings over 5 storeys in height shall be accompanied with a wind environment statement.	A Wind Tunnel Study has not been submitted as part of this application. A Wind Tunnel Study was not required as part of the assessment process of the Part 3A application and it was approved without the need of a study. It is considered that as the location, height and scale of the buildings have already been approved, the proposal does not necessitate submission of wind study.	No (variation acceptable)
6.1.17 Noise & Vibration 1.Development is to comply with all relevant statutory regulations. 2.Loading and unloading facilities must not be located immediately adjacent to residential development.	An Acoustic Assessment Report has been submitted which concluded that the proposal *"appropriate controls can be incorporated into the building design to achieve a satisfactory accommodation environment. Acoustic advice and noise management measures have been provided to appropriately address impact from construction equipment and mechanical plant."* The loading bay is located adjacent to front setback area and service facilities area, as such will not have any adverse impact to the residential component.	Yes
6.2 Private & Communal Open Space **6.2.1 Landscaping & Communal Courtyards** 1 A minimum 30% of the developable area of the site is to be provided as Landscaped Area. 2. Solar access to communal open spaces is to be maximised. Communal courtyards must receive a minimum of 3 hours direct sunlight between 9am and 3pm on 21 June. 3. Landscaped areas are to incorporate trees, shrubs and ground covers endemic to the area where appropriate. 4. Landscaping is to contribute to water efficiency and effective stormwater	The site for Building B will have approximately 533m^2 of landscaping (28.8%) however the applicant contends that the overall landscaping for the whole development site is 60%. Solar access to the share communal open space receives the required sunlight.	Yes

Control	Comments	Comply
management.		
6.3 Services and Site Management **6.3.2 Stormwater Drainage** 1. Development shall comply with the requirements outlined in the Stormwater Drainage Section of the City of Ryde DCP 2010 and is to provide a stormwater drainage system in accordance with the "major / minor" system concept set out in Australian Rainfall and Runoff.	Council's Development Engineer has assessed the development application and raised no objections to the proposal, subject to conditions.	Yes
6.3.3 Waste Management 1. All applications for demolition and development must be accompanied by a Waste Management Plan that specifies the type of waste to be produced and the proposed arrangements for ongoing waste management, collection and disposal. 2. All Waste Management Plans shall be prepared in accordance with the relevant requirements of the Waste Avoidance and Resource Recovery Act 2001, the Protection of the Environment Operations Act 1997 and this DCP. 3. Developments are encouraged to provide a compactor, crusher or composter to reduce the bulk of waste leaving the site.	A waste management plan was submitted with the development application. This has been reviewed by Council's Environmental Health and Waste Officers and no objections have been raised.	Yes
6.3.4 Soil Management 1. Development is to be designed and constructed to integrate with the natural topography of the site.	Appropriate conditions of consent will be imposed to require the submission of an erosion and sediment control plan that meets the Council's requirements (**Condition 53**)	Yes
6.3.5 Site Contamination 1. Prior to the submission of subdivision and development applications, a suitably qualified environmental engineer on behalf of the applicant is to	A phase 2 contamination report from JBS Environmental P/L have been submitted which concludes that that site is suitable for the intended use. Council's Environmental Health Officer	Yes

Control	Comments	Comply
assess whether the subject land is contaminated.	has reviewed the application and raised no objection to the proposal.	
6.3.6 Site Facilities 1.Provide either communal or individual laundry facilities to each dwelling, and at least one external clothes drying area. The public visibility of this area should be minimised. Clothes drying is only permitted on balconies that are permanently screened from view from the public domain. 2.Provide storage to dwellings as required by the NSW Residential Flat Design Code. 3.Lockable mail boxes are to be provided in a location visible from the public domain. Mailboxes are to be integrated with the design of building entries and to Australia Post standards.	Each apartment will have individual laundry facilities and internal storage space together with allotted storage space in the basement car park. The main lobby area will have access to a separate mail area for collection of mail.	Yes
6.3.8 On site Parking 1.Safe and secure 24 hour access to car parking areas is to be provided for building users. 2.Parking areas must not be located within the front, side or rear setbacks. 3.Parking areas are to be screened from view from the street, public domain & communal open space areas, using planting or structures. 4.Provide safe & direct access from parking areas to building entry points. 5.Basement parking areas should be located directly under building footprints to maximise opportunities for deep soil areas unless the structure can be designed to support mature plants and deep root plants. 6.Basement parking areas must not extend forward of the building line along the	Parking is provided on the three basement levels with internal lifts and stair well providing access to the upper levels. The basement area extends into the front setback area. This was approved as part of the concept plan however there is no visual impact as a result of this encroachment. The area where the basement extends above natural ground level is along the northern elevation (rear boundary) for maximum height of 1m. Landscaping is proposed around the podium to screen and soften the basement wall. The rate in DCP 2010 is: • 0.6 to 1 space/1 bedroom • 0.9 to 1.2 sp/2 bedroom • 1.4 to 1.6/3 bedroom & • 1 visitor/5 dwellings. Based on the above rates 106 to 149 spaces is required to be provided. The	Yes

Control	Comments	Comply
street. **Parking Rates:** 7.All other development should comply with Ryde DCP 2010. **Bicycle Parking** 8.Bicycle parking is to be secure and located with safe and easy access from the street. 9.Bicycle parking is to be provided at the following rates: **Residential** Resident min. 1 space per 3 units. Visitor min. 1 space per 12 units.	proposal will provide 137 spaces in three levels. Bicycle parking is provided within the three basement levels. It is required to have 39 bicycle spaces for residents and 10 spaces for visitors. The proposal has allocated 38 spaces for the residents and 12 visitor bicycle spaces. **Condition 13** has been imposed requiring 39 bicycle spaces for residents and minimum of 10 spaces for visitors.	
6.3.9 Work Place Travel Plan 1.A WPTP is required for all developments that exceed 15,000sqm floor space or 300 employees.	The WPTP is geared more toward work travel and for employers to improve accessibility by public transport, cycling and walking. However, Conditions 6 & 7 of Schedule 3 of the Concept Approval required details of Travel Access Guide/Green Travel Plan and car share scheme to be provided prior to occupation of any building. The applicant has advised that the Travel Access Guide / Green Travel Plan will be given to residents and owners of the apartments and will include information such as: • A list of the green travel options available in the area • Information about the car share scheme available to Macquarie Central residents • Maps detailing the location of bike racks, train station, bus stops and car share spaces • Service details for bus and train (e.g. first and last service; frequency; weekends and weekdays; fare information) • Access arrangements for people with disabilities on public transport routes and at train stations • Key visual landmarks for people on foot and unfamiliar with the area; closest cross street • Estimated travel time from the closest major centres or interchanges, and • Phone numbers and web addresses for public transport service providers.	Yes

Part 7.1 Energy Smart, Water Wise

This DCP provides a strategic framework for achieving sustainable development and new developments are required to comply with the minimum energy performance standard.

Due to the introduction of the BASIX legislation, any provisions of the Council's DCP that intends to reduce the consumption of mains supplied potable water, or reduce emissions of greenhouse gases or improve the thermal performance of a building have no effect. For this reason, there are no additional requirements that impact on the development.

Part 7.2 Waste Minimisation and Management

As the development involves the construction of buildings, the applicant submitted a Waste Management Plan (WMP) which has been reviewed by Council's Environment Health Officer and is considered satisfactory.

Condition of consent has been imposed to ensure that the waste materials will be disposed off satisfactorily. (**Condition 39**)

This DCP also requires that development provide an appropriate space for the storage of wastes. The development proposes to provide a waste room on each level of the residential development which will house two recycling bins and a chute for the general waste. Each general waste chute feeds directly into bins located in a dedicated garbage room. Council's Waste Officer has reviewed the proposal and has raised no objection is raised to the garage room or the collection of waste.

Part 9.2 Access for People with Disabilities

This DCP requires that for residential development it is necessary to provide an accessible path of travel from the street to and through the front door to all units on each level of the building. Also 10% of the units are to be adaptable units in terms of AS4299.

The development is accessible. The applicant has submitted an Accessibility Report by an Access Consultant – Morris Goding Accessibility Consulting which certifies that, subject to the recommendations contained in the report, the development will comply with the relevant accessibility requirements. To ensure compliance with this requirement, a condition is recommended requiring the recommendations contained in the report are adhered to and certification by a qualified Access Consultant prior to the issue of any Occupation Certificate. (**Condition 34**)

12 adaptable units have been provided in accordance with AS4299. The Access report raised no concerns with regards to internal dimensions and circulation.

Part 9.3 Car Parking

As mentioned previously, the amount of car parking for the whole development was approved as part of the Part 3A approval and it was based on a parking rate of:

- 1 space/1 or 2 bedroom
- 1.6 space/3 or 4 bedroom &
- 1 space/6 dwellings.

Based on this rate, a total of 137 car spaces (117 spaces for residents and 20 for visitors) are required to be provided.

Council's DCP require parking to be provided at the following rate:

- 0.6 to 1 space/1 bedroom
- 0.9 to 1.2 sp/2 bedroom
- 1.4 to 1.6/3 bedroom &
- 1 visitor/5 dwellings.

Based on the above rates 106 to 149 spaces is required to be provided. The proposal will provide 137 spaces in three basement levels with vehicular access from Building A. The proposal complies with Council's Car Parking DCP 2010.

9.0 Section 94 Development Contributions Plan 2007 (2010 Amendment)

Development Contributions Plan 2007 (2010 Amendment) allows Council to impose a monetary contribution on developments that will contribute to increased demand for services as a result of increased development density/floor area.

The contributions that are payable with respect to the development are based on the following figures being inside Macquarie Park:

- Residential – 80 x 1 bedroom/studio apartments & 37 x 2 bedroom apartments.

Contribution Plan	**Contributions**	**Total**
Community and Cultural Facilities	$ 256,681.70	
Open Space and Recreation Facilities	$1,029,679.57	
Civic and Urban Improvements	$ 132,453.66	
Roads and Traffic Management Facilities	$ 142,155.68	
Cycleways	$ 18,311.67	
Stormwater Management Facilities	$ 16,210.89	
Plan Administration	$ 4,938.02	
Grand Total		**$1,600,431.20**

NOTE:

1. The above figures are based on December CPI index.

Condition 22 requiring the payment of a Section 94 contribution has been included in the recommendation of this report.

10 LIKELY IMPACTS OF THE DEVELOPMENT

(a) Built Environment

Context and setting

The proposed development is considered appropriate with regards to context and setting. The subject site is strategically located for high density development with Macquarie University located north of the site and is also located close to public transport. The proposal is generally consistent with the approved Concept Plan.

(b) Natural Environment

The proposed development will have no significant impacts on the natural environment.

11. REFFERRALS

Internal Referrals:

Development Engineer: 12 February 2012: Council's Development Engineer has made the following comments:

The proposed stormwater drainage system for lot B, including internal driveways and access has been assessed from an engineering perspective and it is considered to be generally satisfactory in accordance with DCP 2010 part 8.2 & AS 2890.1-2004.

No objections are raised to the proposal, subject to appropriate engineering conditions. (**Conditions 14, 15, 16, 17, 42 to 47, 53 to 55 & 86 to 91**)

Traffic Engineer: 15 February 2012: From a traffic perspective there are no objections to the approval of this application subject to conditions. (**Conditions 1a, 46 & 80**)

Assets: 15 February 2012: From a public domain perspective there are no objections to approval of this application subject to conditions. (**Conditions 10 & 24**)

Waste Management Officer: 15 February 2012: From a waste perspective there are no objections to approval of this application as long as all matters referred to in the Waste Management Plan are adhered to. (**Condition 39**)

Environmental Health Officer: 1 February 2012: No objection has been raised to the development subject to appropriate conditions of consent. (**Conditions 18 to 21, 48 to 51, 92 & 93**)

External Referrals:

Roads and Maritime Services: 13 December 2011: RMS has reviewed the application and raised no objections to the proposed development. No conditions were required to be imposed as part of this application.

NSW Police: 21 December 2011: NSW Police have raised no objections to the development. The comments from NSW Police are summarised below:

- **Surveillance**: A number of recommendations have been made to ensure appropriate levels of surveillance throughout the development, including the use of CCTV security cameras and security mirrors at blind corners and car park entries. These recommendations have been included as Conditions of Consent where necessary. (**Condition 65 to 69**)
- **Landscaping**: Criminals may seek pockets of vegetation/landscaping as enclosures and tree limbs should be above head to prevent opportunities to use trees to access units. Appropriate conditions of consent have been imposed requiring the preparation of a Landscape Maintenance Plan to ensure landscaping is maintained so as to not provide opportunities for concealment or block sightlines. This will include a requirement for the appropriate maintenance of trees to ensure there is minimal opportunity for intruders to use trees to access units and balconies. (**Condition 82**)
- **Lighting**: A recommendation for the lighting and control of lighting of all common areas, car parking and stairs was made. This recommendation has been imposed as conditions together with painting of the walls and ceiling of the car park area to be a light colour. (**Condition 71**)
- **Territorial reinforcement**: Recommendations are made regarding the types of signage to be provided throughout the development to assist in crime avoidance. The recommended signage has been imposed as Conditions of Consent. (**Conditions 79, 83 & 85**)
- **Environmental maintenance**: A recommendation is made requiring a regular maintenance plan together with graffiti management plan be prepared to ensure maintenance of security equipment. Condition of Consent has been imposed requiring a maintenance policy for equipment. (**Condition 84**)
- **Access control**: Specific access control recommendations were made to ensure appropriate locking systems, electronic security access and parking access were installed to minimise intrusion into the development. These recommendations have been imposed as considered necessary as part of the Conditions of Consent. (**Condition 68**)

Fire & Rescue NSW: 28 October 2011: The proposal was not required to be referred to NSW Fire as it is not within a bushfire zone. However the applicant has provided a copy of a letter from Fire & Rescue NSW advising that Fire & Rescue NSW has no objections to granting dispensation for location of the fire brigade hydrant and size of sprinkler water supply.

This matter is a BCA consideration and the conditions imposed by the NSW Fire & Rescue will be imposed as Advisory Conditions for the Construction Certificate.

12. PUBLIC NOTIFICATION & SUBMISSION

The proposal was notified and advertised in accordance with Development Control Plan 2010 - Part 2.1, Notification of Development Applications. The application was advertised on 7 December 2011 in the Ryde City View insert in the Northern District Times. Notification of the proposal was from 1 December 2011 until 4 January 2012. During this period, four (4) submissions were received.

The issues raised in the submissions included the following:

11/173 Herring Road

- *The design and outlook of the building does not blend in with the surrounding area. It should be like the surrounding buildings along Waterloo Road and more of a contemporary outlook than a build up of matchboxes.*

Assessment Officer's Comment:
The proposed building is a quality design providing a mix of apartments to cater for the area. The building is designed to be in keeping with Building A located fronting Herring Road.

The built form has been prescribed by the approved concept plan and consists of a 12 storey residential flat building. The front and back of the building is articulated with indentations to break up the façade and to add architectural interests. The building is located behind Building A with a contemporary outlook and is considered appropriate for the area.

- *Herring Road is too narrow and short to accommodate more traffic. Already impossible to have visitor due to the difficulty of finding a parking space along Herring Road. As a resident I have difficulties getting out of the driveway due to the built up of traffic along Herring Road during peak hour. I would appreciate a u-turn before the roundabout so that I can head north to Waterloo Road. Please widen the road or make a fly over before letting these buildings be built.*

Assessment Officer's Comment:
The development is part of an approved concept redevelopment of the site for residential use.

The concept approval for the 5 buildings considered that the proposed left in - left out intersection off Herring Road *"an appropriate arrangement as it will allow the site to be easily accessible from Herring Road*." A Traffic Report by Colston Budd Hunt & Kafes P/L for the proposed development was submitted to the Department of Planning for assessment.

Traffic modelling for the overall development was undertaken as part of the Concept Approval. This proposal will not result in an increase in traffic above levels that were modelled, assessed and approved under the Concept Plan. The current proposal for Building B has been reviewed by the Roads & Maritime Service who has raised no objections.

Council's Traffic Engineers have also raised no objections to the proposal and have advised that a u-turn, road widening or overpass is not a consideration at this stage.

116 Herring Road

- *There is no building of 12 storeys height. This is way too high for the area. This will affect the privacy of the units at 116 Herring Road. Each building should be a maximum of 5-7 levels.*

Assessment Officer's Comment:
As mentioned above the development is part of an approved Concept Plan for 5 x residential buildings of up to 12 storeys which includes a mix of residential, recreation, and commercial uses. This height was considered appropriate by the Department of Planning as the site is in close proximity to public transport, education, shopping facilities and employment opportunities. Furthermore it is adjacent to Macquarie University which has a concept approval for buildings ranging up to 28 storeys (closer to the station). Overlooking to 116 Herring Road is not considered to be a concern as 116 Herring Road is located approximately 180m away from Building B therefore sufficient building separation is provided to ensure privacy.

- *The letter mentioned that there will be 5 buildings A to E of 9 – 12 storeys. However, in the diagram, there is one approved 12 storeys while the other 4 buildings (including Building B) are proposed residential. Does this mean that one building has already been approved? Why are the other buildings not labelled?*

Assessment Officer's Comment:
Yes – Building A was approved on 20th January 2011 by the Department of Planning as a Project Application under Part 3A.

Council's notification letter to surrounding residents stated that the application is for the construction of Building B which is part of an approved Part 3A Concept Plan comprising of 5 high rise buildings (Buildings A to E). The other buildings were shown on the Building B Site Analysis Plan as "proposed". The other buildings were not shown on any of the architectural plans as they do not form part of this application.

- *Apart from a new proposed road, I do not see any new infrastructure improvement to accommodate such a big increase of potential population and traffic next door to 116 Herring Road. To turn right into Herring Road from Epping Road would be a problem with the increased traffic.*

Assessment Officer's Comment:
Condition 22 has been imposed requiring monetary contributions which will contribute to infrastructure around the area as a result of the increase in population.

The development is part of an approved redevelopment of the site, and traffic modelling was undertaken as part of the overall concept approval. This proposal will not result in an increase in traffic above levels that were modelled, assessed and approved under the concept plan. The Traffic Report by Colston Budd Hunt & Kafes P/L states: "*The signalized intersection of Epping Road with Herring Road would continue to operate with average delays of less than 50 & 55 seconds per vehicle*

during morning and afternoon peal periods respectively. This represents level of service D, a satisfactory level of service for a busy intersection during peak periods."

The current proposal for Building B has been reviewed by the Roads & Maritime Service who has raised no objections.

29/116 Herring Road:

- *5 buildings of 12 storeys is a gross over development of the site and will lead to major traffic and noise issues which have a profound impact on neighbouring areas. Herring Road is already a busy and often dangerous road, a further 117 residential apartment will translate to more cars. There will be parking provision for 138 cars so that does not allow for more than 1 car space per residence as well as visitor parking so there will be illegal parking. The 12 storey height will cause shading and is out of keeping with standards in the area (virtually all of the existing residential units seem to be limited to 3 stories).*

Assessment Officer's Comment:
As mentioned above Concept Approval for use of the site for residential and retail purposes with indicative building envelopes for 5 separate buildings with heights ranging from 9 to 12 storeys was approved on 20 January 2011. Traffic modelling by CBHK was undertaken as part the overall concept approval. This proposal will not result in an increase in traffic above levels that were modelled, assessed and approved under the concept plan.

The parking rate for the development was approved under the concept plan and is also consistent with Council's car parking requirements.

The development will not overshadow 116 Herring Road due to the separation between the two sites. Overshadowing impact from the whole development (Buildings A to E) is considered satisfactory as the development will overshadow its own site between 9am to 1pm. From 1pm onwards the shadow cast will be over Herring Road and some buildings located opposite. These buildings will still benefit from the morning and midday sun.

Macquarie University:

- *Generally supportive of the application but have two issues of concerns which it is requested be addressed in any determination:*
  - *Installation of rock anchors below ground which will encroach on to university property and*
  - *Utilization of cranes for the construction process and concerned that the jibs of these cranes will swing over university property.*

Request that conditions be imposed that the Construction Certificate cannot be issued until the developer has finalized in writing an agreement with the University in respect of any encroachment.

Assessment Officer's Comment:
Condition 26 has been imposed requiring written agreement from Macquarie University in the event of any encroachments onto their property during construction.

13 CONCLUSION

The development is a part of the overall redevelopment of the site, known as Macquarie Central. The proposed building is part of a total of five (5) residential flat buildings approved on the site.

The overall development has been designed with a high degree of amenity for future occupants in terms of access to public transport, education facilities, commercial and shopping centre & recreational facilities.

The proposal is consistent with the Part 3A concept approval. The architectural design and finishing of the Building is in keeping with the approved Building A located east of Building B.

Although a number of the numerically based "Rules of Thumb" from the Residential Flat Design Code have not been met, such as deep soil requirement, building depth and building separation, this is a result of the predetermined layout and orientation of the residential buildings as part of the Part 3A approval.

The application has demonstrated that the level of amenity in terms of solar access, communal public space, storage, privacy & energy efficiency can be met and the proposal can be supported subject to conditions.

The issues raised in the public submissions have been adequately considered by Council. It is recommended that the application be approved subject to conditions.

14. RECOMMENDATIONS

A. Pursuant to Section 80 of the Environmental Planning and Assessment Act, 1979 the following is recommended:

   (a) That the Sydney East Region Joint Regional Planning Panel grant consent to development applications LDA2011/578 for the construction of a residential flat building known as Building B at 120 -128 Herring Road, Macquarie Park subject to the conditions of consent in Attachment 1 of this report.

B. That the objectors be notified of this decision.

Report Prepared By:

Sandra McCarry
Senior Town Planner – City of Ryde

Report Checked By:

Sandra Bailey
Team Leader – Major Development Team

Report Approved By:

Liz Coad
Manager Assessment

Dominic Johnson
Group Manager Environment & Planning

Attachment 1

1. Approved Plans: Except where otherwise provided in this consent, the development is to be carried out strictly in accordance with the following plans (stamped approved by Council) and support documents:

Document Description	Date	Plan No/Reference
BUILDING B Context Plan	27/10/11	A100 Job No: 11024 Revision L
BUILDING B Level Car Park 3	27/10/11	A201 Job No: 11024 Revision L
BUILDING B Level Car Park 2	27/10/11	A202 Job No: 11024 Revision L
BUILDING B Level Car Park 1	27/10/11	A203 Job No: 11024 Revision L
BUILDING B Level Ground Plan	31/01/12	A204 Job No: 11024 Revision N
BUILDING B Level 1 Plan	31/01/12	A205 Job No: 11024 Revision N
BUILDING B Level 2 Plan	31/01/12	A206 Job No: 11024 Revision N
BUILDING B Level 3 Plan	31/01/12	A207 Job No: 11024 Revision N
BUILDING B Level 5 Plan	31/01/12	A208 Job No: 11024 Revision N
BUILDING B Level 6 Plan	31/01/12	A209 Job No: 11024 Revision N
BUILDING B Level 7 Plan	31/01/12	A210 Job No: 11024 Revision N
BUILDING B Level 8 Plan	31/01/12	A211 Job No: 11024 Revision N
BUILDING B Level 9 Plan	31/01/12	A212 Job No: 11024 Revision N
BUILDING B Level 10	31/01/12	A213 Job No: 11024 Revision N
BUILDING B Level 11 Plan	31/01/12	A214 Job No: 11024 Revision N
BUILDING B Level 12 Plan	31/01/12	A215 Job No: 11024 Revision N
BUILDING B Level Roof Plan	27/10/11	A216 Job No: 11024 Revision L
BUILDING B South Elevation	31/01/12	A221 Job No: 11024 Revision N
BUILDING B East Elevation	31/01/12	A222 Job No: 11024 Revision N
BUILDING B North Elevation	31/01/12	A223 Job No: 11024 Revision N
BUILDING B West Elevation	31/01/12	A224 Job No: 11024 Revision M

BUILDING B Section AA	27/10/11	A231 Job No: 11024 Revision L
BUILDING B Section BB	27/10/11	A232 Job No: 11024 Revision L
Material Board - Finishes	13/12/11	11024 Revision A
Landscaping Concept Plans	25/10/11	L1 to L11 Job No 0924

Prior to the issue of a Construction Certificate, the following amendments shall be made :

(a) The truck loading bay area indicated on Plan A204 is to be extended to be a minimum of 13m in length x 5m wide so as to accommodate a reasonable size vehicle with the vehicle contained wholly within the property with no overhang onto the footpath. The loading bay is to be free of any obstacles to allow full 360 degree circulation access by the user. Details of the amendments are to be submitted to the Principal Certifying Authority prior to the release of the Construction Certificate.

(b) The Landscaping plans to be amended to be consistent with the architectural plan – ie show the loading bay adjacent to Building B and landscaping treatment around the loading bay. The amended Landscaping plan is to provide taller trees and shrubs around the perimeter of the building with more planting to screen the ground floor of the building on the southern and western elevations, as marked in red on the Landscaping Plan. (Refer to Council's website for list of suitable Indigenous species for City of Ryde). Where planting is proposed over a structure, the development is to achieve the minimum standards for soil provision suitable to the proposed planting, as contained within the Residential Flat Design Code. A schedule of planting with the type of species, number and size of planting is to be provided on the Landscaping Plan.

The Development must be carried out in accordance with the amended plans approved under this condition.

2. **Building Code of Australia:** All building works approved by this consent must be carried out in accordance with the requirements of the Building Code of Australia.

3. **BASIX:** Compliance with all commitments listed in BASIX Certificate numbered 397029M-02, dated 27 October 2011.

4. **Hours of Works:** Building activities (including demolition) may only be carried out between 7.00am and 7.00pm Monday to Friday (other than public holidays) and between 8.00am and 4.00pm on Saturday. No building activities are to be carried out at any time on a Sunday or a public holiday.

5. **Hoardings:**
   (a) A hoarding or fence must be erected between the work site and any adjoining public place.

   (b) Any hoarding, fence or awning erected pursuant this consent is to be removed when the work has been completed.

6. **Boundary:** The development must be constructed wholly within the boundaries of the premises. No portion of the proposed structure shall encroach onto the adjoining properties.

7. **Public Way:** The public way must not be obstructed by any materials, vehicles, refuse, skips or the like, under any circumstances, without prior approval from Council.

8. **Building identification signage:** Building identification signage is to comply with Council's Development Control Plan 2010. The building identification sign is to be flush with the wall and not illuminated.

9. **Utility Providers:** Compliance with the requirements (including financial costs) of any relevant utility provider (e.g. Energy Australia, Sydney Water, Telstra, RTA, Council etc) in relation to any connections, works, repairs, relocation, replacements and/or adjustments to public infrastructure or services affected by the development.

10. **Maintenance of the pedestrian/cycleway pathway:** The maintenance of the pedestrian/cycleway and its associated lighting is the responsibility of the owners of Building B. The applicant shall provide at the time of submission of the proposed subdivision plan, an 88E instrument that covers the owners' responsibility to maintain the pedestrian/bicycle pathway and associated lighting infrastructure provided for the pedestrian/cycleway pathway.

11. **Access between Buildings A & B:** The area between Buildings A & B are to be readily accessible with residents of Building B able to gain full access to the communal area of Building A (including the swimming pool and gymnasium).

12. **Storage Facility:** Each apartment is to be provided with sufficient storage area as shown on Attachment C – Detailed Schedule of Apartment submitted to Council on 15 December 2011. Details to be provided on the Construction Certificate plans.

13. **Parking/bicycle Spaces:** One hundred & thirty seven (137) parking spaces are to be provided for Building B use, with one hundred & seventeen (117) spaces for residents and twenty (20) for visitor parking. The car parking spaces are to be clearly linemarked with the visitor spaces clearly marked "Visitor Parking". Thirty nine (39) residents and minimum of ten (10) visitor bicycle spaces are to be provided within the 3 basement levels. Details to be shown on the Construction Certificate plans.

14. **Design and Construction Standards:** All engineering plans and work shall be carried out in accordance with the requirements as outlined within Council's publication *Environmental Standards Development Criteria 1999 and City of Ryde Development Control Plan 2010 Section 8* except as amended by other conditions.

15. **Service Alterations:** All mains, services, poles, etc., which require alteration shall be altered at the applicant's expense.

16. **Restoration:** Public areas must be maintained in a safe condition at all times. Restoration of disturbed road and footway areas for the purpose of connection to public utilities will be carried out by Council following submission of a permit application and payment of appropriate fees. Repairs of damage to any public stormwater drainage facility will be carried out by Council following receipt of payment. Restoration of any disused gutter crossings will be carried out by Council following receipt of the relevant payment.

17. **Road Opening Permit:** The applicant shall apply for a road-opening permit where a new pipeline is proposed to be constructed within or across the footpath. Additional road opening permits and fees may be necessary where there are connections to public utility services (e.g. telephone, electricity, sewer, water or gas) are required within the road reserve. No drainage work shall be carried out on the footpath without this permit being paid and a copy kept on the site.

18. **Storage of Waste:** All wastes generated on the premises must be stored and disposed of in an environmentally acceptable manner.

19. **Regulated systems:** All air-handling and water systems regulated under the *Public Health Act 1991* must be installed, operated and maintained in accordance with the requirements of the *Public Health (Microbial Control) Regulation 2000*.

20. **Regulated systems:** All water-cooling and warm-water systems regulated under the *Public Health Act 1991* must be registered with Council within one (1) month of installation.

21. **Operation of machinery:** The operation of any plant or machinery installed on the premises must not cause:

    (a) The emission of noise that exceeds the background noise level by more than 5dBA when measured at the most affected noise sensitive location in the vicinity. Modifying factor corrections must be applied for tonal, impulsive, low frequency or intermittent noise in accordance with the New South Wales Industrial Noise Policy (EPA, 2000).

    (b) An internal noise level in any adjoining occupancy that exceeds the recommended design sound levels specified in Australian/New Zealand Standard AS/NZS 2107:2000 *Acoustics – Recommended design sound levels and reverberation times for building interiors*.

    (c) The transmission of vibration to any place of different occupancy.

PRIOR TO CONSTRUCTION CERTIFICATE

A Construction Certificate must be obtained from a Principal Certifying Authority to carry out the relevant building works approved under this consent. All conditions in this Section of the consent must be complied with before a Construction Certificate can be issued.

Council Officers can provide these services and further information can be obtained from Council's Customer Service Centre on 9952 8222.

Unless an alternative approval authority is specified (eg Council or government agency), the Principal Certifying Authority is responsible for determining compliance with the conditions in this Section of the consent.

Details of compliance with the conditions, including plans, supporting documents or other written evidence must be submitted to the Principal Certifying Authority.

22. **Monetary contribution:** A monetary contribution for the services in Column A and for the amount in Column B shall be made to Council prior to the issue of any Construction Certificate:

A – Contribution Type	**B – Contribution Amount**
Community & Cultural Facilities	$256,681.70
Open Space & Recreation Facilities	$1,029,679.57
Civic & Urban Improvements	$132,453.66
Roads & Traffic Management Facilities	$142,155.68
Cycleways	$18,311.67
Stormwater Management Facilities	$16,210.89
Plan Administration	$4,938.02
The total contribution is	**$1,600,431.20**

These are contributions under the provisions of Section 94 of the Environmental Planning and Assessment Act, 1979 as specified in Section 94 Development Contributions Plan 2007 (2010 Amendment) adopted by City of Ryde on 16 March 2011.

The above amounts are current at the date of this consent, and are subject to **quarterly** adjustment for inflation on the basis of the contribution rates that are applicable at time of payment. Such adjustment for inflation is by reference to the Consumer Price Index published by the Australian Bureau of Statistics (Catalogue No 5206.0) – and may result in contribution amounts that differ from those shown above.

A copy of the Section 94 Development Contributions Plan may be inspected at the Ryde Planning and Business Centre, 1 Pope Street Ryde (corner Pope and Devlin Streets, within Top Ryde City Shopping Centre) or on Council's website http://www.ryde.nsw.gov.au.

23. **Design of Loading Bay:** The loading bay is to be constructed of hard paved material with a removable bollard to prevent vehicles parking in this space and its use managed by the Body Corporate for Building B. Signage is to be installed at the front of the loading bay advising that the space is for loading/unloading ONLY and shall be supplemented with road pavement markings within the loading bay space. The material and retractable bollard are to be consistent with the Macquarie Park Public Domain Technical Manual and the surrounding paved area. The paving and bollard are to be in accordance with "Paving Type B" and "Retractable Bollard" as detailed in Sections 3.2 & 4.4, respectively, of the Manual. Details are to be submitted to Council and approved by Council prior to the release of the **Construction Certificate**.

24. **Pedestrian/Cycleway Pathway:** The 2.5m wide Bicycle/Shared Path shall be designed and constructed in accordance with Council's Macquarie Park Public Domain Technical Manual. The paving and lighting for the pathway is to be in accordance Council's Macquarie Park Public Domain Technical Manual. The paving is to be "Paving Type B" as detailed in Section 3.2 of the Manual and the lighting is to be "Lighting Type 3 (LT3)" as detailed in Section 5.4 of the Manual. Details, including certification from an appropriately qualified person that there will be no offensive glare onto adjoining residents, are to be submitted and approved by Council prior to the approval of the **Construction Certificate**.

25. **Australian Standards:** The development is required to be carried out in accordance with all relevant Australian Standards. Details demonstrating compliance with the relevant Australian Standard are to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate.

26. **Encroachments:** Any encroachments onto Macquarie University's property during the course of the construction works (such as rock anchoring and cranes swing) will require a written agreement from Macquarie University.

27. **Structural Certification:** The applicant must engage a qualified practising structural engineer to provide structural certification in accordance with relevant BCA requirements.

28. **Security Deposit:** The Council must be provided with security for the purposes of section 80A(6) of the *Environmental Planning and Assessment Act 1979* in a sum determined by reference to Council's Management Plan (category: other buildings with delivery of bricks or concrete or machine excavation.

29. **Fees**: The following fees must be paid to Council in accordance with Council's Management Plan:

    (c) Infrastructure Restoration and Administration Fee
    (d) Enforcement Levy

30. **Long Service Levy:** Documentary evidence of payment of the Long Service Levy under Section 34 of the Building and Construction Industry Long Service Payments Act 1986 is to be submitted to the Principal Certifying Authority prior to the issuing of the **Construction Certificate**.

31. **Survey:** A dilapidation survey is to be undertaken that addresses all properties (including any public place) that may be affected by the construction work. A copy of the survey is to be submitted to the PCA (*and Council, if Council is not the PCA*).

32. **Glare & Reflectivity:** Roofing and other external materials must be of low glare and reflectivity. Details of finished external surface materials, including colours and texture must be provided to the Principal Certifying Authority. The roof material is to be finished in a non reflective surface.

33. **Alignment Level:** The applicant is to apply to Council, pay the required fee, and have issued site specific alignment levels by Council prior to the issue of the **Construction Certificate.**

34. **Disabled access:** Prior to the issue of a **Construction Certificate**, a report is to be provided from a suitably qualified access consultant to verify that the Construction Certificate Drawings fully comply with Development Control Plan 2010 – Access for People with Disabilities and the recommendations (listed below) as contained in the Access Report by Access Consultant – Morris Goding Accessibility Consulting dated 26 October 2011. The report is to be provided to the PCA and Council (if Council is not the PCA).

    Recommendations:

    Site Entry

    - Ensure the ramped path of travel to the residential unit has a gradient no greater 1:14 with landings at 9m intervals in accordance with AS1428.1:2009.

    Paths of Travel

    - Ensure the ground floor hinged door leading to the courtyard has an appropriate 530mm latch side clearance when the door swings towards the user (510mm latch side clearance when the door swings outwards) in accordance with AS1428.1:2009.
    - Ensure an appropriate hardstand path of travel to the courtyard in accordance with AS1428.1:2009.

    Lifts:

    - Lift car components (grabrail, control buttons, lighting) to comply with AS1735.12.

    Car Parking

    - All accessible car bays require a height clearance of 2.5 metres and 2.2m vertical clearance from the vehicle entry point to each accessible car bay.

35. **Adaptable Units:** The adaptable units proposed in Building B are to comply with all of the spatial requirements as outlined in DCP 2010 Part 9.2 and AS4299. Details demonstrating compliance is to be provided on the Construction Certificate plans. Prior to the issue of the Construction Certificate, a suitably qualified access consultant is to certify that the development achieves the spatial requirements of DCP 2010 Part 9.2 and A54299.

36. **Road Noise:** The development must be acoustically designed and constructed to meet the relevant provisions of Australian Standard AS 2107:2000 *Recommended design sound levels and reverberation times for building interiors*. Written endorsement of compliance with these requirements must be obtained from an appropriately qualified person prior to the issue of a **Construction Certificate.**

37. **Design verification:** Prior to a Construction Certificate being issued with respect to this development, the Principle Certifying Authority is to be provided with a written Design Verification from a qualified designer. This statement must include verification from the designer that the plans and specification achieve or improve the design quality of the development to which this consent relates, having regard to the design

quality principles set out in Part 2 of *State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development*. This condition is imposed in accordance with Clause 143 of the *Environmental Planning and Assessment Regulation 2000*.

38. **Service infrastructure/utilities:** All service infrastructure/utilities including electrical substations, fire hydrants, gas meters and the like shall be located within the building envelope. Where this is not possible and subject to Council approval such infrastructure shall be located on the subject site and appropriately screened from view. Details of all service infrastructure/utilities are to be approved prior to the issue of the **Construction Certificate**.

39. **Waste Management Plan:** The operation and management of all waste and recycling generated from the residential flat building to be in accordance with the Waste Management Plan & Waste Management Plan Demolition & Construction Stage prepared by WasteAudit submitted with the development application.

40. **BASIX Details to be included on the Construction Certificate:** The Construction Certificate plans and specifications are to detail all of the 'CC plan' commitments of the BASIX Certificate.

41. **Fencing:** Any fencing on the site is to be in accordance with Council's Development Control Plan and details of compliance are to be provided in the plans for the **Construction Certificate**.

42. **Public Road & Drainage Construction:** To facilitate access and stormwater disposal from the subject site, detailed engineering plans for the proposed type 3 new road are to be submitted to Council for approval. The plans shall incorporate, but not be limited to the following:

    a. The road formation and makeup including provision of public infrastructures etc shall comply with the Macquarie Park Corridor DCP.
    b. The road design shall ensure a heavy rigid vehicle (HRV) as defined under AS 2890.2-2002 can enter and leave the new type 3 road in a forward direction.
    c. Provision shall be made for an underground piped drainage system designed for a minimum 1:20 year ARI storm event with facility for the treatment of contaminated runoff and capture of gross pollutants form the proposed public road.
    d. The works shall be designed by a chartered and experienced Civil Engineer in accordance with City of Ryde *Environmental Standards - Development Criteria - 1999* Section 4 – Public Civil works.

    Engineering plans assessment and works inspection fees are payable, in accordance with Council's Management Plan prior to written approval being issued by Council.

43. **Maintenance Bond:** To ensure satisfactory performance of the completed external road and drainage works, a maintenance period of six (6) months shall apply to all

external engineering works completed in relation to this application. The performance period shall commence from Council's Compliance Certificate issue date.

The applicant shall be liable for any part of the work which fails to perform in a satisfactory manner as outlined in Council's standard specification. **A bond in the form of a cash deposit or Bank Guarantee of $15,000 shall be lodged with City of Ryde prior to issue of the Construction Certificate to guarantee this requirement will be met.** The bond will only be refunded when the works are determined to be satisfactory to Council after the expiry of the six (6) months maintenance period.

44. **Driveway Grades:** The maximum grade of all internal driveways and vehicular ramps etc shall comply with relevant section of AS 2890.1 & AS2890.2 where applicable. Detailed engineering plans including engineering certification indicating compliance with this condition are to be submitted with the Construction Certificate application.

45. **Car Parking:** All internal driveways, vehicle turning areas, grades, parking space dimensions, headroom clearance etc shall be designed comply with relevant sections of Australian Standards AS 2890 where applicable. Detailed engineering plans including engineering certification confirming compliance with this condition is to be submitted with the Construction Certificate application.

46. **Traffic Management:** Traffic management plans must be prepared and procedures must be in place and practised during the construction period to ensure safety and minimise construction traffic conflict on adjoining pedestrian and vehicular traffic movement. These procedures and systems must be in accordance with AS 1742.3 1985 and the RMS's Manual – "Traffic Control at Work Sites" where applicable.

    Accordingly, a detailed plan of traffic management prepared by a traffic engineer including certification indicating compliance are to be submitted with the Construction Certificate application.

47. **Stormwater Runoff:** Stormwater runoff from site shall be collected and piped to Council's underground drainage system via an On-site detention (OSD) system designed in accordance with the City of Ryde, Development Control Plan 2010: - Part 8.2; Stormwater Management. The design shall incorporate but not be limited to the following:

    a. Building B shall be provided with a minimum 73 cubic metres OSD system incorporating a suitably sized orifice plate to restrict discharge from the total site a maximum of 39l/s in a 1 in 100 year critical duration storm event.

    b. The design shall ensure back water flow will not occur or influence the functioning of the outlet pipe from the OSD tank for all storm events and durations, including preventing the ingress of overland flows into the OSD tank.

    c. All gutters, downpipes and pipeline conveying stormwater runoff to the OSD tank are to be designed for the 1 in 100 year, 5 minute duration storm event.

Accordingly, detailed engineering plans including certification from a chartered civil engineer with NPER registration with Engineers Australia indicating compliance with this condition are to be submitted for approval with the Construction Certificate application.

48. **Service Compartment:** A service compartment with a garbage chute hopper and containers for the intermediate storage of recyclables must be provided on each residential floor. Details demonstrating compliance is to be submitted on the Construction Certificate plans.

49. **Garbage and recycling rooms:** All garbage and recycling rooms must be constructed in accordance with the following requirements:

    (a) The room must be of adequate dimensions to accommodate all waste containers, and any compaction equipment installed, and allow easy access to the containers and equipment for users and servicing purposes;

    (b) The floor must be constructed of concrete finished to a smooth even surface, coved to a 25mm radius at the intersections with the walls and any exposed plinths, and graded to a floor waste connected to the sewerage system;

    (c) The floor waste must be provided with a fixed screen in accordance with the requirements of Sydney Water Corporation;

    (d) The walls must be constructed of brick, concrete blocks or similar solid material cement rendered to a smooth even surface and painted with a light coloured washable paint;

    (e) The ceiling must be constructed of a rigid, smooth-faced, non-absorbent material and painted with a light coloured washable paint;

    (f) The doors must be of adequate dimensions to allow easy access for servicing purposes and must be finished on the internal face with a smooth-faced impervious material;

    (g) Any fixed equipment must be located clear of the walls and supported on a concrete plinth at least 75mm high or non-corrosive metal legs at least 150mm high;

    (h) The room must be provided with adequate natural ventilation direct to the outside air or an approved system of mechanical ventilation;

    (i) The room must be provided with adequate artificial lighting; and

    (j) a hose with a trigger nozzle must be provided in or adjacent to the room to facilitate cleaning.

    Details demonstrating compliance is to be submitted on the Construction Certificate plans.

50. **Waste/garbage area:** The paving from the waste storage area or garbage and recycling room must be moderately graded so that the waste containers can be safely and easily manoeuvred to the collection point. Details to be submitted and

approved by Principal Certifying Authority before the issue of a **Construction Certificate**.

51. **Mechanical ventilation details:** Details of all proposed mechanical ventilation systems, and alterations to any existing systems, must be submitted to Council or an accredited private certifier with the application for the **Construction Certificate**. Such details must include:

    (a) Plans (coloured to distinguish between new and existing work) and specifications of the mechanical ventilation systems;

    (b) A site survey plan showing the location of all proposed air intakes exhaust outlets and cooling towers, and any existing cooling towers, air intakes, exhaust outlets and natural ventilation openings in the vicinity; and

    (c) A certificate from a professional mechanical services engineer certifying that the mechanical ventilation systems will comply with the *Building Code of Australia* and setting out the basis on which the certificate is given and the extent to which the certifier has relied upon relevant specifications, rules, codes of practice or other publications

PRIOR TO COMMENCEMENT OF CONSTRUCTION

Prior to the commencement of any demolition, excavation, or building work the following conditions in this Part of the Consent must be satisfied, and all relevant requirements complied with at all times during the operation of this consent.

52. **Site Sign:** A sign must be erected in a prominent position on site:
    (i) Showing the name, address and telephone number of the Principal Certifying Authority for the work
    (ii) Showing the name of the principal contractor (if any) or the person responsible for the works and a telephone number on which that person may be contacted outside working hours, and
    (ii) Stating that unauthorised entry to the work site is prohibited.

    Any such sign must be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.

53. **Erosion and Sediment Control Plan:** An *Erosion and Sediment Control Plan* **(ESCP)** shall be prepared by a suitably qualified consultant in accordance with the guidelines set out in the manual *"Managing Urban Stormwater, Soils and Construction"* prepared by the Landcom**.** These devices shall be maintained during the construction works and replaced where considered necessary.

    The following details are to be included in drawings accompanying the *Erosion and Sediment Control Plan*
    (a) Existing and final contours
    (b) The location of all earthworks, including roads, areas of cut and fill
    (c) Location of all impervious areas
    (d) **Location and design criteria of erosion and sediment control structures,**
    (e) Location and description of existing vegetation

(f) Site access point/s and means of limiting material leaving the site
(g) Location of proposed vegetated buffer strips
(h) Location of critical areas (drainage lines, water bodies and unstable slopes)
(i) Location of stockpiles
(j) Means of diversion of uncontaminated upper catchment around disturbed areas
(k) Procedures for maintenance of erosion and sediment controls
(l) Details for any staging of works
(m) Details and procedures for dust control.

54. **Compliance Certificate:** A Compliance Certificate should be obtained confirming that the constructed erosion and sediment control measures comply with the construction plan and City of Ryde, Development Control Plan 2010: - Part 8.1; Construction Activities

55. **Vehicle Footpath Crossings:** Concrete footpath crossings shall be constructed at all locations where vehicles cross the footpath, to protect it from damage resulting from the vehicle traffic. The location, design and construction shall conform to the requirements of Council where applicable. Crossings are to be constructed in plain reinforced concrete and finished levels shall conform with property alignment levels issued by Council's Public Works Division. Kerbs shall not be returned to the alignment line. Bridge and pipe crossings will not be permitted.

DURING CONSTRUCTION

Unless otherwise specified, the following conditions in this Part of the consent must be complied with at all times during the construction period. Where applicable, the requirements under previous Parts of the consent must be implemented and maintained at all times during the construction period.

56. **Critical Stage inspections:** The person having the benefit of this consent is required to notify the Principal Certifying Authority to ensure that the critical stage inspections are undertaken, as required under clause 162A(4) of the *Environmental Planning and Assessment Regulation 2000.*

57. **Impact to adjoining or nearby properties:** The construction of the development and preparation of the site, including operation of vehicles, must be conducted so as to avoid unreasonable noise or vibration and not cause interference to adjoining or nearby occupations.

58. **Noise Level:** The L_{10} noise level measured for a period of not less than 15 minutes while demolition and construction work is in progress must not exceed the background noise level by more than 20 dB(A) at the nearest affected residential premises.

59. **Sediment & dust control:** No sediment, dust, soil or similar material shall leave the site during construction work.

60. **Storage of materials:** All materials associated with construction must be retained within the site.

61. **Site Facilities:** The following facilities must be provided on the site:
    (a) toilet facilities in accordance with WorkCover NSW requirements, at a ratio of one toilet per every 20 employees, and
    (b) a garbage receptacle for food scraps and papers, with a tight fitting lid.

62. **Site Maintenance:** The applicant must ensure that:
    (a) approved sediment and erosion control measures are installed and maintained during the construction period;
    (b) building materials and equipment are stored wholly within the work site unless an approval to store them elsewhere is held;
    (c) the site is clear of waste and debris at the completion of the works.

63. **Traffic Control:** At all times work is being undertaken within a public road, adequate precautions shall be taken to warn, instruct and guide road users safely around the work site. Traffic control devices shall satisfy the minimum standards outlined in Australian Standard No. AS1742.3-1996 “Traffic Control Devices for Work on Roads”.

64. **Retention of Trees:** Trees that are shown on the approved plans as being retained must be protected against damage during construction. The trees identified as Grey Gums (***Eucalyptus punctata***) Nos 21, 22 & 23 in the report, prepared by David Ford of Treescan, dated March 2010, as part of the concept approval, is to be retained and protected in accordance with tree protection measures contained in the report.

65. **CCTV Cameras:** CCTV cameras will be required to be installed in the following locations:
    - The residents carpark;
    - The ground floor lobby and lifts
    - The car park entry/exit points.

    Digital technology will be required to be used to record images from the camera and this is to be located in a secure location. The surveillance equipment will need to be able to zoom in and out on a person without losing focus. It must be maintained in working order at all times and installed by a qualified and reputable company.

66. **Security Mirrors:** Security mirrors are to be installed within corridors and on blind corners to enable users to see around blind corners.

67. **Security:** To enhance the physical security of doors, all glass doors are to be laminated and the main entry/exit doors to individual units on the ground floor, including balcony doors and fire exit doors to the development are to be fitted with a single cylinder lockset (Australian and New Zealand Standard - Lock Sets), which comply with the Building Code of Australia. Windows to individual units on the ground floor should also be fitted with key operated locksets (Australia and New Zealand Standard - Lock Sets) to restrict unauthorized access to the unit.

68. **Electronic Access Control Measures:** To restrict access to the residential levels, the car park levels and the ground level, all lifts are to be controlled by electronic access control measures.

69. **Video Intercom System:** Intercom facilities should be incorporated into these entry/exit points to enable residents to communicate and identify with people prior to admitting them to the development. An auxiliary lock set should also be incorporated into the design of each of the entry/exit points to enable emergency services to access the development particularly in emergency situations.

70. **Graffiti:** All surfaces on the street level that are not glass should use graffiti resistant paints and/or other surfaces that discourage graffiti. With the car park levels the wall

71. **Lighting:** Lighting is to be provided around the site and all lighting is to comply with the following requirements:
    - Lighting is to be designed and installed in accordance with the relevant Australian and New Zealand Lighting Standards.
    - A Lighting Maintenance Policy is required to outline the maintenance, monitoring and operation of lighting.
    - To reduce power consumption and comply with the relevant Australian and New Zealand Standards for Lighting, car park walls and ceilings are to be painted a light colour.
    - Lighting is to be provided to all common areas including all car parking levels, stairs and access corridors and communal gardens.
    - Lighting is to be automatically controlled by time clocks and where appropriate, sensors for energy efficiency and a controlled environment for residents.
    - The painting of the walls and ceiling of the car park area to be a light colour.

72. **Discovery of Additional Information:** Council and the Principal Certifying Authority (if Council is not the PCA) must be notified as soon as practicable if any information is discovered during demolition or construction work that has the potential to alter previous conclusions about site contamination. If additional information is discovered about site contamination appropriate site management controls is to be implemented through appropriate unexpected finds protocols, the proponent must comply with any reasonable requirements of Council.

PRIOR TO OCCUPATION CERTIFICATE

An Occupation Certificate must be obtained from a Principal Certifying Authority prior to commencement of occupation of any part of the development, or prior to the commencement of a change of use of a building.

Prior to issue, the Principal Certifying Authority must ensure that all works are completed in compliance with the approved construction certificate plans and all conditions of this Development Consent.

Unless an alternative approval authority is specified (eg Council or government agency), the Principal Certifying Authority is responsible for determining compliance with conditions in this Part of the consent. Details to demonstrate compliance with all

conditions, including plans, documentation, or other written evidence must be submitted to the Principal Certifying Authority.

73. **BASIX:** The submission of documentary evidence of compliance with all commitments listed in BASIX Certificate numbered 3970029M-02 dated 27 October 2012.

74. **Fire Safety Matters:** At the completion of all works, a Fire Safety Certificate must be prepared, which references all the Essential Fire Safety Measures applicable and the relative standards of Performance (as per Schedule of Fire Safety Measures). This certificate must be prominently displayed in the building and copies must be sent to Council and the NSW Fire Brigade.

    Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Interim/Final Occupation Certificate.

    Each year an annual Fire Safety Statement which confirms that all the Essential Fire Safety Measures continue to perform to the original design standard must be send to the Council and the NSW Fire Brigade

75. **Sydney Water:** A Section 73 Compliance Certificate under the Sydney Water Act 1994 must be obtained from Sydney Water Corporation. Application must be made through an authorised Water Servicing Co-ordinator. Please refer to the Building Developing and Plumbing section of the web site www.sydneywater.com.au then refer to “Water Servicing Coordinator” under “Developing Your Land” or telephone 13 20 92 for assistance.

    Following application a “Notice of Requirements” will advise of water and sewer infrastructure to be built and charges to be paid. Please make early contact with the Co-ordinator, since building of water/sewer infrastructure can be time consuming and may impact on other services and building, driveway or landscape design.

    Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any Interim/Final Occupation Certificate.

76. **BASIX Commitments:** Prior to the issue of the **Occupation Certificate**, the Principle Certifying Authority is to ensure that the BASIX commitments have been implemented in accordance with the approved BASIX Certificate. Note: Certificates from suitably qualified persons are to be submitted to the Principle Certifying Authority (if Council is the PCA) verifying that all BASIX commitments listed have been fulfilled in accordance with the BASIX Certificate.

77. **Design Verification:** Prior to an **Occupation Certificate** being issued to authorise a person to commence occupation or use of a residential flat building, the Principal Certifying Authority (PCA) is to be provided with a Design Verification from a qualified designer. The statement must include verification from a qualified designer that the residential flat development achieves the design quality of the development shown on plans and specifications in respect to any Construction Certificate issued, having regard to the design quality principles set out in Part 2 of the State Environmental Planning Policy No 65 – Design Quality of Residential Flat Development. This

condition is imposed in accordance with Clause 154 of the *Environmental Planning and Assessment Regulations 2000*.

78. **Certification of mechanical ventilation work:** A Mechanical Services Completion and Performance Certificate (Form M2) must be submitted to the Principal Certifying Authority on completion and commissioning of all mechanical ventilation work approved under this consent and before the issue of an **Occupation Certificate**.

79. **Street/house numbering:** To assist with way finding for emergency services, numbering of street numbers, building numbers, levels of the building and unit numbers should be clearly displayed. Street numbering is to be designed to be visible from the street. Council must be contacted in relation to any specific requirements for street numbering.

80. **Loading Bay Management Plan:** A loading dock management plan will be required outlining the requirements and safe operation of the loading bay. The Loading Bay Management Plan is to include, but not limited to, the following details:

    (a) Operation hours of the loading dock.

    (b) Maximum sized vehicle permitted to use the loading dock.

    (c) Any necessary measures required to maintain appropriate levels of amenity to residences both on the subject site and adjacent properties.

    The loading bay management plan is to be submitted for approval by Council prior to the issue of the Occupation Certificate.

81. **Travel Access Guide:** A Travel Access Guide/Green Travel Plan is to be prepared and a copy of the guide/plan is to be submitted to Council prior to Occupation Certificate being issued. A copy of the guide/plan is to be given to residents and owners of the each apartment.

82. **Landscape Maintenance Plan:** A Landscape Maintenance Plan is required is required prior to the issue of an Occupation Certificate. The Landscape Maintenance Plan should include the following requirements:

    - Regular maintenance and trimming of shrubs and plantings.
    - Shrubs and plantings be appropriately maintained to allow for clear lines of sight over the shrubs from pathways and pedestrians areas, and to avoid any plantings being used as a natural ladder to gain access to any higher parts of the building.
    - Mature shrubs along pathways around the entrance are to be no more than 1 metre in height.
    - Trees along boundaries are to be appropriately pruned, trimmed and maintained so that surveillance and there is no opportunity for climbing of these trees to gain access to balconies.

- All other trees on the site are to be appropriately pruned, trimmed and maintained so that passive surveillance is not compromised and there is no opportunity for climbing of trees to gain access to balconies or units.

83. **Safety and warning signage:** The following safety and warning signs are to be installed prior to the issue of an Occupation Certificate:
    - '*Warning: These premises are under constant surveillance*' and '*Warning: Trespassers will be prosecuted*' signs are to be displayed the building entrances.
    - Signage (if required) outlining any applicable restrictions in private communal or semi-private communal spaces.
    - Way finding signage in basement car parking levels to locations including residential parking, residential visitor's parking, commercial parking, lifts and exits.
    - '*These doors are to be used for emergency purposes only*' on fire exit doors.

84. **Site Maintenance Plan:** A Site Maintenance Plan is required to ensure regular maintenance and monitoring of security devices (including CCTV cameras, security communications devices, and card readers) and lighting, lighting and signage.

85. **Signage Plan:** A plan for internal directional signage is to be prepared and implemented prior to the occupation of the development. This signage should inform visitors to the site about the location of the carpark entry and exit, the entrance to the building, visitors parking and the like. The plan is to provide an indicative location for all directional signage that will be erected within the site. The Plan is to be submitted to Council prior to occupation of the development.

86. **Disused Gutter Crossing:** All disused gutter and footpath crossings shall be removed and the kerb and footpath reinstated to the satisfaction of Council.

87. **Creation of Drainage Easement:** The creation of stormwater drainage easement(s) where required in favour of Council over applicable private properties to legalize discharge over private land. The easement width shall conform to DCP 2010 part 8.2 Stormwater Management.

88. **Compliance Certificates – Engineering:** Compliance Certificates should be obtained for the following (If Council is appointed the Principal Certifying Authority [PCA] then the appropriate inspection fee is to be paid to Council) and **submitted to the PCA**:
    - Confirming that all vehicular footway and gutter (layback) crossings are constructed in accordance with the construction plan requirements and Ryde City Council's *Environmental Standards Development Criteria – 1999 section 4.*
    - Confirming that the driveway is constructed in accordance with the construction plan requirements and Ryde City Development Control Plan 2010: - Part 8.3; Driveways.

- Confirming that the constructed internal car park and associated drainage complies with AS 2890, the construction plan requirements and Ryde City Council's *Environmental Standards Development Criteria – 1999 section 4 and* Development Control Plan 2010: - Part 8.2; Stormwater Management
- Confirming that the site drainage system (including the on-site detention storage system) servicing the development complies with the construction plan requirements and City of Ryde, Development Control Plan 2010: - Part 8.2; Stormwater Management
- Confirming that after completion of all construction work and landscaping, all areas adjacent the site, the site drainage system (including the on-site detention system), and the trunk drainage system immediately downstream of the subject site (next pit), have been cleaned of all sand, silt, old formwork, and other debris.
- From Council confirming that all external works in the existing and including new public roads have been completed to Council's satisfaction.

89. **On-Site Stormwater Detention System - Marker Plate:** Each on-site detention system basin shall be indicated on the site by fixing a marker plate. This plate is to be of minimum size: 100mm x 75mm and is to be made from non-corrosive metal or 4mm thick laminated plastic. It is to be fixed in a prominent position to the nearest concrete or permanent surface or access grate. The wording on the marker plate is described in City of Ryde, Development Control Plan 2010: - Part 8.2; Stormwater Management. An approved plate may be purchased from Council's Customer Service Centre on presentation of a completed City of Ryde OSD certification form.

90. **Work-as-Executed Plan:** A Work-as-Executed plan signed by a Registered Surveyor clearly showing the surveyor's name and the date, the stormwater drainage, including the on-site stormwater detention system if one has been constructed and finished ground levels **is to be submitted to the Principal Certifying Authority (PCA)** and to Ryde City Council if Council is not the nominated PCA. If there are proposed interallotment drainage easements on the subject property, **a Certificate from a Registered Surveyor is to be submitted to the PCA** certifying that the subject drainage line/s and pits servicing those lines lie wholly within the proposed easements.

91. **Positive Covenant, OSD:** The creation of a Positive Covenant under Section 88 of the Conveyancing Act 1919, burdening the property with the requirement to maintain the stormwater detention system on the property. The terms of the instruments are to be generally in accordance with the Council's draft terms of Section 88E instrument for Maintenance of Stormwater Detention Systems and to the satisfaction of Council.

92. **Sanitary Fixtures:** All sanitary fixtures must be connected to the sewerage system by gravity flow and documentary evidence of compliance must be submitted to the Principal Certifying Authority before the issue of an **Occupation Certificate**.

93. **Mechanical Ventilation:** Where any mechanical ventilation systems have been installed or altered, a certificate from a professional mechanical services engineer certifying that the systems comply with the approved plans and specifications must

be submitted to the Principal Certifying Authority before the issue of an **Occupation Certificate**.

ADVISORY CONDITIONS

Fire & Rescue NSW

1. A block plan is to be installed at the booster assembly cabinet on Herring Road in accordance with the requirements of Clause 7.11 of AS2419.1 - 2005. This block plan should clearly indicate the location of the Fire Hydrant Booster Assembly.

2. The Herring Road entry must be protected by an internal wall drencher system installed in accordance with Section 4 of AS21 18.2 – 2010.

3. The Herring Road entry drencher system must use the hydrant system for the water supply as specified in Section 3, 3.3.1 (a) of AS21 18.2 -2010.

4. The drencher system is to be commissioned as per the requirements in Section 5 of AS2118.2 -2010.

5. All above ground fire hydrant valves and booster assembly outlets/inlets must comply with the requirements of Clause 8.5.11.1 (a) (b) (c) and (d) of AS2419.l-2005. This Clause requires that all above ground fire hydrant valve outlets are to be fitted with hose connections which are compatible with the local fire brigade. FRNSW advises that it utilises Stortz hermaphrodite fire hose connections. FRNSW requires that all above ground hydrant valve outlets and booster assembly outlets/inlets are fitted with Stortz hermaphrodite connections which comply with all relevant requirements of AS2419.2 — 2009.

6. Blank caps shall also be provided on all fire hydrant outlet connections. Blank caps are to comply with the specifications detailed in Clause 8.5.11.1 of AS241 9.1 - 2005.

7. The booster assembly must be enclosed in a cabinet in accordance with the specifications of Clause 7.9 of AS241 9.1 – 2005

8. Signage clearly identifying the fire hydrant booster assembly is required. The signage should follow the stipulations of Australian Standard AS2419.1-2005 Section 7.10.2 with the lettering ‘FIRE HYDRANT BOOSTER’ in letters not less than 50mm high in a colour contrasting with that of the background. The signage should be displayed in a position adjacent to the fire hydrant booster assembly and facing the streetscape. This will ensure that the fire hydrant booster assembly is correctly identified and clearly distinguishable.

9. The hydrant system is to be commissioned in accordance with the requirements of Section 10 of AS2419.1 -2005. This is to ensure compliance with Table 2.3 Of A.S. 2419.1 -2005.

10. Once the above works are completed the two nearest local Fire Station crews are to be invited to the site for a familiarisation visit. The two nearest Stations are Ryde Fire Station on 02 9808 2798 and Eastwood Fire Station on 02 9858 4457.