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Council Reference: 342/2010
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Application No.: Major Project Application MP 10_0105
Property: Lot 201 in DP 1101828,
Site 2A and 3A,
40 Walker Street, Rhodes NSW

Proposal: Proposed mixed residential and retail development.
Re: Urban Design Review for DA for 40 Walker Street

Dear Ms Butler,

GMU has been appointed by Canada Bay Council to review a Major Project MP10_0105 for the site located at 40 Walker Street, sites 2A and 3A in Rhodes – Lot 201 in DP 1101828. GMU has reviewed the DA and provided preliminary advice on the proposal's performance against the State Environmental Planning Policy for multi-unit residential dwellings (SEPP 65) as well as best practice Urban Design Principles and Council's objectives and vision for the site and precinct as a whole.

In preparing this preliminary advice report, the following documents have been reviewed:

- Environmental Assessment Report - December 2010
- Development Application drawings (08.12.10)
- Site visit and photographic analysis
- Sydney Regional Environmental Plan No. 29 - Rhodes Peninsula (SREP 29)
- SEPP 65 – Design Quality of Residential Flat Development and the Residential Flat Design Code (RFDC)
- Rhodes West Draft Development Control Plan2 010
- Rhodes West Master Plan 2009 - Revised Supplementary Planning Report – March 2010
- Rhodes West Master Plan 2009 – DRAFT
- Renewing Rhodes Development Control Plan
- Canada Bay Local Environmental Plan 2008
- Draft zoning amendments to Canada Bay Local Environmental Plan 2008 – Amendment No. 1 (Rhodes West)
- Draft Inner West Sub Regional Strategy
- Metropolitan Transport Plan.

Upon preliminary review, the proposal generally complies with the objectives of the Rhodes West Master Plan 2009 and the vision for the precinct as set out in the various planning instruments applicable to the site, except for few areas of concern. The following are our preliminary observations with regards to the application's performance against the relevant controls and planning instruments:

PART 1 – LOCAL CONTEXT

Relating to Local Context

The proposed design of the site generally complies with the objectives and principles set out in the Rhodes West Draft DCP 2010. The DCP was supported by Rhodes West Master Plan 2009 – a precursor to the DCP.

Building locations:

The proposal follows the rules that were set up by the Rhodes West Draft DCP and includes 3 tower buildings (two along Walker Street and one along the north-west boundary). The Rhodes West Master Plan 2009 shows a different approach with only two tower buildings located along Walker Street, which take into account the ridge of the site and proximity to the railway line. This is a more positive urban design outcome due to the fact that, a third tower, due to its north-west location can cause significant overshadowing to the public or private open space and have a negative impact on the adjoining buildings. This issue will be discussed in more detail further in the document.

Open space/view corridors:

The proposed open space is aligned with the main open space axis outlined in the DCP and provides the view to the Wentworth Point, which is referred as 'iconic' in the document.

The view corridor from Marquet Street into the open space is also provided, but located on the adjacent site 3B and subject to future development on that site. Gauthorpe Street can become an important link due to future plans and discussion of a pedestrian/cycling bridge across Homebush Bay to Wentworth Point (refer to page 43, Figure 14 Cycle strategy in Draft DCP 2010), which is going to connect to and act as an extension of Gauthorpe Street. Therefore, the amenity of this street is particularly important. The proposed car park entry and vast blank wall along Gauthorpe Street will have a negative impact on the amenity of the street and on the level of surveillance for what can be an important pedestrian/cycle link in the future. Furthermore, the DCP suggests that the access to the car park be located exclusively on Timbrol Avenue, on the northern side of the site.

Surroundings:

The proposal does not clearly specify any public domain improvements to the streets surrounding the development. GMU strongly recommends that consideration is given to the public domain improvements for the streets surrounding the proposal, especially to the outlook across from Walker Street.

Building Types

The applicable zoning for the site is Residential as per the Sydney Regional Environmental Plan No 29, and zone R4 high-density residential as per Rhodes West LEP 2008. High-rise residential buildings are also proposed for this site in the Rhodes West Master Plan 2009 as well as in the Rhodes West Draft DCP 2010. Therefore, the proposed building types comply with the current and draft planning instruments.

Amalgamation and Subdivision

N/A - The proposal is contained within one Lot 201 in DP 1101828 and is currently under single ownership. Therefore no amalgamation is required. It is noted that future stratum or strata subdivision is intended to be submitted in a separate future Development Application for the residential apartments as well as for proposed retail/commercial tenancies.

Building Envelopes and Building Depth

GMU has reviewed the proposal's building envelopes and depths taking into consideration the requirements laid out in the West Rhodes DCP 2010 (Section 5.5 - Figure 81) as well as the general requirements of the Residential Flat Design Code (RFDC) which requires developments that propose envelopes wider than 18 meters (glass-to-glass) to demonstrate how satisfactory daylight and natural ventilation are to be achieved.

- Buildings B and E are not compliant with the height set out in the West Rhodes DCP 2010
 - Building B is 1 storey higher than required in the Draft DCP 5 storeys.
 - Building E is 2 storeys higher than required in the Draft DCP 5 storeys. The building consists of 5 residential storeys, 1 retail and 1 car park level above ground floor. The proposed above ground car park level on building E may create a non activated building edge and generate safety issues and a poor quality outlook onto the street.
- Most buildings are not compliant in depth against the SEPP 65 18m (glass-to-glass) requirement as well as West Rhodes DCP depth requirements except for Building B, which consists of one row of dual aspect apartments. Building B is compliant with the depth requirements in both SEPP 65 and the DCP. However, it uses an open air corridor to access the units, which may result in other issues such as lack of safety, privacy, increased noise and reduced amenity. Unit layouts for Buildings A, C, D and E seem to achieve satisfactory daylight and natural ventilation in spite of buildings depths greater than 18m.
- The Rhodes West Master Plan 2009 – Revised Supplementary Planning Report prepared in March 2010 recommends that the residential tower buildings should not exceed 800sqm GFA floor plates (Sec 5.6 Design Excellence p.31), which is applied throughout the development. This is a positive outcome and provides evidence that the building has a reasonable bulk.

The proposal's performance with regards to building envelopes and depth against both sets of controls is summarized in the following table:

Building	Applicable Control Rhodes West Draft Development Control Plan 2010 (DCP 2010) / Residential Flat Design Code (SEPP 65)	Development Application	Proposal's performance against requirements	
Building A (Residential High rise Tower) (north-east corner)	DCP 2010	Max storeys = 25	Max storeys = 25 storey	Compliant
		Max height of plant above roof = 3.5m	Plant height = 1.5m	Compliant
		Max building depth in northern part of building (including articulation zone) = 23m	Max building depth incl. articulation zone = 25m	Non - compliant 2m difference
		Max building depth in southern part of building (excluding articulation zone) = 18m	Max building depth excl. articulation zone = 24m	Non - compliant 6m difference
	SEPP 65	Max building depth (glass to glass) = 18m	Max building depth = 24m	Non-compliant 6m difference
Building B (Residential Mid-rise building) (north side)	DCP 2010	Max storeys = 5	Residential building storeys = 6	Non-compliant 1 level
		Max height of plant above roof = 3.5m	Plant height = 1.535m	Compliant
		Max building depth including articulation zone = 18m	Max building depth = 16m	Compliant
	SEPP 65	Max building depth (glass to glass) = 18m	Max building depth = 12.8m	Compliant

Building C (Residential High rise Tower) (north-west corner)	DCP 2010	Max storeys = 20	Building storeys = 20 storey	Compliant
		Max height of plant above roof = 3.5m	Plant height = 2.6m	Compliant
		Max building depth including articulation zone = 23m	Max depth of building = 24m	Non - Compliant 1m difference
	SEPP 65	Max building depth (glass to glass) = 18m	Max depth of building = 22.9m	Non-compliant 4.9m difference
Building D (Residential High-rise building) (south-east corner)	DCP 2010	Max storeys = 25	Building storeys = 25	Compliant
		Max height of plant above roof = 3.5m	Plant height = 2.5m	Compliant
		Max building depth including articulation zone (part of building)= 23m	Max building depth incl. articulation zone = 24m	Non - compliant 1m difference
		Max building depth excluding articulation zone (part of building)= 18m	Max building depth excl. articulation zone = 13.5m	Compliant
	SEPP 65	Max building depth (glass to glass) = 18m	Max depth of building = 23m	Non-compliant 5m difference
Building E (Residential Mid-rise building) (south side)	DCP 2010	Max storeys = 5	Building storeys = 7 (5 residential levels + retail and car park above street level)	Non-compliant 2 levels
		Max height of plant above roof = 3.5m	Plant height = 0	Compliant
		Max building depth including articulation zone = 18m	Max building depth = 22m	Non-compliant 4m difference
	SEPP 65	Max building depth (glass to glass) = 18m	Max building depth = 21m	Non-compliant 3m difference

Building Separation

While the proposal does not face any structures to the East (Railway line), it faces residential buildings to the north, west and south. The separation distances are as follows:

North:

- **Building B** is separated from an existing residential building to the north by 22.5m, where the Residential Flat Design Code (RFDC) requires 18m – therefore it is **compliant**.
- **Building A** is separated from an existing residential building to the north by 19m, where the RFDC requires 18m for the first 6 levels. The upper level's separation appears to comply with the 24m requirement and in any case, this is not applicable to buildings across the street – therefore it is **compliant**.

West:

- **Building C** is separated from a proposed residential building to the west by 37m, where the RFDC requires 24m therefore it is **compliant**.

South:

- **Building E** is separated from an existing building to the south by 30m, where the RFDC requires 18m only – therefore it is **compliant**.

Separation distances between the proposed buildings on site (A, B, C, D and E) seem to comply; however there are some privacy issues between the balconies, open air access corridors and habitable rooms as follows:

- Buildings A and B - distance between an open air access corridor and habitable balcony is only 5.5m, which is not compliant with the RFDC (should be min. 13m). The affected units 01 – 03 for levels 2-5 of Building A.
- Buildings B and C – distance between habitable balconies and the open air access corridor is only 6m, which is not compliant with the RFDC (should be min. 13m). Affected unit is 07 for levels 2-5.
- Buildings A and D - distance between habitable balcony and an open air access corridor is 12m, which is not compliant with the RFDC (should be min. 13m). The affected units are 08 and 09 for Building A for levels 1-6.

The separation issues listed above represent a very poor outcome in terms of privacy and need to be addressed.

- Buildings D and E - distance between habitable balcony and habitable room is 22m, which is compliant with the RFDC (should be min. 18m).
- Additionally it is noted that Rhodes West Master Plan 2009 – Revised Supplementary Planning Report prepared in March 2010 recommends that the tower buildings ought to be separated by a minimum of 40m (Sec 5.6 Design Excellence p.31), which is applied everywhere except between towers A and D, where the separation distance is 33m.

Street setbacks

Building A to Walker Street:

DCP requirement	Setback provided	Result
<ul style="list-style-type: none"> - 10m setback to Walker Street in northern part of the building (tower) - 5m setback in the middle part of the Walker Street frontage 	<ul style="list-style-type: none"> - 8.3m (8298mm) for first 6 storeys - 7.9m (7895mm) for the 6th and 7th levels - 9m for tower – above 8th level 	<ul style="list-style-type: none"> - Minor partial non-compliance - it is not compliant with the 10m setback for the tower, but it is compliant with the 5m setback requirement for the podium
<ul style="list-style-type: none"> - 15m setback for the first two storeys (to allow a forecourt space in the northern part of the building - corner of Walker Street and Timbrol Avenue 	<ul style="list-style-type: none"> - it has not been provided in the proposed development 	<ul style="list-style-type: none"> - Non-compliant

Building A to Timbrol Avenue:

DCP requirement	Setback provided	Result
<ul style="list-style-type: none"> - 5m setback requirement to the north at Timbrol Avenue 	<ul style="list-style-type: none"> - the setback provided in the proposal is only 1.5m 	<ul style="list-style-type: none"> - Non-compliant

Building B to Timbrol Avenue:

DCP requirement	Setback provided	Result
<ul style="list-style-type: none"> - 5m setback requirement to the north at Timbrol Avenue. 	<ul style="list-style-type: none"> - the setback provided in the proposal is only 3.8m 	<ul style="list-style-type: none"> - Non-compliant (1.2m difference)

Building C to Shoreline Drive:

DCP requirement	Setback provided	Result
<ul style="list-style-type: none"> - 10m setback requirement to Shoreline Drive 	<ul style="list-style-type: none"> - the setback provided in the proposal is 10m 	<ul style="list-style-type: none"> - Compliant

Building D to Walker Street:

DCP requirement	Setback provided	Result
- 5m setback requirement to Walker Street, built to line	- the setback provided in the proposal is 6.9m (6942mm)	Non-compliant With the built to line requirement

Building D to Gauthorpe Street:

DCP requirement	Setback provided	Result
- 20m setback at the corner of Gauthorpe and Walker Streets as a main forecourt to the site	- the setback provided in the proposal is 17m for the first 5 storeys and 10.366m for upper levels	Non-compliant

Building E to Gauthorpe Street:

DCP requirement	Setback provided	Result
- 5m setback requirement to Gauthorpe Street	- the setback provided in the proposal is 4.3m (4259mm)	Minor non-compliance

The main non-compliance to the required street setback is to the east along Walker Street. This is a result of a wrong interpretation of the DCP. The DCP diagrams (Figure 81 on page 125 and fig. 82 on page 124) show a podium level built to line within 5m from the boundary. Tower structures above the podium toward the northern end of the block should be set back 10m from the boundary. The proposal applied an overall greater setback to the podium (approximately 7-8m) with a tower structure immediately above, only slightly setback above level 7. It is possible to recognize the podium from the tower mainly because of a difference in treatment and colour to the facade above the 7th level, but not because of the mandatory setback, as required by the DCP.

From an urban design point of view this is a major non-compliance since the street wall setback (podium) to Walker Street should not exceed the requirement. The main role of the proposed 5m setback is to maintain the urban street character along the street wall, define the street edge and give emphasis to the corners of the site. The 5m setback above the podium is also necessary to mitigate the adverse impacts of wind downdrafts.

Another non-compliance with the street setback requirements as outlined in the West Rhodes Draft DCP 2010 is to the north edge of the proposal along Timbrol Avenue, where the proposed development will face two existing 6-8 storey residential buildings and privacy issues might occur. However the buildings' overall separation is more than 18m required by the RFDC, therefore this minor non-compliance is acceptable.

There is also a non-compliance with the street setbacks of the proposed built form to the corner of Timbrol Avenue and Walker Street. The DCP requires a 2 storey undercroft and 15m setback from the boundary to provide a small plaza on that corner. This is not taken into account in the proposed design, therefore this is not an acceptable outcome.

The non-compliance to the corner of Walker and Gauthorpe Streets seems only minor. The objectives for this 20m setback are to provide a view line to the open space and link towards the foreshore. As viewed on the 3D visualisations board provided (A-0903) the proposed undercroft with a single column seems to be sufficient for that purpose.

Side and Rear Setbacks

N/A – The proposal develops the entire block, therefore rear or side setbacks are not applicable.

Floor Space Ratio

Allowable FSR (Local Environmental Plan 2008 – Amendment 1 – Zone U2) = 2.8:1

Site area = 20,675sqm and Proposed GFA = 55,986 sqm Resulting in proposed FSR = 2.71:1

The proposed development complies with Floor Space Ratio requirements.

PART 2 – SITE DESIGN

Deep Soil Zones

The deep soil provision was determined based on the following calculations:

Site area = 20,675sqm

Required Minimum Open Space as per SEPP 65 = 30% of the site area = 6,202.5sqm

Required Minimum Open Space for sites 2A, 3A and 3B as per draft DCP = 16,000sqm (3B – open space area is not known)

Provided open space for sites 2A and 3A = 11,530sqm (Subject to the remainder of 4,470sqm open space area on site 3B)

Required Minimum Deep Soil area as per SEPP 65 = 25% of the open space area = 2,882.5sqm

Required Minimum Deep Soil area as per Draft DCP = Not specified

Provided deep soil area = 3,201sqm

The proposal meets the 30% of the site area to be open space as per the RFDC (SEPP65). The compliance with the Draft DCP requirement of 16,000sqm open space for the block is subject to the open space provided on the adjacent lot – site 3B. The proposed design allows for 11,530sqm of open space.

The proposal meets the numerical deep soil provision as per the Residential Flat Design Code of 25% of the open space on the site. However, the deep soil area could be increased by minimising the footprint of the basement car parking, which at the moment seems unnecessarily extensive.

Fences and walls

Fences and walls are generally providing separation between public and private space. In the proposal many street walls (including landscaped fences) provide a division for level differences around the site in the form of retaining walls. However, in some cases, the walls and fences create a tall blank wall that leads to a lack of natural surveillance and negative outlook for surrounding residents.

The proposal's residential apartments are generally raised from the street level. The only place where the units are accessible from the front courtyard as well as from the corridor is in Building B, but it is raised about 1.4m and accessed from a platform along the building.

The following are the fence and wall heights in the proposed design that are considered to be extensive and can compromise the amenity and natural surveillance to the streets surrounding the site:

- to the north – Timbrol Avenue:
 - 1.4m wall plus 1.4m fence to the private open space of the ground floor apartments on the north side of building B – results in a 2.8m street wall height;
 - 5.25m to 5.95m of blank wall between building B and C on the north side of the site – when changing levels.
- to the east – Walker Street:
 - masonry wall of 1m - 1.8m and a landscaped fence (shrubs) on top of 1-1.2m, which increases to a 3m high fence.
- to the south – Gauthorpe Street:
 - corner with Walker Street – masonry wall of 2.1m plus 1m of shrubs on top, results in a 3.1m wall
 - masonry wall of 2.4 - 2.1m high as the slope drops
 - 1m - 1.4m high masonry walls plus landscape, with the car parking walls behind ranging from 2.8m - 4.2m plus 3.15m back of retail on top – creates a blank wall to the street of more than 7m in total.
- to the west – Shoreline Avenue:
 - No extensive wall heights are evident

- A well articulated wall at the bottom of building C can be appreciated on the drawings from the first level of carpark – overlooking the park. This is a positive outcome.

The height and length of retaining walls and fences along street frontages should be limited to allow natural surveillance.

Landscape design

The Public Open Space design for the site including a Public Facility located in the centre of the space will be subject to a different DA submission. However, the general principles of the site's open space and landscaped areas around the proposed buildings are still subject to this assessment.

The overall concept for the proposed open space is a diagonal pedestrian link connecting Walker Street and Shoreline Avenue and stepping down to allow the view across to Peake Street and the water edge and views of Homebush Bay.

This proposed link incorporates various features of the public domain characteristics already existing in the Rhodes Peninsula: paving, bike racks, native plant species and street furniture. This is seen as a good response to the recommended design as per the Draft West Rhodes DCP (Figure 38 page 77). The proposal's departure from the recommended design is in the interpretation of the suggested shapes of the landscape. The landscape design proposed in the Draft DCP is radial and curvilinear. The proposal's rectilinear design responds more appropriately to the scheme's architectural design.

The building's street frontages are in many cases softened by the proposed landscape features (planters, shrubs, etc).

There are communal vegetable gardens proposed on the south side of Building B. This brings better amenity for the site and encourages resident interaction. However the location of the garden on the southern side of a 6 storey building might be an issue due to overshadowing. This should be further studied to eliminate the possibility that no vegetables can actually be grown on that location due to insufficient sun light.

The proposed terraced garden at the extension of Timbrol Avenue is a result of a major difference in the levels on the site. This terraced garden can provide the opportunity for interesting public artwork and/or water features, which are strongly recommended to ameliorate the negative impacts of a tall blank wall as shown on the elevation drawings (Appendix B, drawing A-0501) and described earlier in the Fences and Walls section of this preliminary report.

Open Space

The main spine of the open space is the diagonal link from the corner of Walker and Gauthorpe Streets towards the north-west corner of the site and connecting to Shoreline Avenue and then following the view to the Homebush Bay and Wentworth Point as per the DCP and West Rhodes Masterplan guidelines. This link incorporates various streetscape features and community recreational areas.

The open space area provided on sites 2A+3A is 11,530sqm plus the communal open spaces – for building D (179.4sqm) and for buildings A and B (992.8sqm). This figure is compliant with the RFDC requirements, but it may not be compliant with the Draft DCP. The Draft DCP calls for 16,000sqm of public open space in this precinct and it is subject to the remainder of the open space provision for site 3B.

The proposal also includes use of Solar Cells (photovoltaics) in the open space area and in the public facility, which is supported by the West Rhodes Draft DCP. However this part of the development will be subject to a future DA submission.

Orientation

- Orientation of the buildings complies with RFDC requirements. The lower buildings and podiums are aligned with the streets on the north and south sides. The tower buildings are orientated due north which minimizes negative south exposure.
- A repositioning or further rotation of the towers' longitudinal axis for Building C could be investigated to try ameliorating the overshadowing impacts to the public open space, especially during the mid-day hours in winter.

Planting on Structures

- Because of the nature of the site and existing contamination of the soil most planting is provided on a slab or on a protective capping layer.
- There is a sufficient amount of planting depth (more than 1.5m with capping), which is considered as a deep soil component and meets the required 25% of the open space area according to the RFDC.

Stormwater Management

- The drawings provided (Appendix H prepared by Cardno ITC) show the existing stormwater network under Shoreline Avenue (drawing N10957-H03). The Stormwater sketches also provide a concept of the internal stormwater management on the site.
- According to the report and sketches prepared by Cardno ITC in Appendix H of Environmental Assessment - the main catchment areas are proposed on the western side of the site, which is closest to Shoreline Avenue and also in the lowest point of the site. The on-site stormwater detention tank is not required. The site will be provided with a communal recycled water connection, which will be used for toilets, laundries and landscape irrigation.

The above seems to meet the objectives of the RFDC with regards to Stormwater Management; however, the DA documentation does not discuss or at this point provide a management plan specifying the details for minimising the discharge of sediments and other pollutants during the construction process. It is recommended that Council requires that this information is provided at the appropriate stage in the process.

Safety

- The proposal does not include a crime risk assessment, which is a SEPP 65 requirement for all developments of more than 20 dwellings;
- Also the DA checklist included in the West Rhodes Draft DCP (chapter 1.11 Table1. Page 17) lists Crime Prevention Through Environmental Design (CPTED) is required for all residential developments comprising of more than 50 dwellings and/or 1000sqm of retail or commercial area.
- **Crime Prevention Through Environmental Design will have to be provided by the applicant to ensure compliance.**
- Safety and natural surveillance on the site is compromised in many areas:
 - the tall blank walls surrounding the block described in the Fences and Walls section of this report.
 - landscaped area between Building E and adjoining site 3B comprises of many steps and ramps and tall landscaped retaining walls, that can lead to a lack of visibility and create unsafe 'blind' corners
 - terrace gardens at the extension of Timbrol Avenue expose tall blank walls, which can also lead to a lack of natural surveillance
 - up to 7m high inactive walls to Gauthorpe Street consist of car park wall and back of retail wall compromises surveillance to this street;

- Safety is questionable for Building B and the lower part of Building D, which are accessed by an open air corridor and bedroom windows looking onto the corridors.

Visual Privacy

- There are balcony-to-balcony or balcony-to-habitable room privacy issues for some units overlooking the inner open space of the proposal. In many situations the separation distances between habitable or non-habitable rooms required in the RFDC are not met.

The proposal's separation distances are measured against RFDC separation requirements as follows:

	Description	Affected units	Distance provided	Min distance required for levels:			Compliance
				1-4	5-8	9 +	
				9 m	13m	18m	
Buildings A-B	Habitable balcony to open air corridor	A.2.01-A.5.01	6.5m	- 2.5m	- 6.5m	Not applicable	Non-compliance for levels 2 to 5 (4 levels)
		A.2.02-A.5.02	5.5m	- 3.5m	- 7.5m		
		A.2.03-A.5.03	8m	- 1m	- 5m		
	Habitable room to open air corridor	A.2.01-A.5.01	9m	√	- 4m	Not applicable	Non-compliance for levels 5 and above (1 level)
		A.2.02-A.5.02	9m	√	- 4m		
		A.2.03-A.5.03	11m	√	- 2m		
Buildings C-B	Habitable balcony to open air corridor	C.2.07-C.5.07	6m	- 3m	- 7m	Not applicable	Non-compliance for all levels (5 levels)
	Habitable room to open air corridor	C.2.07-C.5.07	8.5m	- 0.5m	- 4.5m		

√ - meets required distance

- Xm - shortage

- All units listed above are affected by non-compliant separation distances. The ultimate solution would be a redesign of the buildings to increase the separation distances. Alternatively screening and/or other features that will provide visual privacy could be included in the current design to remedy those non-compliances.
- Suggested measures to remedy the privacy issues may include:
 - 1) vertical privacy screens to the edges of open air corridor in Building B;
 - 2) horizontal privacy screening attached to slabs of the corridor;
 - 3) redesign of the east edge unit of Building B to reduce length of the corridor and provide greater distance between the corridor and building A
 - 4) vertical privacy screens to the western balconies of Building A
 - 5) balconies with opaque balustrades instead of clear glass
 Any or a combination of these measures should be used to mitigate privacy issue.
- Courtyards of units on the Podium level in Building C and B and on Level 1 in building B and C are overlooked by the upper levels of those buildings. Horizontal screening can be provided to mitigate the issue, for example: horizontal slab extensions; screens and/or pergolas attached to the slab.

- Irregular shaped balconies in buildings B and D allow for overlooking into adjacent balconies. The balconies that should be redesigned and/or provided with a privacy screen are:
 - D.2.07-D.6.07 and D.7.03 overlooking the balcony of the adjacent unit to the south;
 - B.2.05 –B.3.05 and B.2.09-B.3.09 and B.4.02 and B.4.07 overlooking adjacent balconies to the east from corners of the balcony features.
- Privacy issues between east corner units of building E (units 09 and 10)
- Units in the northern part of building D seem to have long windows from the bedrooms looking into the open air corridor. The affected bedrooms should be provided with partly frosted glass and/or planters with sufficient soil depth to allow resilient species to thrive and only the upper part of the window should be operable. Any or a combination of these measures should be used to mitigate privacy issue.

Building Entry

- Each building entry is located to address the streets that they are fronting: Buildings A and D face Walker Street, Building B – Timbrol Avenue, Building C – Shoreline Avenue and Building E – Gauthorpe Street.
- All building entries include a wind lobby leading to a lift lobby;
- Generally building entries are raised up from the street level and a set of stairs is provided to access the entry lobbies;
- Most entries are accompanied with a set of ramps to provide access for residents on a wheelchair and with prams; except for building E which seems to neglect access for people with disabilities or with prams from Gauthorpe Street. The only access to this building for such residents is from the corner of Walker and Gauthorpe Streets and leads through a complicated path with multiple turnings. This is not a positive outcome.
- The entries to the buildings are distributed adequately with respect to the location of car park entries; they do not seem to be cause for any traffic/pedestrian conflict.

Parking

- The parking for the proposed development is distributed on 2 underground levels with partial on ground parking to Gauthorpe Street due to the change in topography and a full on ground parking level for Building B.
- The parking entries are located from the north – Timbrol Avenue and from the south on Gauthorpe Street. This is **not compliant** with the Rhodes West Draft DCP controls described in Section 5.5, Figure 81 and point C3 which require car park entries from Timbrol Avenue. The Draft DCP does not specify a parking entry from Gauthorpe Street. This seems to be a major concern because this street is described in the DCP as a future link to Wentworth Point through a bicycle/pedestrian bridge; therefore any additional vehicle traffic along this street might generate vehicle/pedestrian conflicts and compromise achievement of the connectivity principles for the overall Rhodes Peninsula strategy plan. The applicant should be required to provide further detailed traffic and pedestrian movement projections for this location.
- The West Rhodes Draft DCP requires the proposal to provide a maximum of 1 car space per dwelling with 2% of the parking spaces to be accessible for people with disabilities; 1 space per 10 dwellings for visitors; and 1 space per 50 dwellings for the first 200 dwellings, plus 1 for service vehicles. The proposal's car park spaces are provided as follows:
 - 737 car spaces (736 required) including 71 accessible spaces for people with disabilities (15 required),
 - 37 visitor spaces (73 required) and

- 4 car wash, 2 delivery and 1 loading/unloading bays
- There are no parking requirements for retail or commercial uses as per the Draft DCP 2010.
- The numbers described above generally meet the number of required car park spaces except for the visitors parking, which total less than required (54 fewer). The lower number of visitor's parking spaces is numerically not compliant with the requirements of the Draft DCP, however it follows the objectives of the West Rhodes Draft DCP Section 4.3, chapter 4.3.29 On-site Parking – Strategy, which encourages minimising the number of car park spaces and promotes the use of public transport. This is a matter for Council's consideration and deliberation.
- An additional 49 tandem parking spaces are provided; therefore the total size of the basement footprint is much larger than the car park footprint outlined in the draft DCP (Sec. 5.5 Figure 81). This is a concern as it affects the deep soil provision for the site which can be considered a less sustainable solution. This is seen as a major concern. A revision of the carpark provision by the applicant is recommended to reduce as much as possible the basement footprint.
- The proposal allocates spaces for bicycle parking in the basement under each of the buildings as well as the provision of bicycle racks in the open space area and in front of building entries. Though it looks like the number of bicycle racks is sufficient for the development, it should be measured against the West Rhodes Draft DCP (Section 4.3.29 – C10 Bicycle Parking Rates table) requirements in future project stages. The current controls require the development to include 1 bicycle parking per every 3 apartments and 1 visitor's bicycle parking per every 12 apartments, which results in 245 bicycle parking spaces plus 61 visitor's bicycle parking spaces. The applicant should demonstrate compliance with this requirement.

Pedestrian Access

Pedestrian access to the public open space is directly from Walker Street and Shoreline Drive via a through-site pedestrian access way in axis with the view line of Homebush Bay. The buildings are accessed via wind lobbies. Four ground floor units in Building B have direct access from the street via a ramp leading to a platform with gates to each unit. The same building on the southern side provides direct access to courtyards of first floor dwellings from the communal open space.

There are a few areas of concern as outlined below:

- The pedestrian access for visitor parking is via a lift lobby in Building D. However, the accessibility to that lobby is questionable. The Accessibility Assessment (Appendix G) suggests that an additional review of the pathway to the lobby for people on wheelchairs is necessary.
- The site southern edge along Gauthorpe Street, which according to the Draft DCP, is considered for a future link to Wentworth Point via a cycling/pedestrian bridge across Homebush Bay. However there is no activation to that street and the proposed blank walls of the car park as well as back of retail suggest it would become an inactive edge, compromising surveillance.
- Building E addresses Gauthorpe Street, but the only access to the building from that street is via a stairway and there is no wheelchair access provided. The only wheelchair access to that building is from the corner of Walker Street and involves a complicated turning path to the building lobby and the ground floor retail.
- Pedestrian access to the internal public open space from the surrounding streets is limited by the difference in levels. The only direct access is from Shoreline Avenue and the corner of Walker Street and Gauthorpe Street. In other areas there is an excessive number of stairs and complicated ramping systems, sometimes located away from the stairs. This does not comply with barrier free access as recommended in RFDC.
- Building D has retail at the ground floor level, which activates the street edge. However, the excessive and complicated system of ramps in front of the building compromises the access to that retail and provides poor outlook onto the street. There is almost a 2m difference in height between the street level and the retail level

with a stairway to the north side of the building, but no direct access to the ramp for wheelchairs and prams. This access is located in the southern side of the building, far away from the access for other residents.

Vehicle Access

Two separate vehicular entries are located along the secondary streets (Gauthorpe Street and Timbrol Avenue) on the opposite sides of the block which limits vehicular and pedestrian conflicts along the footpath of the main roads. This is a positive outcome; however there are a few areas of concern which are outlined below:

- The proposed width of the vehicular entries is 10m from Gauthorpe Street (southern entry) and 6.9m from Timbrol Avenue (northern entry). Only 6m are allowed as the maximum width for the car park entry/driveway as per the West Rhodes Draft DCP 2010.
- The height for the vehicle entry at Building E is 4.8 m. This height combined with the excessive width of the blank wall along the street and back of retail on top give the effect of 'a black hole' on the building façade. This is not a positive outcome. GMU recommends screening, articulation or further landscape treatment to the wall.
- There should only be one vehicular entry to the site as indicated on Figure 81 in Section 5.5 of the West Rhodes Draft DCP and it is from Timbrol Avenue. The proposed scheme presents a second entry from Gauthorpe Street. From the car park layout and width of that entry we can assume that this is the primary entry to the site with secondary entry from Timbrol Avenue. This solution can lead to major traffic, cycling and pedestrian conflicts when the cycle/pedestrian bridge extending from Gauthorpe Street to Wentworth Point is completed. Further traffic analysis is recommended.

PART 3 – BUILDING DESIGN

Apartment Layout

- Most units are single aspect facing west or east with a depth exceeding 8m, which limits sun penetration in the apartment and is seen as a poor outcome. The RFDC Rules of Thumb on page 69 requires 'Single-aspect apartments should be limited in depth to 8 metres from a window'.
- Only 2% of all units are south facing (15 in total). This is a positive outcome.
- The recommended distance from glass line to back of kitchen (8m) is met for most units, but there are some cases where this distance is not met and the access to the daylight is obstructed by poor unit layout, closets or other built-in furniture.

Please see apartment types:

Building A – apartment type 7 – obstructed sunlight access

- apartment type 2-A - obstructed sunlight access

Building C – apartment type 3 – distance to back of kitchen is 8.6m

- apartment type 7-A – obstructed sunlight access

Building D – apartment type 5 – distance to back of kitchen is 8.7m

- apartment type 6 – obstructed sunlight access
- apartment type 7-A – distance to back of kitchen is 8.7m
- apartment type 12-A – distance to back of kitchen is 9.2m

- Kitchens are accessed, in some cases, directly off the main entry or corridor which is not a good outcome (RFDC page 68).
- For Building B unit Type 3 the position of terrace doors in living room causes circulation problems around the furniture and creates inflexibility of furniture layout.

Apartment mix

There are 3 apartment types proposed:

- 1 bedroom – 39.5% = 291
- 2 bedroom – 56.3% = 414
- 3 bedroom – 4.2% = 31

The scheme proposes a majority of 2 bedroom units, with 3 bedroom units located mainly in the tower buildings. Adaptable apartments are included in that mix and they are 15.1% of the overall 736 units.

Balconies

- Most balconies for Buildings C and A present issues of privacy as they do not meet horizontal separation distances and screening devices are not shown. (This issue is described in more detail on the section for Visual Privacy please see table on page 10).

- Most balconies present sufficient depth for adequate usable area. However the balconies have various shapes and become partially narrower than the required 2m minimum depth. There are a few apartment types that do not meet the 2m minimum depth requirement:
 - In Building C apartment type 4 and 4-A balconies are only 1.2m wide and the balcony in apartment type 3 is partly 0.45m wide, where an infant or child could get stuck.
 - In Building D apartment type 14, the balcony is only 1.7m wide and apartments 7 and 13 have very narrow balconies.

Ceiling Heights

The Residential Flat Design Code recommends ceiling heights of 3.3m across all ground floor apartments in Mixed Use areas for future flexibility. The proposal is located within a residential zone, so a 2.7m height is applicable to all residential floors except for a 3.3m minimum ceiling height applicable to non-residential uses on the ground floor. The following is a summary of the proposal in terms of ceiling heights (as shown on the section drawings A-0601& A-0602):

- Ground floor retail uses = 3.6m - **compliant**
- Residential floors = at least 2.7m proposed – **compliant**.

West Rhodes DCP 2010 requires the parking to satisfy AS2890.1, where the height between the floor and the overhead obstruction should be a minimum of 2.2m (note that the AS/NZS 2890.6 requires a clearance of 2.3m for paths from or to the parking for people with disabilities).

- Car park levels = at least 2.4m proposed – **compliant**.

Flexibility

In general, the unit layouts appear to allow for future flexibility with 15.1% adaptable units. DA drawing A-0234 shows unit layouts before and after the adaptation.

The Residential Flat Design Code suggests 3.3m height for ground level for residential developments in mixed-use areas to promote future flexibility of use, but this has been neglected in this scheme. Most ground floor units are raised from the ground with no direct access from the surrounding streets or public open space. Therefore, flexibility for future use as retail is compromised. The proposal lacks flexibility in terms of opportunity for further redevelopment and change of use.

Ground Floor Apartments

- There are only 9 ground floor units in the proposed scheme. These are located mainly in Building B – (6 units) with 3 units in Building A. The residential units in other areas are raised above the ground or located on top of other uses like retail, common room or a car parking.
- From the proposed 9 ground floor units, none have direct access from the street and only 4 have in-direct access from Timbrol Avenue via a ramp and a platform raised above the street level. This is considered a very poor outcome which further deactivates the street edge.

Internal circulation

- As per the RFDC, units arranged off a double-loaded corridor should be limited to eight per core. The proposed layout includes up to 12 units off a single core for levels 2-6 in Building A and 10 for upper floors.

- Building B has up to 12 units per floor for levels 2-5 and 11 for the first level. This is not considered a poor outcome in terms of amenity due to the use of open air corridor for access and circulation. However, it is an issue with regards to safety due to the fact that an increased number of units per floor reduces the ability of residents to recognise or monitor trespassers.
- Building C = 8 units per floor
- Building D = 10 - 12 units per floor
- Building E = 10 units per floor

More than 8 units per floor can result in long dark corridors and lack of surveillance on the travel path from and to units. Further, it creates a poor amenity for residents having to traverse a long corridor that creates an institutional character and lacks a sense of individual identity for the units..

Mixed Use

The proposal is located within a residential zone as per Sydney Regional Environmental Plan No 29. It is advisable; however, to allow some flexibility to introduce some active uses to improve casual surveillance to the main public open space. A retail use is proposed on the northern side of Building E facing the public open space, and on the north side of Building D facing Walker Street and the plaza between the buildings with retail use on the opposite side in the south/west corner of Building A. These uses are compliant with the controls described in the West Rhodes Draft DCP, except for the location of retail between Buildings A and D. However, this retail use is considered positive for the development in this location.

Storage

Storage provision within units should be equivalent to 50% of the total storage requirement as follows:

Studio and 1 bedroom apartment = 6m³ (50%=3m³)

2 bedroom apartment = 8m³ (50%=4m³)

3 bedroom apartment = 10m³ (50%=5m³)

As per DA drawings A- 0231-0233 most of the unit types have sufficient storage area provided. In many cases the media room is proposed partly for storage use above the desk area. This is an acceptable outcome if the media room is easily accessible to all residents, including those with disabilities. Some units have their storage located facing the main living area, which is not the best solution and could cause a cluttered outlook visible from the living area. This are matter for further consideration in terms of flexibility and interior design for type 2 apartments in Building D.

Some units dedicate an area on the balcony for the provision of storage. This is considered a poor outcome as it could lead to a cluttered look from the street and it is a wrong interpretation of the code. As per the RFDC, storage should be accessible from entries, hallways and from under internal stairs. A few apartments lack sufficient internal storage. The affected units are:

- Building A – apartment types: 1 - storage located on a balcony
- Building B – apartment types: 2 and 3 - storage located on a balcony
- Building D – apartment types: 3 - storage located on a balcony
 - apartment types : 7 - 0.5m³ less storage provided

The design of the above units should be revised to ensure the provision of sufficient internal storage.

Acoustic Privacy

Units in part of Building D are designed with access from an open air corridor with bedroom windows looking directly into the corridors. This may lead to privacy and acoustic issues for the residents of these units and it is considered a very poor outcome.

Units in Building B are designed with access from an open air corridor with high bedroom windows operable into the corridors. This may lead to acoustic issues for the residents of these units and it is considered a poor outcome.

The specifications of window glazing to mitigate noise are provided in the recommendations in Appendix R of the Environmental Assessment, Noise and Vibration Impact Assessment page 8, chapter 4.3. The plant rooms and exhausts are located away from habitable rooms which is a promoted design solution.

It is recommended to move any habitable rooms away from lifts, stairways and car park entries. Non-habitable rooms should be placed in these locations to increase the acoustic privacy of affected units.

Daylight access

As per the RFDC a minimum of 3 hours of daylight access for at least 70% of units between 9am and 3pm is required. 2hrs of daylight to 70% of the units is only acceptable for developments in dense urban areas such as the CBD.

- The proposed development is located on the West Rhodes Peninsula, which is not considered a dense urban area, therefore the proposed 2 hours daylight access is not an acceptable outcome for this development.
- 78% of the total units have 2 hours of solar access during winter between 9am and 3pm, which is compliant with West Rhodes Draft DCP2010. However only approximately 20% of the units have 3 hours of solar access which is not a good outcome.
- The bedrooms in Building B on the southern side have high windows onto the open air circulation spine along a projecting slab. This slab will most likely block any sunlight access to the high operable windows for each of the bedrooms located directly underneath in the floors below. This is a major concern and a redesign is recommended to provide more direct sun light into those bedrooms.
- Partition walls and furniture arrangements for secondary bedrooms limit sun light access within some units. A redesign of the layout is recommended to improve the solar access and amenity of the bedrooms. The units affected are:
 - Building A - unit types: 8
 - Building B - unit types: 1
 - Building C - unit types 2 and 6
 - Building D - unit types 2,7,9,10 and 13
 - Building E - unit type 1.

Natural Ventilation

- The cross ventilation calculation tables are provided on drawings A-0261-A-0277 and indicate sufficient numbers of flow through units. The RFDC rule of thumb is 60% of all units to be cross ventilated. There is a total of 69.2% of cross ventilated units according to the calculations provided in the DA documentation. This is a positive outcome; however there are some areas that require further clarification:

- Cross ventilation for single aspect units on Building B is dependent on small high windows to a common open air corridor, which slabs will operate like a solid canopy, which could block wind downdraft and therefore impede air flow. The cross ventilation for these units should be further tested.
- Most proposed kitchen layouts appear to meet the natural ventilation requirement, however due to the configuration of the units most of them depend on living room windows to meet this requirement. Further testing of these units should be required to ensure compliance.

Awnings and Signage

Not enough information is provided regarding signage.

Facades

- Drawing A-0603 – External Material Finishes, Appendix B of the Environmental Assessment in combination with elevation drawings A-0503-0510 show the intention of the various proposed materials and finishes: concrete natural finish and render, different applied textures, stone cladding, timber and metal finish as well as coloured glazing.
- No information is provided about the interior finishes for lobbies and internal corridors.
- The material sample board included in the submission presents a high standard of material finishes and a well composed colour palette, which is seen as a very good design outcome.

Roof design

- Roofs of buildings are generally flat with plants and lift overruns visible above the roof line. The finish provided to the roof is a gravel finish.
- There is a row of photovoltaic panels on Building E, which supports sustainable design mentioned in both the RFDC and the Draft DCP.

The overall roof design is simple and does not detract from the overall facade design, so this is considered to be a positive outcome.

Waste Management

- As per West Rhodes Draft DCP 2010 - chapter 4.3.25 – C9 – garbage chutes are required for 'all buildings above 3 storeys in height'. According to Section 4.19 Waste management, page 64 in the Environmental Assessment each building will be provided with a chute, with an automatic compactor in the basement. The garbage room is located beneath Building E close to the car park entry, where a waste collection area is provided. Drawings A-0202-0217 show this solution located around the core for each building.

Conclusion and recommendations:

In summary, the proposal generally complies with the objectives of the Rhodes West Master Plan 2009 and the vision for the precinct as set out in the various planning instruments applicable to the site. This proposal should therefore be considered for its overall merits pending the resolution of the various issues discussed in this report which, in summary, include the following:

Public domain:

- Improvements to the surrounding streets, especially to the outlook across from Walker Street.
- The height and length of blank walls, retaining walls and fences along street frontages especially to Gauthorpe Street
- Counterintuitive access routes for people with disabilities or with prams from most streets, especially Gauthorpe Street.

Location and separation of buildings:

- Setback requirements above the podium for Walker Street to ensure mitigation of adverse impacts from wind downdrafts.
- Separation distances to avoid privacy issues between buildings.

Car park:

- Reduction of the basement footprint whenever possible to provide more sustainable deep soil provision.
- Rearranging car park entry on Gauthorpe Street to reduce blank wall and lower Building E.

Unit design:

- 3 hours of solar access to comply with the RFDC
- Further testing to ensure natural ventilation for most kitchens
- Providing adequate screening for affected units in Buildings A, B and C to ensure privacy

Missing documentation:

- Crime Prevention Through Environmental Design