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Proposed mixed residential and retail development
Site 2A and 3A, 40 Walker Street Rhodes

December 2010 Prepared for **Billbergia Developments Pty Ltd**

Environmental Assessment
Major Project MP10_0105

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Cover image: 3D perspective view of development looking north west along the diagonal pedestrian pathway from an elevated position in Building D. Building E is in the foreground. Building C is the tower building. The public open space and public facilities will be subject to a separate Part 4 Development Application.

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.....
Stewart Verity
Director
Urban Design and Planning
Architectus Sydney Pty Ltd

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Date
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Statement of Validity

Submission of Environmental Assessment
Prepared under Part 3A of the *Environmental Planning and Assessment Act, 1979*.

Environmental Assessment prepared by:

Names:

- **Stewart Verity** (Director, Architectus Sydney)
  - Bachelor of Science (Env Studies) Griffith University, Brisbane
  - Graduate Diploma Urban and Regional Planning, QUT
  - Master of Built Environment (Urban Design) QUT

- **Murray Donaldson** (Associate, Architectus Sydney)
  - Bachelor of Town Planning (Hons), UNSW
  - Master of Environmental Management, Macquarie University MPIA

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Sydney NSW 2000

In respect of:

Major Project Application MP 10_0105
Proposed mixed residential and retail development.
Site 2A and 3A, Walker Street Rhodes

Certification:

I certify that we have prepared the contents of this Project Application Environmental Assessment. To the best of my knowledge, the information contained in this report is neither false nor misleading.

(Signature and date)
Stewart Verity, Director Urban Design and Planning
Architectus Group Limited

Executive summary

This Environmental Assessment has been prepared by Architectus on behalf of Billbergia Developments Pty Ltd, the Proponent's of Major Project MP10_0105. The report has been prepared in accordance with the Director General's Requirements issued by the Department of Planning on the 20 October 2010. The report is submitted for exhibition with the Project Application documentation for public exhibition.

The Proponent has assembled a team of leading consultants to develop plans for the site's development, generally in accordance with the new Planning Framework for Rhodes West. This report provides an assessment of the proposal against the new planning framework under the Draft Rhodes West Local Environmental Plan (exhibited) and the adopted Rhodes West Development Control Plan. The proposal is generally consistent, with the new planning framework of standards and controls and non-compliances are justified, within the report.

Outline of the proposal

Planning consent is sought from the Minister for Planning for the construction of a mixed residential and retail development at Site 2A and 3A, within Precinct B at Rhodes West on the site legally described as Lot 201 in DP 1101828. The following is a brief summary of the particulars of the project:

- **736 residential units** built across **5 separate buildings** within the subject lot;
  - **Building A -** an 25 storeys containing 253 units including a retail floor space of 221m2;
  - **Building B** – an 6 storey building containing 65 units;
  - **Building C –** a 20 storey building containing 160 units;
  - **Building D** – a 25 storey building containing 208 units and a retail floor space of 434m2;
  - **Building E** – an 6 storey building containing 50 units and a retail floor space of 394.59m2;
- **773 car parking spaces** and **113 bicycle spaces**, which are located in two basement levels, with access off Gauthorpe Street at Basement Level 02 and off Timbrol Avenue at Basement Level 01. An **additional 137 bicycle spaces** are located in the public domain adjacent public entries and the retail uses;
- **A public park of 11,530m^2** to be dedicated to Council. The design and embellishment of the park will be the subject of a separate Part 4 Development Application.
- **Common landscaped open space** between buildings and on the roof of Building B and private open as courtyards and balconies;
- **Vehicle access from Gauthorpe Street and Timbrol Avenue** and pedestrian access to all street frontages, direct access to the public open spaces and building entries of the street frontages. Equitable access throughout the public open spaces areas and to all building entries provided from street frontages; and
- A **total Gross Floor Area of 55,986m^2** of which 54,936m^2 is residential floor space and 1050m^2 retail floor spaces. The floor space ratio is 2.8:1.

Strata or stratum subdivision are not proposed as part of this application, however it is intended to submit a further Development Application under Part 4 to the City of Canada Bay Council seeking consent for the subdivision of the development into separate retail, residential including car parking areas and public open space stratums. The residential uses are to be subdivided into separate stratas. An outline of the stratum and strata subdivision structure is included at **Section 3** of this report.

Separate Development Applications will be submitted to Council for the use of each of the retail/commercial tenancies shown on the architectural drawings.

The Development has a total Capital Investment Value of $219,145,000, which includes a construction cost of $189,276,000.

Figure 1. Aerial perspective of the proposed development
The public open space and public facilities will be subject to a separate Part 4 Development Application.

1 Introduction

1.1 Preliminary

This Environmental Assessment has been prepared by Architectus on behalf of Billbergia Developments Pty Ltd, the Proponent's of Major Project MP10_0105.

The report has been prepared in accordance with the Director General's Requirements issued by the Department of Planning on the 20 October 2010.

This section of the report provides a description of the site and a legal description, outlines a background to the project application, identifies the key environmental, social and economic benefits, provides the DGRs and identifies where in the Environmental Assessment report responses are provided, identifies the key relevant statutory requirements and policies and the implications of key development controls for the site, describes the consultant team, describes the consultation undertaken and outlines the structure of the report.

This report should be read in conjunction with **Appendices A** to **Z**.

A physical model and materials and finishes sample board are submitted under separate cover.

1.2 Structure of this report

This report comprises the following 8 sections:

Section 1 – Introduction

This section of the Environmental Assessment report provides a description of the site and a legal description, outlines a background to the Project Application, identifies the key environmental, social and economic benefits, provides the DGRs and identifies where in the Environmental Assessment Report responses are provided, provides the consultant team, describes the consultation undertaken and outlines the structure of the report.

Section 2 – Site and contextual analysis

Section 2 proposes a site and contextual analysis in terms of land use zoning and the existing hotel development, provides a planning history of the site, traffic, access and parking, heritage conservation, land form and topography, built form, open space and vegetation as well as local context.

Section 3 – The Proposal

Section 3 provides a description of the proposed development including a numerical overview, the relevant architectural, landscape architecture and stormwater concept plans, use, gross floor area, height, car parking, waste management and building services and fire safety.

Section 4 - Strategic justification and consideration of alternatives

Section 4 provides a strategic justification of the proposal as well as a consideration of alternatives to the project.

Section 5 – Regulatory context

Section 5 outlines the applicable statutory planning instruments and policies of relevance to the project consistency with the relevant policies and provides justifications for any non-compliance.

Section 6 – Environmental Assessment

Section 6 provides an Environmental Assessment of the proposal against the key issues identified in the Director Generals Requirements.

Section 7 - Draft Statement of Commitments

Section 7 outlines the Draft Statement of Commitments which will be adopted by the proponent in the construction and operational phases of the development to mitigate and manage impacts.

Section 8 – Conclusion

Section 8 concludes the report with a brief summary of the key findings of the Environmental Assessment.

1.3 The site and location

The site is known as Site 2A and 3A at 40 Walker Street, Rhodes and is located on land formally known as Precinct B under the former *Sydney Regional Environmental Plan 29: Rhodes Peninsula*. The subject site is located approximately at the centre of the Rhodes West redevelopment area.

The site is bounded to the east by Walker Street with a frontage of approximately 160m. Further east of the Main Northern Railway Line. To the North is the existing residential development known as Village Quays (Site 1A), which was the subject of Major Project MP 05_0110 approval.

The western boundary of the site is formed by Shoreline Avenue, as well as being adjoined by the development site within Precinct B known as Site 3B. The southern boundary is formed by Gauthorpe Street, further south are existing warehouses, light industrial buildings and mixed residential and retail developments within Precinct D. Refer to **Figure 2**.

Figure 2. Site location
The subject site is shown outlined with a dashed black line. Building footprints within Precinct B are also shown.

1.4 Legal description and ownership

The subject site is known as 44-46 Walker Street, Rhodes, and is identified as Site 2A and Site 3A within the Stage 1 Master Plan DA 268-6-2003. The site is contained within a single lot, which is legally described as Lot 201 DP 1101828. Refer to Registered Lot and DP Plan at **Figure 3**.

The site is currently under the single ownership of the NSW Maritime Authority, under whose ownership it will remain until the completion of the remediation activities and the issuing of a site auditor's Statement verifying that the remediation activities have been satisfactorily completed. The owners consent has been sought to enable the Proponent to lodge the application. At the time of writing this Environmental Assessment, NSW Maritime had not provided their landowners consent.

In is understood that under the Environmental Planning and Assessment Regulations 2000, landowners consent must be obtained prior to the determination of the application.

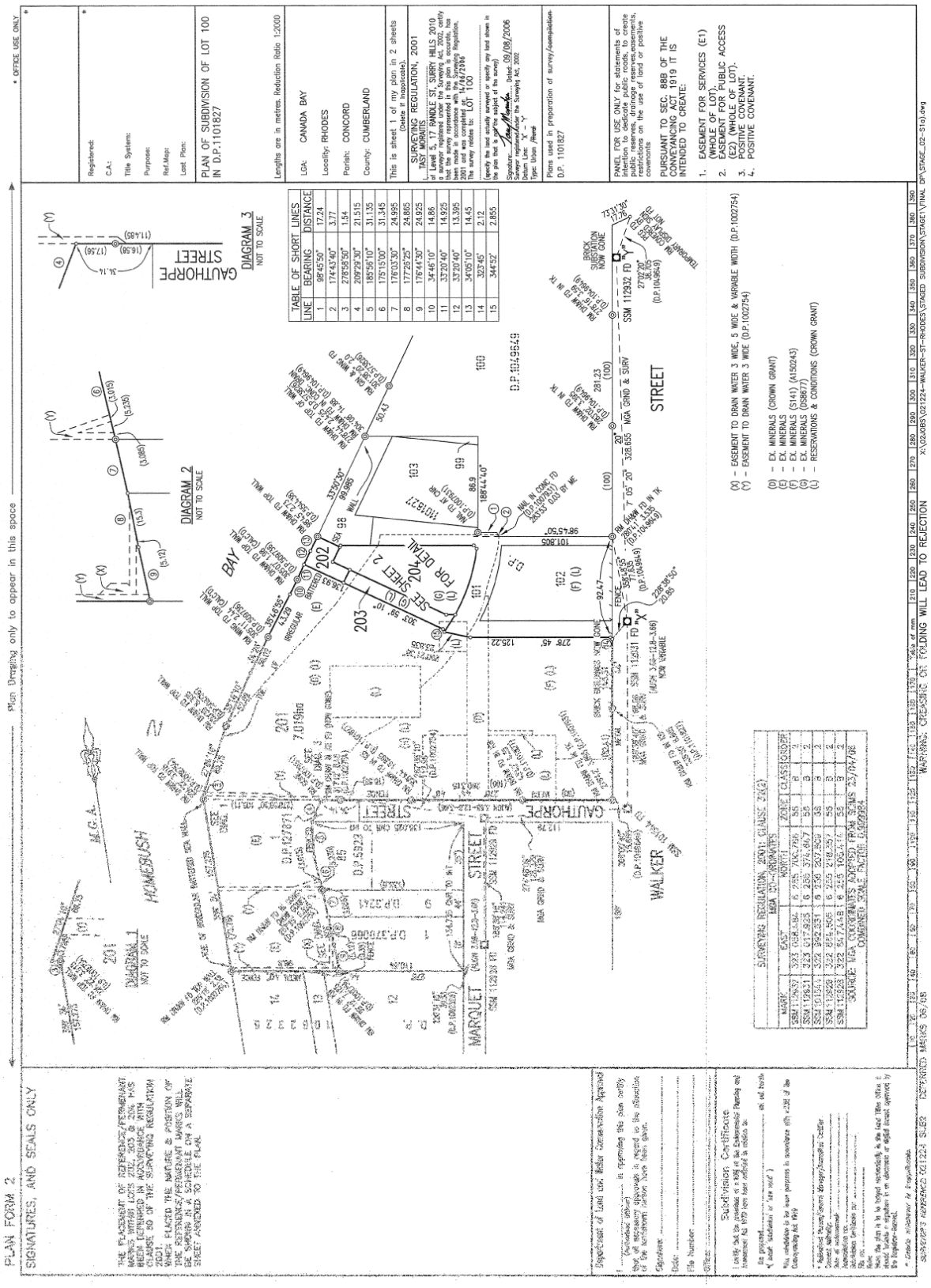


Figure 3. Registered Lot and DP Plan

1.5 Background to proposal

The proposed development is to be processed as a Part 3A Major Project Application under the Ministers Instrument of Delegation, which is outlined elsewhere in this report. The project is to be determined by the Minister for Planning.

This is a long history to the planning of development at Rhodes West (formally referred to as Rhodes Peninsula under SREP 29). Over a period of the past 10 years, significant redevelopment of the former industrial land has occurred.

1.6 Director General's Requirements

Following the initial request to the Minister for the Clause 6 declaration that the project is one to which Part 3A applies and request for Director General's Requirements (DGRs) for the preparation of this Environmental Assessment, correspondence from the Director Metropolitan Projects of the Department of Planning has been received dated 20 October 2010, which the attached DGRs under Section 75F(3) of the Environmental Planning and Assessment Act 1979.

The DGRs are addressed within this report and included in full at **Appendix A**. **Table 1** below provides a summary of the DGRs and outlines where in the body of the report, or appended specialise consultants reports the DGRs are aggressed.

Table 1. Director General's Requirements

Director General's Requirements	Reference
Key issues	
1. Relevant EPI's policies and Guidelines to be Addressed ▪ Refer to Appendix A of Draft DGRs.	▪ **Section 5**
2. Built form and Urban Design Impacts ▪ The EA shall address height, bulk, scale and visual impact of the proposed development within the context of the locality, and the desired future character contemplated by the Draft Canada Bay LEP Amendment No. 1 (Rhodes West), and the Draft DCP. In particular a detailed consideration should be given to envelope/height and contextual studies to ensure the proposal integrates with the local environment. ▪ The EA shall provide a visual analysis to and from the site from key vantage points, including photomontages and 3D modelling with physical and computer images of the proposed development. ▪ The EA shall address the design quality of the development with specific consideration of the facades, massing, setbacks, building articulation, use of appropriate colours, materials/finishes, landscaping, overshadowing and public domain, including an assessment against CPTED Principles.	▪ **Section 6.1**
3. Public Domain / Open Space and Accessibility ▪ The EA must outline the function, landscape character, access rights and accessibility for able and disabled persons in respect of the areas of proposed public open space. ▪ The EA must detail the type, function and landscape character of the various private, communal and public areas on site. Pedestrian circulation and linkages between various open areas should be demonstrated in a schematic form. ▪ The EA must include a costed public art plan for the development.	▪ **Section 6.2**

Director General's Requirements	Reference
4. Environmental and Residential Amenity ▪ The EA must address solar access, acoustic privacy, visual privacy, view loss and microclimate issues such as wind speeds and impacts generated around tall buildings and identify migration measures necessary to achieve a high level of environmental and residential amenity.	▪ **Section 6.3**
5. Transport and Accessibility ▪ Review and update where necessary, the traffic impacts for the site that were addressed in the following reports prepared by MWT "Traffic Management Plan (2001)" and the "Traffic Report Rhodes Peninsula 0-Traffic and Transport Analysis for Additional Development (13 March 2009)". The review should consider traffic generation, on-street parking demand and provision, an required road/intersection upgrades, access, loading dock(s), car parking arrangements, measures to promote public transport usage, need for additional bus services, and pedestrian and bicycle links; ▪ Provide an assessment of the implications of the proposed development for non-car travel modes (including public transport, walking and cycling); ▪ Identify measures to mitigate potential impacts for pedestrians and cyclists, and on bus operations and passengers during the construction stage of the project; ▪ Demonstrate the provision of sufficient on-site car parking for the proposal having regard to local planning controls and RTA guidelines.	▪ **Section 6.4**
6. Noise and Vibration Assessment ▪ The EA should address the issue of noise and vibration impact from the railway corridor and provide detail of how this will be managed and ameliorated through the design of the building, in compliance with relevant Australia Standards and the Development's Interim Guidelines for Development near Rail Corridors and Busy Roads.	▪ **Section 6.5**
7. Ecologically Sustainable Development (ESD) ▪ The EA shall detail how the development will incorporate ESD principles in the design, construction and ongoing operation phases of the development; ▪ The EA must demonstrate that the development have been assessed against a suitably accredited rating scheme to meet industry best practice.	▪ **Section 6.7**
8. Drainage and Stormwater Management ▪ The EA shall address drainage and groundwater issues associated with the development/site, including stormwater, drainage infrastructure and incorporation of Water Sensitive Urban Design measures.	▪ **Section 6.8**
9. Contamination, Human Health Risk Assessment and Geotechnical Issues	▪ **Section 6.9**
10. Utilities ▪ The EA shall demonstrate consultation with relevant agencies, address the existing capacity and requirements of the development for the provision of utilities including staging of infrastructure works.	▪ **Section 6.10**
11. Contributions ▪ The EA shall address the provision of public benefit, services and infrastructure having regard to Council's Section 94 and 94A Contribution Plans, and provide details of any Planning Agreement or other legally binding instrument proposed to facilitate this development.	▪ **Section 6.11**

Director General's Requirements	Reference
12. Consultation ▪ The EA shall demonstrate that an adequate level of consultation in accordance with the Department's Major Project Community Consultation Guidelines October 2007.	▪ **Section 1.8**
13. Staging ▪ The EA must include details regarding the staging of the proposed development including the provision and timing of all required infrastructure works.	▪ **Section 6.13**
14. Statement of Commitments ▪ The EA must include a draft Statement of Commitments detailing measures for environmental management, mitigation measures and ongoing monitoring for the project.	▪ **Section 7**
Plans and documents of the development	
Environmental Assessment (EA) 1. Executive summary 2. A thorough site analysis including site plan, aerial photographs and a description of the existing and surrounding environment; 3. A thorough description of the proposed development; 4. An assessment of the key issues specified above and a table outlining how these key issues have been addressed; 5. An assessment of the potential impacts of the project and a draft Statement of Commitments, outlining environmental management, mitigation and monitoring measures to be implemented to minimise any potential impacts of the project; 6. The plans and documents outlined below. 7. A signed statement from the author of the Environmental Assessment certifying that the information contained in the report is neither false nor misleading; 8. A Quantity Surveyor's Certificate of Cost to verify the capital investment value of the project (in accordance with the definition contained in the Major Projects SEPP); and 9. A conclusion justifying the project, taking into consideration the environmental impacts of the proposal, the suitability of the site, and whether or not the project is in the public interest.	▪ Executive summary prior to Instruction of EA. ▪ Site analysis at **Section 2**. ▪ Description of proposal at **Section 4**. ▪ Environmental Assessment of key issues at **Section 6**. ▪ Draft Statement of Commitments at **Section 7**. ▪ Architectural drawings at **Appendix B**. ▪ Quality Surveyors Certificate of Cost at **Appendix C**. ▪ Conclusion at **Section 8**.
1. Existing site survey plan	▪ Not provided due to on-going site modification from bulk earthworks and remediation. Proposal based on finished bulk earthworks levels provided by Thiess Environmental Services, the remediation contractors. ▪ Refer to description of site topography at **Section 2**.
2. Site Analysis plan	▪ **Appendix B**
3. Locality/context plan	▪ **Appendix B**
4. Architectural drawings	▪ **Appendix B**
5. Design Compliance Statement	▪ **Appendix D**
6. Schedule of Materials and Finishes and Sample Board	▪ Under separate cover
7. Visual and View Analysis	▪ **Appendix E**

Director General's Requirements	Reference
8. Physical Model	▪ Submitted under separate cover
9. Shadow diagrams	▪ **Appendix B**
10. Landscape Plan	▪ **Appendix F**
11. Accessibility assessment	▪ **Appendix G**
12. Stormwater/Drainage Concept Plan	▪ **Appendix H**
13. Site Contamination Assessment/Human Health Risk Assessment	▪ **Section 6.9**
14. Geotechnical Report	▪ **Section 6** and **Appendix AA**.
15. Groundwater Assessment	▪ **Section 6** and **Appendix AA**.
16. Transport Management Plan	▪ **Appendix I**
17. Waste Management/Garbage and recycling Management Plan	▪ **Appendix J**
Additional submission requirements	
BCA Assessment report	▪ **Appendix K**
Electrolysis and Corrosion Risk Assessment report	▪ **Appendix L**

Figure 4. Village Quays – Site 1A, Precinct B Rhodes

Figure 5. Australia Towers, Sydney Olympic Park

Figure 6. St Margret's, Darlinghurst

1.7 Protect team

This section of the report provides a list of the project team, which contributed to this Environmental Assessment. Key members of the consultant team including the Proponent, the Architect and the Urban Planner are described.

Proponent – Billbergia Developments Pty Ltd

Billbergia Developments Pty Ltd is a subsidiary of the Billbergia Group who is an Australian development, building and civil construction company established in 1987. The Billbergia Group is a leading property developer in NSW, with extensive experience in the development of high quality apartment housing in the Sydney Region. Recent projects included by leading architects and designers include:

- Lane Cove North Estate;
- Waterpoint, Sheppard's Bay;
- Village Quays (Site 1A Precinct B, Rhodes) (**Figure 4**); and
- Australia Towers, Sydney Olympic Park (under construction) (**Figure 5**).

Architect – SJB Architects

SJB Architects is an established award winning architectural firm with:

- Multi-disciplinary Architectus, Town Planning, Urban Design and Interior Architects with offices in Sydney and Melbourne; and
- Extensive local experience at Rhodes West, having been the Architects and Urban Designers for the Precinct B Master Plan and the Site 1A development.

Award winning projects designed by SJB Architects include:

- Glebe Harbour, Blackwattle Bay
- St Margret's, Darlinghurst (**Figure 6**)
- Louisa Road, Birchgrove
- Village Quays, Rhodes (**Figure 4**)
- Altair, Balmain Shores Rozelle

Urban Planner – Architectus Group Limited

Architectus is an established award winning multi-disciplinary design and planning consultancy, comprising:

- Town Planners (strategic and statutory) and urban designers, and Architects;
- Significant experience over 30 years in residential housing and mixed use town centre development;
- Highly experienced planners for projects processed through the Part 3A legislation, having prepared Environmental Assessments for housing projects including the Site 1A development at 40 Walker Street Rhodes (to the north of Site 2A and 3A); and
- With the City of Canada Bay Council prepared the Rhodes West Development Control Plan, part of the suit of planning documents that form the new framework for Rhodes West, which the subject proposal is to be assessed against.

Table 2 lists the members of the Site 2A and 3A Rhodes project team.

Table 2. Project team

Owner	NSW Maritime Authority
Proponent	Billbergia Developments Pty Ltd
Architect	SJB Architects
Urban Planner	Architectus
Landscape Architects	Site Image Landscape Architects
Hydraulic Engineers	Cardno
Electrical Engineer	Carndo
Mechanical Engineer	Cardno
Acoustic Engineer	Acoustic Logic
ESD Consultant	Eco Specifier
Access consultant	Morris Goding Accessibility Consultants
Quantity Surveyor	River Levett Bucknell
BCA Consultant	Blackett Maguire + Goldsmith
Remediation contractor	Thiess Environmental Services
Traffic and Transport Consultant	Thompson Stanbury Associates
Electrolysis and Stray Current Engineers	Corrosion Control Engineering

1.8 Consultation

This section of the report addresses the key issue No. 12: *Consultation* of the DGRs. The Director General requires an adequate level of consultation to be undertaken with government agencies and the public in accordance with the Department of Planning publication *"Major Project Community Consultation Guidelines October 2007".*

Consultation undertaken for Rhodes West Master Plan, Draft Rhodes West LEP and DCP

Significant stakeholder consultation was recently undertaken by the City of Canada Bay Council prior to the adoption of the Rhodes West Development Control Plan (DCP) and Rhodes West Local Environmental Plan (LEP) and Voluntary Planning Agreements (VPA).

On going consultant with the RTA, Department of Education, DECCW and the Department of Planning to implement the Rhodes West LEP and DCP and the Voluntary Planning Agreements of the individual developers.

Consultation undertaken with Council

The proponent met on numerous occasions with the City of Canada Bay, during the preparation of the Draft LEP and DCP for Rhodes West, as part of the landowner consultant meetings. Lengthy consultation has occurred over the preparation and finalisation of the Voluntary Planning Agreement.

In relation to the Project Application the Proponent met with Council prior to finalising the architectural proposal, in order to understand the issues and concerns and to address these concerns in the preparation of the Environmental Assessment.

Consultation undertaken with utilities providers

Consultation has been undertaken with the key utility providers during the preparation of this Environmental Assessment to determine if the proposed development can be accommodated within the capacity of existing services provided to the site. Letters from Connect Infrastructure, Jemena, and Telstra have been provided. Refer to **Appendix V**. Consultation with utility providers is summarised as follows:

- ***Energy Australia – Connect Infrastructure, Electricity***

  Connect Infrastructure have applied to Energy Australia for the design and construction requirements for street lighting and ducting associated with streetscape upgrade works and these works are currently being designed. Connect Infrastructure; through Energy Australia confirm that electricity will be made available for the individual strata units and public open space lots, upon application.

- ***Jemena, Natural Gas***

  AT& L Consulting Engineers wrote to Jemena Gas Networks (NSW) Ltd to confirm the supply of natural gas to the site. Jemena confirmed in correspondence dated 30 September 2010 that *"Natural gas infrastructure exists in parts of Shoreline Drive and Gauthorpe St, and could be extended to supply any proposed development at this site depending upon it's commercial viability".*

Jemena state that an offer of supply could be made available prior to the commencement of construction. Jemena encourage shared trenching of natural gas pipe infrastructure. The public domain surrounding the development included infrastructure trenches designed to accommodate natural gas.

- ***Telstra, Telecommunications***

  AT& L Consulting Engineers submitted a request for telecommunications network infrastructure for the proposed development to Telstra. Telstra confirm that provisions for telecommunications network infrastructure at the proposed development and telecommunications infrastructure will be constructed upon application.

An application to Sydney Water for connection to the potable water supply at Rhodes will be made prior to the issue of a Construction Certificate. A new sewer main has been constructed generally along the alignment of Shoreline Avenue. The subject site will connect into the sewer main. A new sewer pumping station has been built to the south of the site along Shoreline Avenue.

On-going consultation with Council and the community

It is understood that Council coordinates the Rhodes Resident's Consultative Committee, which has once a month for approximately 12 years, and has provided valued input into the planning, place making, remediation and community building at Rhodes West. Landowners and developers in Rhodes West are invited to attend the meetings, and the Proponent has attended many of these meetings since purchasing land at Rhodes. It would be appropriate for Billbergia Developments Pt Ltd to present the Proponent Application to the Rhodes Residential Group during the public exhibition period to inform the local community about the project.

1.9 Capital Investment Value

The Capital Investment Value for the Project Application has been estimated to be $219,145,000. Refer to the CIV estimate prepared by Rider Levett Bucknell, registered Quantity Surveys provided at **Appendix C**.

1.10 Consent authority and the Instrument of Delegation

The Consent Authority for the proposed development is the Minister for Planning.

On the 27 August 2010, the Minister for Planning delegated the planning assessment functions of the EP&A Act 1979 to the City of Canada Bay Council. Specifically, the delegation relates to the following functions:

- Test of adequacy of the Proponent's Environmental Assessment;
- Public consultation and notification;
- Council to provide electronic copies of submissions received during the exhibition period to the Department of Planning.
- Council is required to consult with and seek the opinion of the Department of Planning prior to notifying the Proponent of a requirement to provide response to the submissions or a Preferred Project Report (Section 75H)
- Preparation of a Environmental Assessment report
- Provide the Department of Planning with a copy of the Draft Instrument of Determination including conditions of approval and Draft Statement of Commitments to be agreed to by the Planning Assessment Commission prior to submitting a final environmental assessment report to the Department of Planning;
- Provide the Department of Planning with an electronic copy of the following:
    - Proponent's Statement of Commitments;
    - Any documents listed at Clause 8G of the EP&A Act 1979; and
    - Final Draft Instrument of Determination

A copy of the Instrument of Delegation, under Section 23(1)(d) of the *Environmental Planning and Assessment Act 1979* is provided at **Appendix M**.

1.11 Notification

This Part 3A Environmental Assessment will be notified, under the provisions of. As noted above, Council will undertake the public consultation and notification of the project application.

Submissions received following the public notification will be forwarded by Council to the Proponent and if requested a response or Preferred Project Report will be provided for Council's consideration in their assessment of the project.

1.12 Disclosure of political donations

The Proponent has completed the form *"Declaration of Political Donations Statement".* Refer to **Appendix N**.

1.13 Statutory requirements and policies

The relevant EPIs and policies that have been confirmed by the Department of Planning in the DGRs are as follows:

Legislation

- Environmental Planning and Assessment Act 1979

Metropolitan Planning and Transport Strategies

- NSW State Plan
- Draft Inner North Subregional Strategy
- Metropolitan Transport Plan 2010
- Integrating Land Use and Transport policy package, NSW Department of Planning, 2005
- NSW Planning Guidelines for Walking and Cycling and the NSW Bike Plan;
- Sydney Regional Environmental Plan No. 29 – Rhodes Peninsula.

State Environmental Planning Policies (SEPP) and Deemed SEPPs

- SEPP 65 – Design Quality of Residential Flat Development (SEPP 65);
- SEPP (Building Sustainability Index: BASIX) 2004;
- SEPP 55 – Remediation of Land;
- Contaminated Land Management Act 1997;
- SEPP (Infrastructure) 2007
- SREP 29: Rhodes Peninsula

Local Environmental Plans

- Draft City of Canada Bay Local Environmental Plan (Rhodes West)

Development Control Plans

- Draft Rhodes West Development Control Plan
- Rhodes West Master Plan 2010

A detailed assessment of the Project Application against each of these relevant EPIs and polices including the nature and extent of any non-compliance with relevant environmental planning instruments, plans and guidelines and justification for any non-compliance is provided in **Section 5** of this report.

2 Site and contextual analysis

2.1 Introduction

This section of the Environmental Assessment provides a written and graphical description of the site and context.

2.2 Site description

The following section provides a summary of the characteristics of the site, some of which are examined in greater detail in **Section 4: Environmental Assessment** of this Report.

Land use zoning

The site is zoned "Residential" under Clause 11 of SRE 29: Rhodes Peninsula. The following uses are permissible with development consent:

> *"Commercial premises, community facilities, local shops, non-tertiary educational establishments, open space recreational facilities, remediation of land, residential buildings, restaurants, works ancillary to the remediation of adjacent waterways, and other land uses that are not allowed without development consent"*

Under the Draft Rhodes West Development Control Plan 2010, the subject suite is zoned R4 – High Density Residential Development.

The following uses are permissible with development consent:

> *"Boarding houses; Child care centres; Community facilities; Neighbourhood shops; Places of public worship; Residential flat buildings; Shop top housing"*

All of the proposes uses contained within the Major Project are permissible with consent under both the SREP 29: Rhodes Peninsula and the Draft Rhodes West LEP 2010.

Topography

The site has a significant fall from east to west, towards Shoreline Avenue, of approximately 7.0m, a variation that equates to a difference of two storeys between Walker Street and Shoreline Avenue.

The existing ground conditions are not representative of the finished bulk excavation levels. Remediation works are ongoing and include significant earthworks resulting in substantial changes to the ground levels prior to the remediation works. As such an existing site survey has not been provided, as required by the Director General's Requirements.

The finished levels for the remediation earthworks, bulk earthworks levels, basement levels 01 and 02 and the podium levels for the proposed development are provided in **Table 3**.

Table 3. Site and development levels

	Site 2A (RL)	Site 3A (RL)
Remediated earthworks	RL 8.600	RL 7.550
Bulk Earthworks	RL 9.100	RL 8.050
Level 02 Basement	RL 9.900	RL 9.000
Level 01 Basement	RL 12.800	-
Podium level	RL 16.100	-
Level 02 Podium	-	RL 12.800

The Relative Levels (RLs) of surrounding public streets are shown on the architectural drawings submitted with this Environmental Assessment at **Appendix B**.

Vegetation

The site has a long history of industrial use, and is currently in the process of remediation. There is little vegetation on the site, none of which is worth significant land that is worth retaining. The proposal does, however, include significant landscaping around and within the site.

Heritage and archaeology

The site does not contain any items of heritage significance. Due to the works undertaken previously through the remediation of the site, it is unlikely that any archaeological or heritage items will be uncovered. However, if this was to occur, appropriate procedures would be followed.

Contamination/remediation

There are contamination issues affecting the site, which will be sufficiently alleviated prior to construction of the proposed development, to allow for residential development. Works to remediate the site were approved by the Minister for Planning as part of the approval granted for DA-341-10-2002-i. As part of the conditions of consent, a site audit statement and summary site audit report are required to be issued by an accredited independent site auditor, with this following completion of the remediation of Stages 1 and 2 of the DA described above. These documents are to be

submitted to the consent authority prior to issue of an Occupation Certificate; as such the issue of site contamination can be seen to have been adequately addressed through previous applications and enforceable conditions of consent, and does not need to be re-examined as part of this Development Application.

The subject proposal includes a draft site management plan to ensure that the site remains in its remediated state, and to inform future unit owners and site managers of the remediated nature of the site.

The site has been identified as having a high probability of acid sulphate soil occurrence within 1.0m of the ground surface in the area of the site. Site excavation, approved as part of the remediation consent includes provisions for the treatment of potential acid sulphate soils. The RAP includes a process for the site analysis, stockpiling and treatment of potentially affected soils, as follows:

- Analytical results will be interpreted in accordance with the acid sulphate soils manual, 1998, as prepared by the ASSMAC, published by DUAP (now the Dept of Planning).
- Materials classified as acid sulphate soils will be treated by adding an appropriate quantity of lime prior to use on the site as determined by the analytical results or will be buried below the ground water standing level, if practical, in accordance with the requirements of the above guidelines. Addition of lime and mixing will be by conventional mechanical methods such as spreading and turning using hydraulic excavators.
- When temporary stockpiling of untreated ASS is required, the following management plan will be followed:
    - Stockpiling of untreated materials for periods exceeding two weeks will be avoided;
    - Regular monitoring of pH of the stockpiles and drained water will be carried out;
    - The stockpiles will be kept moist;
    - An appropriate supply of lime will be kept on-site; and
- Where stockpiling exceeds 2 weeks, the material will be regularly spray irrigated and the pH monitored daily. Where the pH drops below 6 the material will be immediately treated with lime.

Given that the site is to be remediated in accordance with the approved RAP, including bulk excavation carried out removing soils down to rock, it is unlikely that acid sulphate soils will be encountered as part of this development.

The remediation of the site is being undertaken in the following stages in a precinct-wide process (Note: the development of all sites includes the adjoining open space and road lots):

- Stage 1 – Sites 1A and 1B;
- Stage 2 – Site 2B; and
- Stage 3 – Sites 2A, 3A, 3B, 3C and 3D.

The Remediation Action Plan (RAP) approved as a condition of the remediation consent includes a program for the remediation activities on the site including the above staging.

Key remediation activities include:

- Earthworks required to excavate, stockpile and classify contaminated material from Homebush Bay and the site;

- Treatment of material with contaminant concentrations above soil remediation criteria using Direct Thermal Desorption technology (Section 96(2) application is currently being considered by the Minister to change the technology from Indirect to Direct Thermal Desorption, and to change the approved location of the plant in Precinct B from the location of the community lot on the foreshore to Site 3B); and
- Reuse of materials to reinstate the site to levels suitable for future residential development.

The RAP, prepared by Thiess Services (dated October 2002 and amended by a later addendum) for 40 Walker Street, Rhodes, was endorsed as a condition of the remediation consent affecting all of Precinct B, and can therefore be looked at with an assurance that the procedures outlined within it will be undertaken.

The plans seeks to achieve site remediation in recognition of the need to protect both human health and the environment, building on earlier remediation actions, the most recent of which involved excavation, encapsulation/consolidation and capping.

A scope of works is set out in the RAP, which includes the staged excavation of all fill material, handling, treatment and the re-instatement of the site with material that has been demonstrated to meet the site specific soil criteria. The soil criteria have been developed to protect both human health and the environment and have been approved by an accredited site auditor. Remediation involves the excavation of up to approximately 630,000m^3 of material, of which roughly 97,000m^3 is anticipated to require treatment to achieve the project objectives and meet the site specific criteria.

The RAP includes a public consultation program and operational aspects such as site establishment, access control and security. The plan proposes treatment for soil and fill material using Indirect Thermal Desorption (ITD) processes. A second process, Base Catalysed Decomposition, will treat condensated material from the ITD process on-site and will be backed up by plasma arc, at a location off the site. The second process destroys the contaminants collected by the ITD process.

One of the key issues addressed by the RAP is management of contaminated water. Procedures have been developed to minimise the volume of contaminated water and to apply appropriate treatment to comply with regulatory requirements. The RAP also addresses the disposal of materials from the site, particularly focusing on asbestos that may be encountered during demolition works.

In ensuring that the designated standards for development of the site are achieved, a key factor is validation of the site to demonstrate its suitability for the proposed land uses. The validation process is set out in the RAP, as is the way in which placement and compaction of reinstatement materials will take place. Occupational Health and Safety (OH&S) issues for remediation workers are also addressed through the preparation of an OH&S plan. A similar plan is to be provided for construction workers prior to the determination of this consent.

It is expected that all remediation work will be completed by October 2008, with the sewer also to be completed at this time.

The implications for the remediation works on the site to the subject development are described in **Section 5** of this Environmental Assessment report in response to the Director General's Environmental Assessment report.

Hazards

The potential contamination hazards are outlined above, and are currently being remediated. It is not believed that there are any other natural or technological hazards affecting the site. The site is not prone to flooding or bushfire.

Services

Gas, water, sewerage, electricity and telecommunications infrastructure already exist on the site. All services are to be upgraded or relocated to better cater for future development as part of the subdivision and public domain approvals for Precinct B, and are outlined for use by the development in the Master Plan DA-268-8-2003.

2.3 Local context

The site is bounded by Shoreline Avenue and Site 3B, a residential development site within Precinct B to the east, Walker Street to the east, Timbrol Avenue to the north and Gauthorpe Street to the South, Further south is the mixed use light industrial and residential precinct D.

The Rhodes Corporate Park to the south along Homebush Bay Drive on the eastern side of the railway line, is nearly complete and comprises 6 commercial office buildings.

Rhodes West is located adjacent the existing Rhodes residential suburb for predominantly single-storey detached houses. An industrial precinct centred on Leeds Street is located at the northern end of the peninsula. The areas has undergone significance change from an industrial suburb to a new mixed use residential and high tech commercial area.

The Rhodes Waterside Shopping Centre is popular both to local residents as well as the destination shoppers. The centre has several majors shops including Target, Harris Farm, Coles and Ikea, as well as approximately 100 specialties shops.

The foreshore of Rhodes West is to be maintained as a public reserve and will link approximately 1.4 km of foreshore land with cycleways, parks and pedestrian pathways.

Traffic, access and public transport

Rhodes is well serviced by a number of public transport options and the established road network. In particular, the development site is within walking distance of the train and bus services operating from Rhodes railway station.

The site is approximately 300m from Rhodes train station, which has recently been refurbished, and has facilities for disabled access. Rhodes station is situated on the Northern Line, and has services south to central Sydney via Strathfield, and north to Hornsby.

Sydney Buses also operate two routes via Rhodes railway station:

- Route 458 – Services north to Ryde, and south to Burwood via Rhodes shopping centre, Concord Hospital, Concord West, North Strathfield and Strathfield Station; and
- Route 459 – Daytime weekday services north to Macquarie University via Ryde and Macquarie Centre, and south to Strathfield Station via Concord West and North Strathfield.

The nearest main road is Homebush Bay Drive/Concord Road (Metroad 3), which runs northeast to Ryde and beyond to the Northern Beaches, and south towards Bankstown. In each direction this road crosses several motorways running east-west, all of which provide access to central Sydney.

There is pedestrian access to the nearby foreshore area, approximately 150m to the west of the site, with recreational open space extending along the western side of the peninsula. A good network of bicycle paths exists in the area, separate from vehicular roadways, primarily following the Parramatta River. The Rhodes Shopping Centre and train station are also easily accessible, within walking distance and with footpaths provided.

Ferry services to Parramatta and the Sydney CBD operate from Meadowbank wharf, approximately 900m to the north, accessible via pedestrian/bicycle bridge (John Whitton Bridge).

2.4 Regional context

Rhodes Peninsula is located on the shores of Parramatta City, close to the geographical centre of Sydney Metropolitan Area. Brays Bay and Homebush Bay are immediately east and west of the Peninsula.

The site is 2.5knm northwest of Sydney Olympic Park, and 12km northwest of the Sydney CBD. Surrounding suburbs are Meadowbank, Ryde, Liberty Grove and Concord West.

The Metropolitan Strategy, includes a strategy for centres and corridors, and identified Rhodes as a Specialised Centre. One of the initiatives of the Metropolitan Strategy is to increase densities in an around centres, whilst improving liveability, and to concentrate activities near public transport. Rhodes Peninsula is very well services public transport, and residential development of the subject site is consistent with the Metro Strategy through its resultant concentration of medium to high density house close to the Rhodes commercial areas with employment opportunities and the Rhodes railway station.

A further detailed assessment of the proposal against the Sydney Metropolitan Strategy and other Metropolitan Planning and Transport policies is provided in **Section 4** of this Environmental Assessment.

2.5 Opportunities and constraints

The opportunities and constraints for development of the whole Precinct B site were investigated at depth during the preparation of the Precinct B Master Plan 2005 and are summarised in this section of the report and illustrated in **Figure 7**.

Figure 8 illustrates a site analysis plan for Site 2A and 3A, describing opportunities and constraints particular to the site.

Precinct-wide opportunities and constraints

The Precinct wide development **opportunities** are described as:

- Site contamination will be remediated to a level to permit the proposed residential and open space uses;
- No heritage items or significant flora or fauna have been identified on the Master Plan site.
- The opportunity to provide community facilities for the broader Rhodes community;
- The immediate context of Homebush Bay and Parramatta River location;
- The use of the geographic fall across the site to encourage a gradual transition from the higher section of the site, Walker Street, to the Waters edge;
- Proximity to Rhodes Railway Station;
- The potential of intensifying the relevance of the Millennium Marker view the focusing of public view corridors;
- The long term potential of linking to Bicentennial Park and Olympic Park and railway and ferry stops via a proposed pedestrian/cycle bridge across Homebush Bay;
- Capitalising on the views to the water from the Master Plan site;
- Provision of high quality natural and urban public domain areas, as walks and community meeting places;
- View corridors to and through the site down to the water; and
- View sharing.

The Precinct wide analysis has identified the following constraints:

- The site is the subject of on-going remediation activities, which are due for completion in March/April 2011.

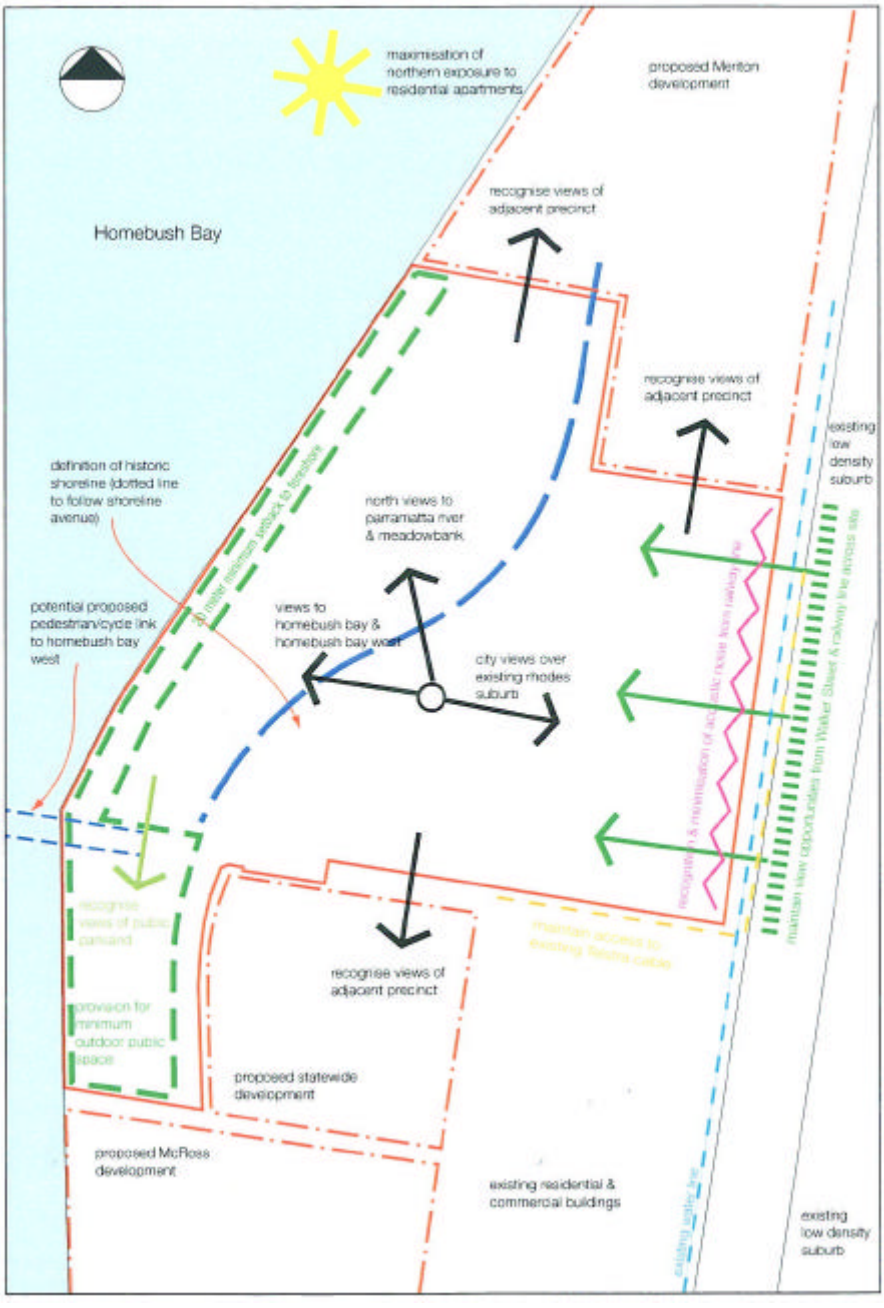


Figure 7. Precinct B site analysis plan

Figure 8. Site 2A and 3A Site Analysis Plan
Public open space and public facilities will be subject to a separate Part 4 Development Application.

An analysis of Site 2A and Site 3A and the surrounding Precinct has been provided by SJB Architects. The site analysis reveals the following constraints and opportunities:

Opportunities:

- Views to the West over Homebush Bay and east to Central Sydney;
- Pedestrian access from surrounding streets;
- Vehicle access from secondary streets to minimise impacts on Shoreline Avenue and Walker Street frontages;
- Building envelopes, which define and address the public domain;
- Public open space linkages between Shoreline Avenue and Walker Street and Marquet Street;
- Effectively manage stormwater and rainwater to sustainable reuse; and
- Orientation of buildings to optimise solar access to living rooms and balconies and capture cooling north east breezes.

Constraints:

- Site remediation with residual contaminants;
- Proximity to the rail line, with subsequent potential acoustic concerns; and
- Considerable slope of the site, presenting challenges for construction and accessibility.

3 Strategic justification and consideration of alternatives

3.1 Strategic justification

The strategic justification for the project is addressed in terms of the following matters:

- Suitability of the site
- Likely environmental, social and economic impacts;
- Justification for undertaking the project
- Public interest

Suitability of the site

The site is suitable for the proposed development for the following reasons:

- The site is appropriate zoned R4-High Density Residential under the Canada Bay Local Environmental Plan (Rhodes West) and the proposed mix of uses are permissible with consent;
- The site has been remediated in accordance with all relevant legislation and a development consent.
- The site is well services by existing infrastructure including all necessary utilities and services, public commuter rail and bus services,
- Vehicle access arrangements are provided through a network of local roads, linked to collector and regional roads, that will operate at satisfactory levels following the proposed development.
- The site has exceptional views to Homebush Bay, Parramatta River, Parramatta to the west and Central Sydney to the East and many of the dwellings will benefit from these views.
- The site is close to the employment uses within the Rhodes Specialised Centre, being the Rhodes Waterside Shopping Centre, commercial offices at Rhodes West and the Rhodes Corporate Park, with are all within easily accessible walking distances of the subject site;
- The site is located within easy working distances of local parks, and a new park is to be partially created on the subject site. Regional open space at Bicentennial Parklands, Millennium Parklands and Sydney Olympic Park are accessible via foreshore cycleway, which will be supplemented with on-road and off-road cycleways in accordance with the Voluntary Planning Agreements now in place (associated with Rhodes West LEP and DCP).

Likely environmental, social and economic impacts;

The Environmental, social and economic Impacts of the proposed development are addressed in detailed having regard to the key issues included in the Director General's Environmental Assessment Requirements. This section provides a summary of key impacts of the proposal, so the justification for the project can be weighted in terms of the impacts and benefits. The likely environmental, social and economic impacts of the proposal are addressed in **Section 6** of this report having regard to the key issues identified in the DGRs.

Justification for undertaking the project

The project is designed in accordance with the objectives of the recently Draft Rhodes West LEP and recently adopted Rhodes West DCP. It is not considered necessary to justify undertaking the project, as must work has already been down by the Proponent, other developers at Rhodes West and the City of Canada Bay Council to justify through the Planning Proposal the suitability of the uplift of floor space and resulting provision of additional public facilities and open space areas.

Public interest

The proposed development is in the public interest in that:

- It is consistent with the State Government's 'compact city' planning policies principle the State Plan, the Sydney Metropolitan Strategy and the Draft Inner West Subregional Strategy;
- It is consistent with the objectives of the EP&A Act 1979, in particular, the promotion and co-ordination of the orderly and economic use and development of the lands, and the achievement of ecologically sustainable development;
- It is consistent with the majority of planning objectives, policies and controls that apply to the site;
- The rezoning and Master Planning of the site was the subject of considerable community consultation initiated by the City of Canada Bay Council and the Proponent;
- It will not have any significant adverse effects on the health, safety or amenity of the public; and
- It achieves high quality urban design, architectural and landscape design.

3.2 Alternatives to the proposal

Many alternative building massing options were developed in consultation with Council and their Urban Design Consultant during the preparation of the Rhodes West DCP. Council determined the most appropriate urban design framework for the site following lengthy review of the former planning framework (SREP 29). The new planning frame has been exhibited and was supported by the City of Canada Bay Councillors in their adoption of the Rhodes West DCP.

It is considered that broad alternatives to the mixed residential and retail development to change to the land use of the site and modified the floor space ratios and building heights from these provided under Council's planning framework will deviate from the lengthy provides of preparing the new planning framework. It is therefore, not proposed to offer alternatives t the proposal for consideration.

Furthermore, the approved remediation works on the site, which are due for complete in March/April 2011, will results in sites which are suitable for the proposed mixed of land uses.

4 The Proposal

4.1 Introduction

This section of the report provides a written and graphic description of the proposed development.

4.2 Project overview

Planning consent is sought from the Minister for Planning for the construction of a mixed residential and retail development at Site 2A and 3A, within Precinct B at Rhodes West on the site legally described as Lot 201 in DP 1101828. The following is a brief summary of the particulars of the project:

- **736 residential units** built across **5 separate buildings** within the subject lot;
  - **Building A -** an 25 storeys containing 253 units including a retail floor space of 221m2;
  - **Building B** – an 6 storey building containing 65 units;
  - **Building C –** a 20 storey building containing 160 units;
  - **Building D** – a 25 storey building containing 208 units and a retail floor space of 434m2;
  - **Building E** – an 6 storey building containing 50 units and a retail floor space of 394.59m2;
- **773 car parking spaces** and **113 bicycle spaces**, which are located in two basement levels, with access off Gauthorpe Street at Basement Level 02 and off Timbrol Avenue at Basement Level 01. An **additional 137 bicycle spaces** are located in the public domain adjacent public entries and the retail uses;
- **A public park of 11,530m^2** to be dedicated to Council. The design and embellishment of the park is to be subject to a separate Part 4 Development Application.
- **Common landscaped open space** between buildings and on the roof of Building B and private open as courtyards and balconies;
- **Vehicle access from Gauthorpe Street and Timbrol Avenue** and pedestrian access to all street frontages, direct access to the public open spaces and building entries of the street frontages. Equitable access throughout the public open spaces areas and to all building entries provided from street frontages; and
- A **total Gross Floor Area of 55,986m^2** of which 54,936m^2 is residential floor space and 1050m^2 retail floor spaces. The floor space ratio is 2.8:1.

4.3 Documentation

The following plans and documents provided in **Table 4** have been submitted as accompaniments to the Environmental Assessment and are to assist in the preparation of the assessment. All relevant reports are identified in the appendices list at the beginning of this report. The plans identified in the table below are provided at (**Appendix B** (architectural drawings), **Appendix H** (stormwater concept plans) and **Appendix F** (landscape drawings) respectively.

Table 4. Documentation schedule

Document	Description	Date and Revision/Issue
Architectural drawings *prepared by SJB Architects*		
A-0101	Locality/Context Plan	12.11.2010 Rev. A
A-0102	Site Analysis Plan 1	12.11.2010 Rev. A
A-0201	Level 2 Basement	12.11.2010 Rev. A
A-0202	Level 1 Basement	12.11.2010 Rev. A
A-0203	Podium Plan	12.11.2010 Rev. A
A-0204	Level 01 Plan	12.11.2010 Rev. A
A-0205	Level 02 Plan	12.11.2010 Rev. A
A-0206	Level 05 Plan	12.11.2010 Rev. A
A-0207	Level 06 Plan	12.11.2010 Rev. A
A-0208	Level 07 Plan	12.11.2010 Rev. A
A-0209	Level 09 Plan	12.11.2010 Rev. A
A-0210	Level 13 Plan	12.11.2010 Rev. A
A-0211	Level 16 Plan	12.11.2010 Rev. A
A-0212	Level 17 Plan	12.11.2010 Rev. A
A-0213	Level 19 Plan	12.11.2010 Rev. A
A-0214	Level 20 Plan	12.11.2010 Rev. A
A-0215	Level 21 Plan	12.11.2010 Rev. A
A-0216	Roof Plan	12.11.2010 Rev. A
A-0221	Area Calculation – GFA	12.11.2010 Rev. A
A-0222	Area Calculations - GFA	12.11.2010 Rev. A
A-0231	Apartment Typologies Building A	12.11.2010 Rev. A
A-0232	Apartment Typologies Building B & C	12.11.2010 Rev. A
A-0233	Apartment Typologies Building D & E	12.11.2010 Rev. A
A-0234	Apartment Typologies – Adaptable	12.11.2010 Rev. A
A-0251	Shadows - Winter	12.11.2010 Rev. A
A-0252	Shadows - Summer	12.11.2010 Rev. A
A-0253	Shadows - Equinox	12.11.2010 Rev. A
A-0261	Podium Level – Solar Study	12.11.2010 Rev. A
A-0262	Level 01 – Solar Study	12.11.2010 Rev. A
A-0263	Level 02 – Solar Study	12.11.2010 Rev. A
A-0264	Level 03 – Solar Study	12.11.2010 Rev. A
A-0265	Level 04 – Solar Study	12.11.2010 Rev. A
A-0266	Level 05 – Solar Study	12.11.2010 Rev. A
A-0267	Level 06 – Solar Study	12.11.2010 Rev. A
A-0268	Level 07-08 – Solar Study	12.11.2010 Rev. A
A-0259	Level 09 – Solar study	12.11.2010 Rev. A
A-0270	Level 10 – Solar study	12.11.2010 Rev. A
A-0271	Level 11-12 – Solar study	12.11.2010 Rev. A
A-0272	Level 13-15 – Solar study	12.11.2010 Rev. A
A-0273	Level 16 – Solar study	12.11.2010 Rev. A
A-0274	Level 17-18 – Solar study	12.11.2010 Rev. A
A-0275	Level 19 – Solar study	12.11.2010 Rev. A
A-0276	Level 20 – Solar study	12.11.2010 Rev. A
A-0277	Level 21-24 – Solar study	12.11.2010 Rev. A
A-0501	Walker Street Elevation	12.11.2010 Rev. A

Document	Description	Date and Revision/Issue
A-0502	Timbrol Avenue Elevation	12.11.2010 Rev. A
A-0503	Shoreline Avenue Elevation	12.11.2010 Rev. A
A-0504	Gauthorpe Street Elevation	12.11.2010 Rev. A
A-0505	Elevations – Building A	12.11.2010 Rev. A
A-0506	Elevations – Building A	12.11.2010 Rev. A
A-0507	Elevations – Building B	12.11.2010 Rev. A
A-0508	Elevations – Building C	12.11.2010 Rev. A
A-0509	Elevations – Building C	12.11.2010 Rev. A
A-0510	Elevations – Building D	12.11.2010 Rev. A
A-0511	Elevations – Building D	12.11.2010 Rev. A
A-0512	Elevations – Building E	12.11.2010 Rev. A
A-0601	North-South Site Section	12.11.2010 Rev. A
A-0602	East-West Site Section	12.11.2010 Rev. A
A-0603	External Materials Finishes	12.11.2010 Rev. A
A-0901	3D Visualisations	12.11.2010 Rev. A
A-0902	3D Visualisations	12.11.2010 Rev. A
A-0903	3D Visualisations	12.11.2010 Rev. A
Stormwater Concept drawings *prepared by Cardno*		
N10957-STW – H00	Coversheet	09.11.10 Rev 01
N10957-STW – H01	Basement 2	09.11.10 Rev 01
N10957-STW – H02	Basement 1	09.11.10 Rev 01
N10957-STW – H03	Podium Level	09.11.10 Rev 01
Landscape drawings *prepared by Site Image Landscape Architects*		
SS10-2255_001_F	Landscape Plan (with planting schedule)	16.11.2010 Issue D
SS10-2255_C101_C	Landscape Plan (coloured)	16.11.2010 Issue D
SS10-2255_C501_C	Design Images	16.11.2010 Issue B
SS10-2255_C502_C	Soil Depth Plan	16.11.2010 Issue A

4.4 Numerical overview

Table 5 provides a numerical overview of the proposed development.

Table 5. Numerical overview

Element			Proposal
Site area			20,675m^2
Gross Floor Area			55,986m^2
Floor Space Ratio			2.71:1
Building height	Building A		25 storeys
	Building B		6 storeys
	Building C		20 storeys
	Building D		25 storeys
	Building E		6 storeys
	Common facilities building		1 storey
Car parking spaces	Resident		736
	Visitor		35
	Disabled		2
	Retail/commercial		0
	Adaptable		70
Landscape area	Public open space *		11,530m^2
	Common open space		992m^2
			383m^2
			179m^2

Notes to **Table 5:**
* Public open space design and embellishment subject to separate Part 4 DA.

4.5 Proposed uses

The proposed development comprises residential buildings containing units or various sizes in five buildings mixed with ground floor level (podium level) retail tenancies. The redevelopment is predominantly residential in use with 98% of the proposed floor space. A total of 1050m^2 of retail floor space is proposed.

It is in the form a of neighbourhood shops. The exact layout of the these retail shops will be determined as part of a future subdivision DA, however it is envisages that retail shops will range from 50m^2 to 200m^2 in size to remanet tenants such as cafes, restaurants, convenience shops, florists, and like small scale shops.

The propose community facilities are ancillary to the primary residential uses of the site and will be accessible to the residents living on the site and their visitors.

The proposed uses are permissible within the R4 – High Density Residential zone under the Draft Rhodes West Local Environmental Plan.

4.6 Perspectives

This section of the report provides 3D perspectives of the proposed development from a number of key vantage points surrounding the site in the context of surrounding existing and future built form. **Figure 9** shows the location where the views have been taken from. **Figure 10** shows the development from an elevated position for ease of referencing the buildings within the views.

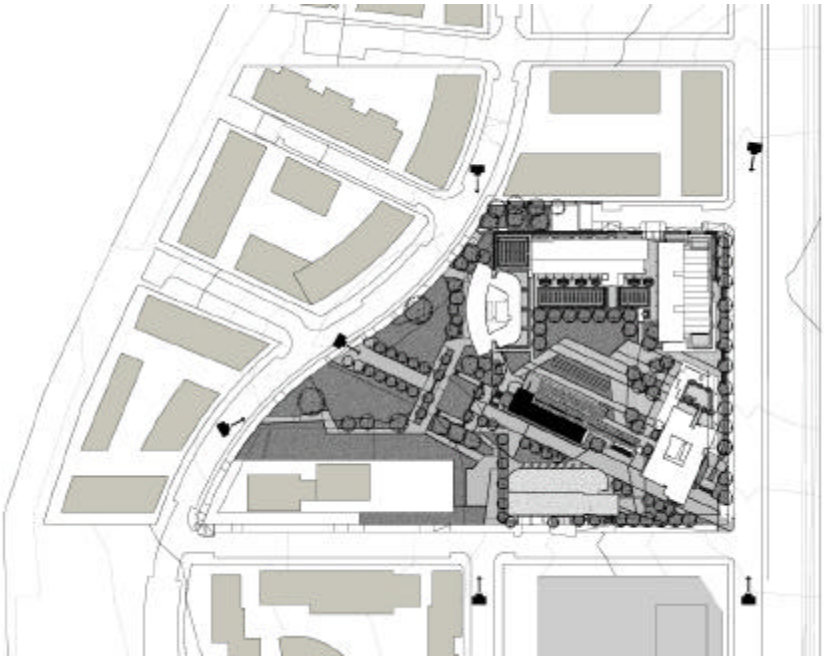


Figure 9. Location of 3D perspective views
Public open space and public facilities subject to a separate Part 4 Development Application.

Figure 10. Aerial perspective with building references
Public open space and public facilities subject to a separate Part 4 Development Application.

Figure 11. View from Shoreline Avenue looking north east
Shoreline Park South is shown in the foreground as a soft landscaped edge to the eastern side of the street. Building C (20 storeys) is visible. It is noted that the public open space and public facilities will be subject to a separate Part 4 Development Application.

Figure 12. View along Walker Street looking north
Building D located on the corner of Walker Street and Gauthorpe Street and splayed to the corner to create pedestrian interest as well as skyline interest. It is noted that the public open space and public facilities will be subject to a separate Part 4 Development Application.

Figure 13. View along Marquet Street looking North
Building E is well separated from buildings on Site 3B to maintain the view corridor, which is terminated with the tower Building C (20 storeys). It is noted that the public open space and public facilities will be subject to a separate Part 4 Development Application.

Figure 14. View from Shoreline Avenue looking south east
View looking up the diagonal through site link to the Building D with the undercroft. Building C tower building is visible in the foreground. The pedestrian link is a strong visual element of the public domain design for Shoreline Park South. An avenue of trees guide the viewer's eye and direct pedestrian flows through the park from the lower to the upper levels to Walker Street along the ridgeline. A tower building form within Precinct D is visible. It is noted that the public open space and public facilities will be subject to a separate Part 4 Development Application.

Figure 15. View looking south along Shoreline Avenue
Building C terminates the southerly view corridor as a strong visual marker. The strong vertical elements in the building facades accentuate the vertical proportions of the building which result in a well articulated and slender building form when viewed from the north. It is noted that the public open space and public facilities will be subject to a separate Part 4 Development Application.

Figure 16. Elevated view along diagonal pedestrian link
The articulated form of the communal facilities building on the podium with a rich texture of materials and finishes, landscape plantings extended canopy will provide pedestrian interest. building form when viewed from the north. It is noted that the public open space and public facilities will be subject to a separate Part 4 Development Application.

Figure 17. View along Walker Street looking south
Building A on the corner of Walker Street and Timbrol Avenue provides s strongly defined street edge of 7 storeys and the clearly defined tower element with varied balcony and balustrade designs that create a visually interesting tower form. The vertical proportions are accentuated at the northern end of the buildings, with a step in the tower form.

4.7 Floor space and density

The Maximum floor space ratio for development on the subject site comprising the entire Site 2A and 3A area is 2.8:1, under the Draft Rhodes West Local Environmental Plan 2010.

Table 6 provides a building by building breakdown of the proposed Gross Floor Area (GFA) of each building. The total proposed Gross Floor Area of the development is 55,986m^2. The site has a site area of 20, 675m^2. Therefore the proposed Floor Space Ratio of the development is 2.8:1. An assessment of the proposed development against the FSR development standards applying to the site, contained within the Draft Rhodes West LEP is provided in **Section 5**.

Table 6. Gross Floor Area

Building	Gross Floor Area (m^2)		
	Residential	Retail	Total
A	18,991	221	19,212
B	3829.2	-	3829.20
C	12,196	-	12,196
D	16,192	434	16,626
E	3828.5	395	4223.50
Total	**54,936**	**1050**	**55,986**

4.8 Building height

Table 7 provides a summary of the proposed building heights in terms of number of storeys.

Table 7. Building height

Building	Building height (Storeys)
A	25
B	6
C	20
D	25
E	6
Communal facilities building	1

4.9 Dwelling mix

The proposed development provides a mix of 1, 2 and 3 bedroom dwellings. **Table 8** provides a summary of the proposed units mix for the development. Detailed 1:100 floor plans of the different apartment types are included in the architectural drawings set at **Appendix B**. Refer to drawings A-0231 to A-0233 inclusive.

A total of 111 dwellings (15.1%) have been designed in accordance with the relevant Adaptable Housing Australia Standards (AS4299). This proportion of Adaptable Housing, complies with the Rhodes West. Detailed 1:100 floor plans of the proposed adaptable dwellings are provided in the architectural drawing set at **Appendix B**. Refer to drawing A-0234.

Table 8. Dwelling mix

Dwelling Type	Number	Proportion
1 bedroom dwelling	291	39.5%
2 Bedroom dwelling	414	56.3%
3 bedroom dwelling	31	4.2%

4.10 Building materials and finishes

The architectural elevations of the proposed development illustrate the materials and finishes. A schedule is referenced on the elevations.

SJB Architects have prepared a Design Verification Statement. In relation to the aesthetics and materials and finishes of the proposed buildings, SJB Architects states that:

> *"The proposed development has been suitably treated to include material finishes which have a high aesthetic content and as outlined in the DCP.*
>
> *The upper levels of buildings are more restrained in the use of material and rely on subtle use of geometry to achieve a play on facades and to achieve strong contrast of light and dark.*
>
> *The buildings are capped with roof elements which will provide significant visual interest from near and far. The design aims to be reflective of a contemporary design which also achieves distinctive buildings through a variation in the use of materials and form".*

The following figures illustrates the coloured elevations off the buildings. Further information on the materials and finishes can be seen in the 3D perspectives provided in **Appendix E** of this report.

A materials and finishes sample board has been submitted with the application under separate cover. Coloured elevations include a schedule of materials referred on the drawings. **Figure 22** provides drawings illustrate the materials to be used in the buildings and in the public domain.

Figure 18. Walker Street Elevation

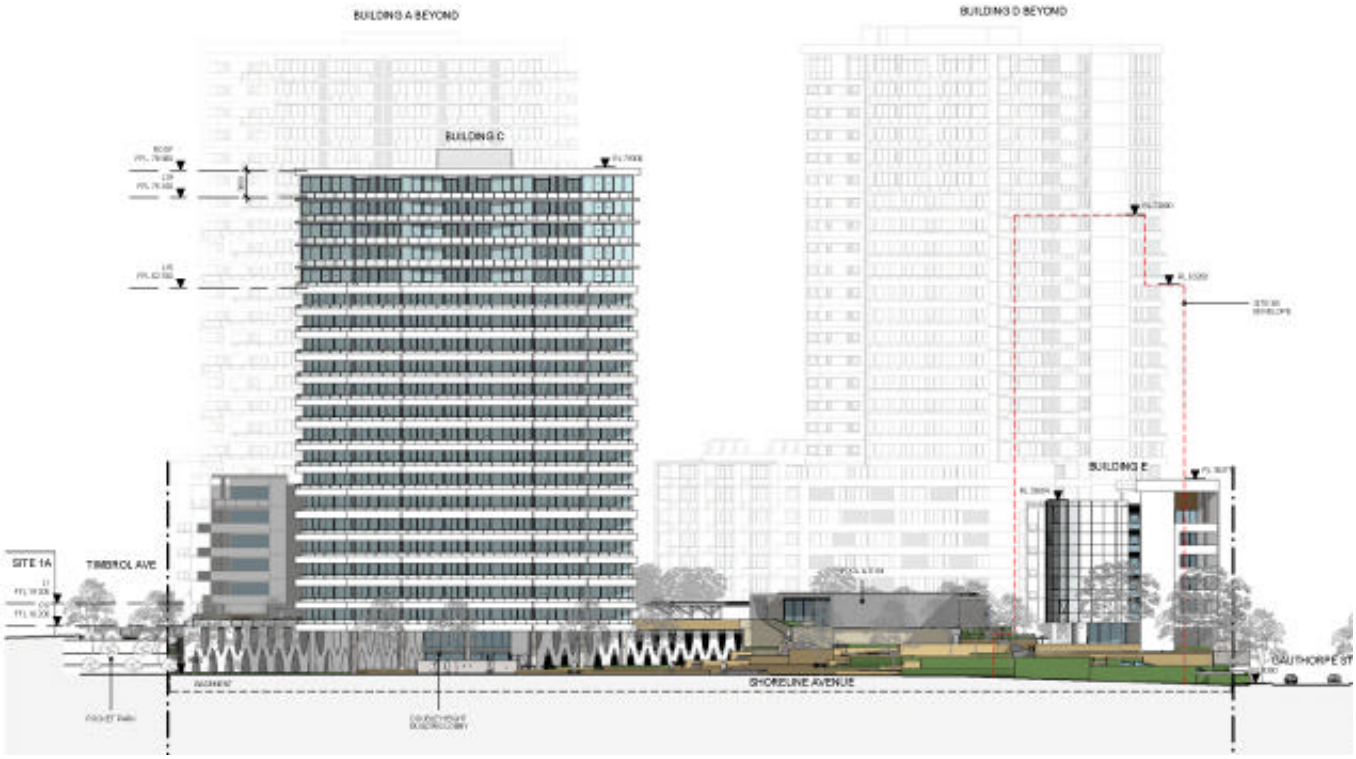


Figure 19. Shoreline Avenue elevation
Public open space and public facilities will be subject to a separate Part 4 Development Application.

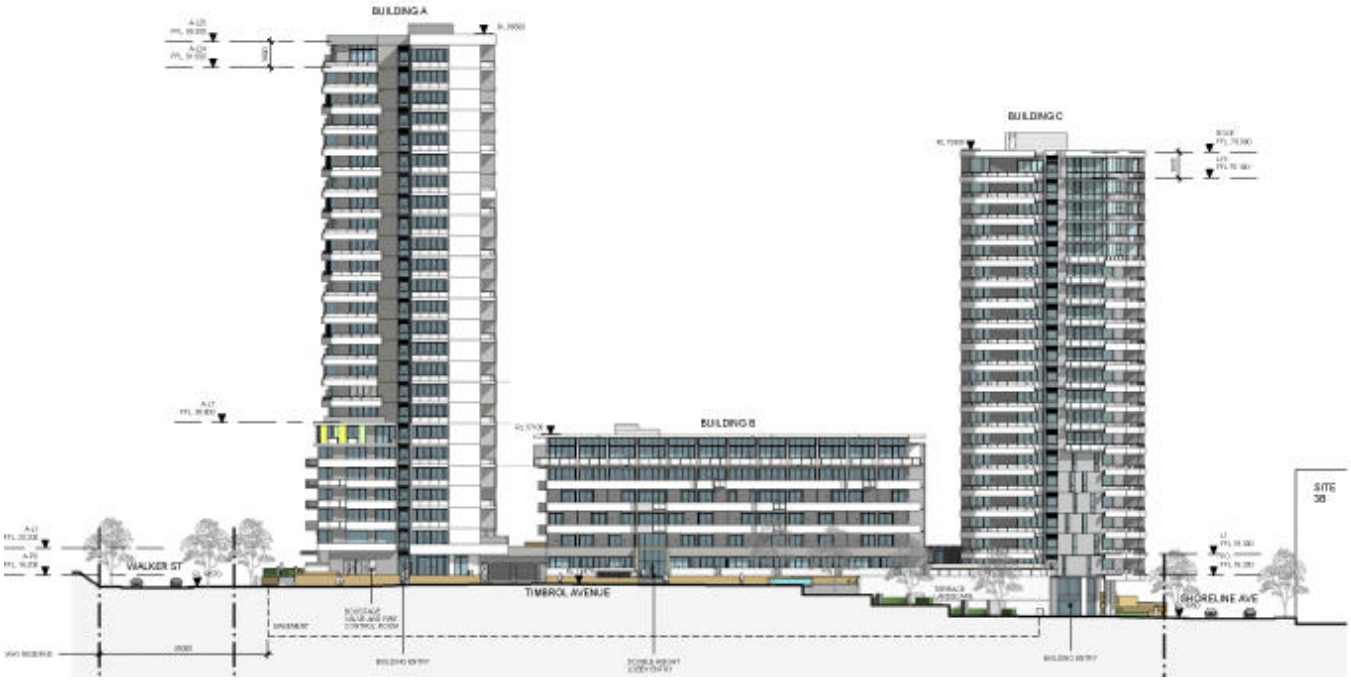


Figure 20. Timbrol Avenue Elevation

Figure 21. Gauthorpe Street elevation

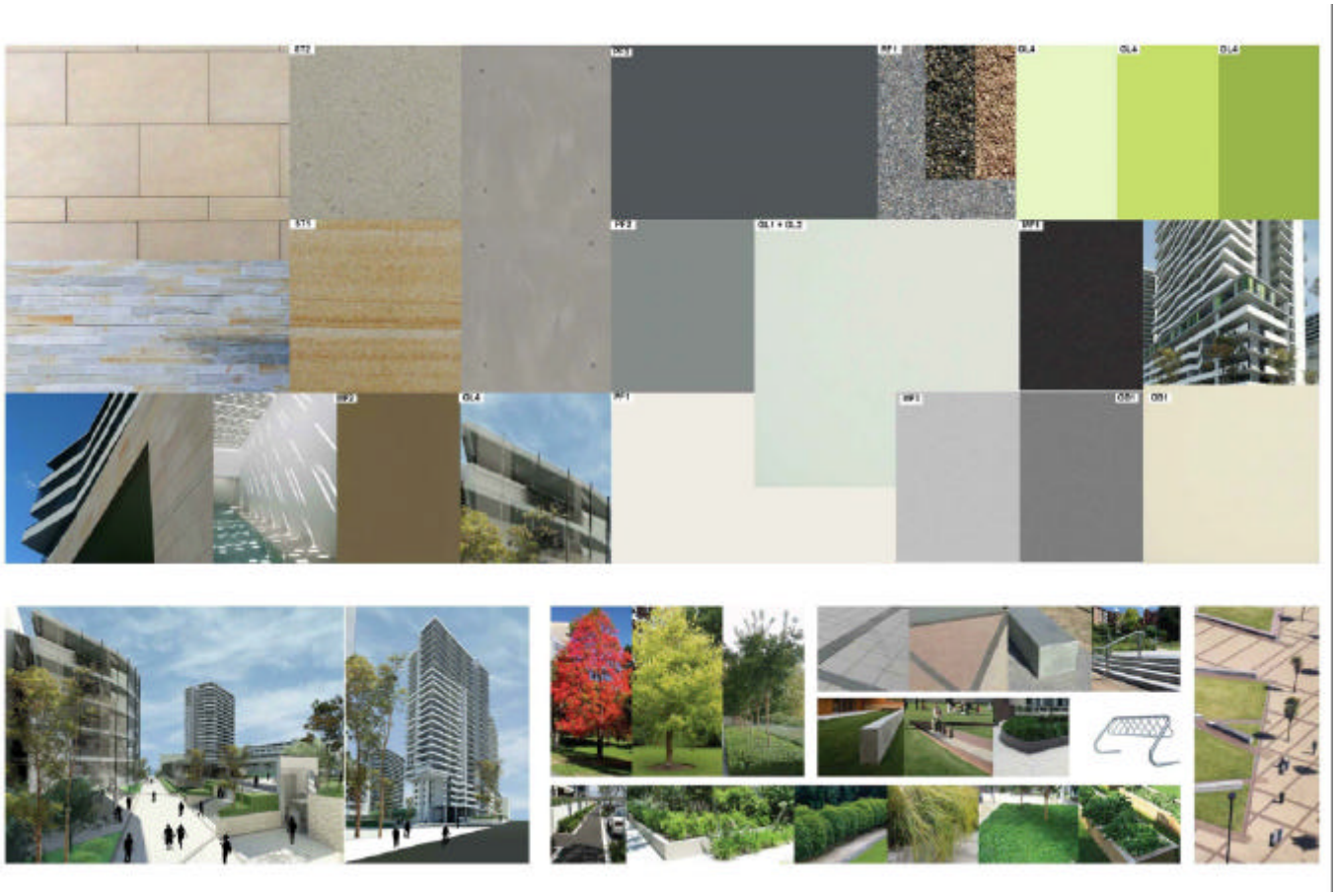


Figure 22. Proposed materials & finishes of buildings and landscaping
It is noted that the public open space and public facilities will be subject to a separate Part 4 Development Application.

4.11 Vehicular access

Vehicle access to the site is as follows:

- A separated ingress/egress driveway to Gauthorpe Street in the south-west corner of the site with separated 4.5 m side ingress and egress laneways with a 1 metre wide raised concrete median;
- A separated ingress and egress driveway to service Timbrol Avenue approximately 45 metres to the west of Walker Street providing a 3 metre wide ingress and egress laneways separated with a 1 m side concrete median.

The proposed driveways services the development comply with the RTA's Guidelines to Traffic Generating Development requirements for combined ingress/egress driveways.

The proposed access arrangements have been split between Timbrol Avenue and Gauthorpe Street. Given the numbers of vehicles entering and exiting the development it is appropriate and desirable to split access between the two side streets. The accessways are located outside the areas nominated in the Rhodes West DCP as vehicle access restrictions.

Sight distances from the vehicle accesses have been reviewed by the Consultant Traffic Engineer against the relevant Australian Standards, and it has been advised that safe distances are proposed in accordance with the standards.

4.12 Car parking

Table 9 provides a summary of the requirement and proposed vehicle parking requirements for the proposed development. The Rhodes West DCP outlines the car parking requirements for the different uses proposed as follows:

Residential

- Maximum 1 resident space per dwelling (average);
- Minimum 1 visitor space per 20 apartments, Maximum 1 space per 10 apartments; and
- Maximum 1 service vehicle per 50 apartments.

Retail

- 1 space per 40m^2

Applying these rates to the proposed development a maximum total of 736 residential parking spaces, minimum of 37 and maximum of 74 visitor spaces and 27 retail spaces. The total site-wide car parking requirement is:

- Minimum: 800 car spaces; and
- Maximum: 837 spaces.

It is proposed to provide a total of 773 car parking spaces on site. Of these spaces 37 visitor spaces are provided comprising 35 standard spaces and 2 spaces design in accordance with the minimum disabled parking space standards. The residential parking spaces comprise 666 standard spaces, 70 adaptable spaces and 48 spaces which are in a tandem configuration.

The proposed tandem spaces are to be allocated to two and three bedroom units, which is permitted because the DCP parking requirement specifies than the residential parking rate is an average of 1 space per unit. Therefore some smaller 1 bedroom units will not be allocated spaces. This approach is considered appropriate given the excellent proximity of the site to public transport services and the desire for housing affordability.

In terms of retail parking no spaces are proposed. It is noted that on street car parking is available immediately surrounding the subject site. Parking is available for all users. The street frontage is approximately 425m surrounding the site which can accommodated 70-80 parking spaces. The Thompson Stanbury Report states that:

> *"It is therefore anticipated that there will be adequate parking to cater for the likely demand for non-residential uses as most users would be local who would walk or cycle to them (as would be the case with the adjoining recreational and community facilities)".*

Table 9. Car parking

Use	Requirement Rate (Rhodes West DCP)	Required	Proposed
Resident	Max 1 space per unit average	736	736 35
Visitor	Min 1 space per 20 units Max 1 space per 10 units	37 74	37
Accessible visitor spaces	2% of visitor cars	1	2
Retail	1 space per 40m^2 GFA	27	0
Adaptable	1 adaptable parking space per adoptable unit	111	70

4.13 Open space and landscape design

Site Image Landscape Architects have prepared a Site Landscape Plan for the development. The landscape design was prepared with reference to the urban design analysis prepared by Professor John Toon, Council's Urban Design Consultant. The Landscape design has addressed the Rhodes West DCP design principles, objectives and controls.

Public open space

The proposed landscape areas include public open space that is to be dedicated to Council, following the embellishment works to Council, and common open space associated with the private residential development. Refer to **Appendix F** for A3 version of the Site Landscape Plan, and landscape design report.

The VPA at **Appendix O** confirms that Council will accept the dedication of the opens pace, subject to their confirmation that the embellishment works have been satisfactorily completed.

In consultation with the City of Canada Bay Council during the preparation of this Environmental Assessment, it was agreed that the areas of the site proposed as public open space are to designed and assessed separately as a Part 4 Development Application. A letter to Council outlining the Proponent's understanding for the design and assessment of the public open space and public facilities is provided at **Appendix BB**.

It was agreed that all relevant architectural drawings for the Part 3A Major Project Application showing the public open space will include a notation:

> *"Public facility and public open space are subject to a separate Development Application".*

This notation appears on all relevant architectural drawings at **Appendix B,** on the physical model and throughout this Environmental Assessment, wherever images and drawings of public open space areas are provided.

A plan showing the areas of the site proposed as public open space to be dedicated to Council was provided to Council. Refer to **Figure 24**. A total of 11,530sqm of public open space is achieved, which exceeds the minimum 11,030sqm of public open space referred to as "Dedication Land" under the VPA.

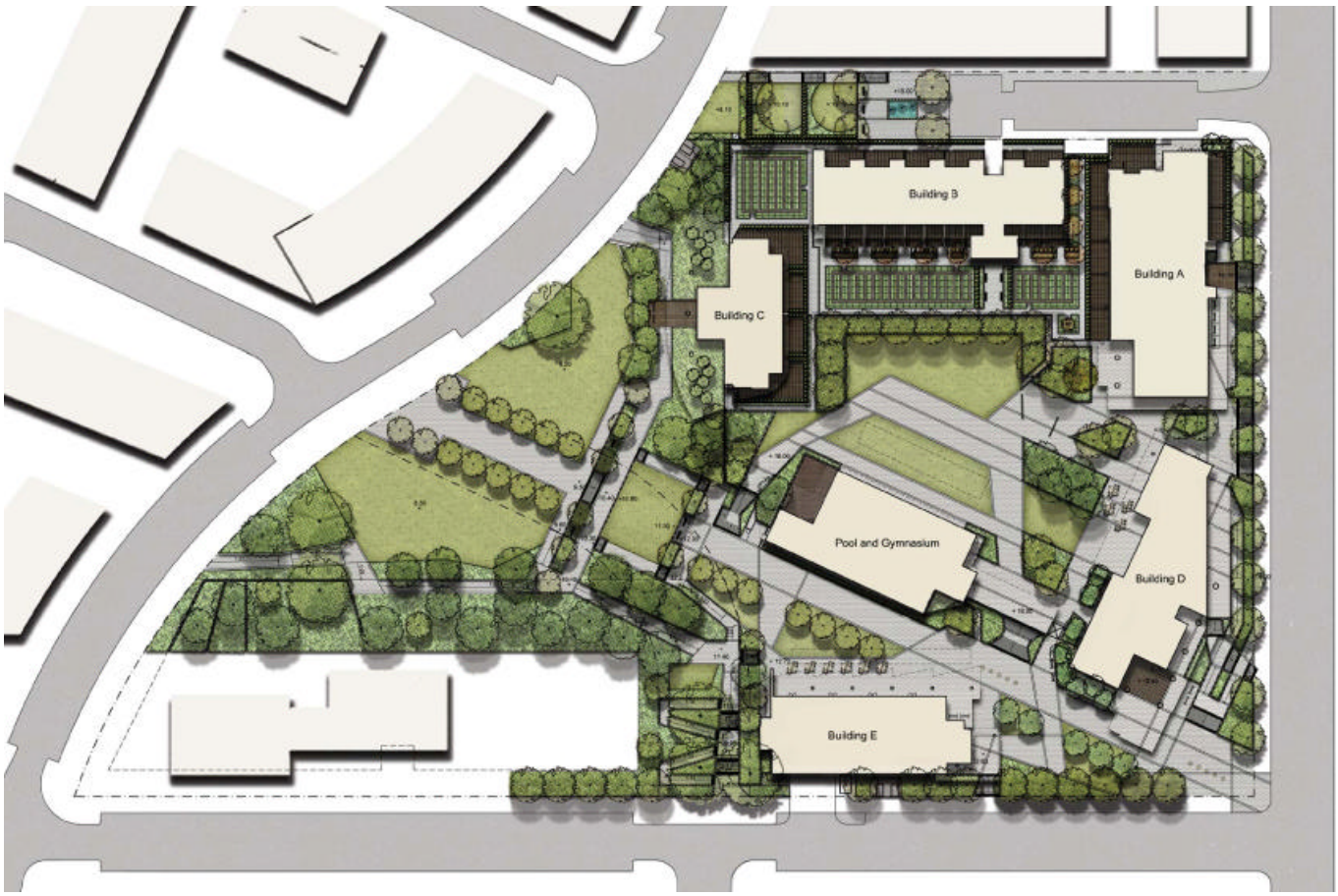


Figure 23. Site Landscape Plan
The design of public open space areas is indicative and will be subject to a separate Part 4 Development Application.

Figure 24 shows those areas of the site that are proposed as public open space, and to be dedicated to Council. The total public open space comprises 11,530m^2 of the site (55.8%) comprises public open space. The VPA between the Proponent and Council requires the provision of 11,030m^2 of public open space to be provided on the site including the Timbrol Avenue pocket park fronting Shoreline Avenue, which is to be dedicated to Council free of cost.

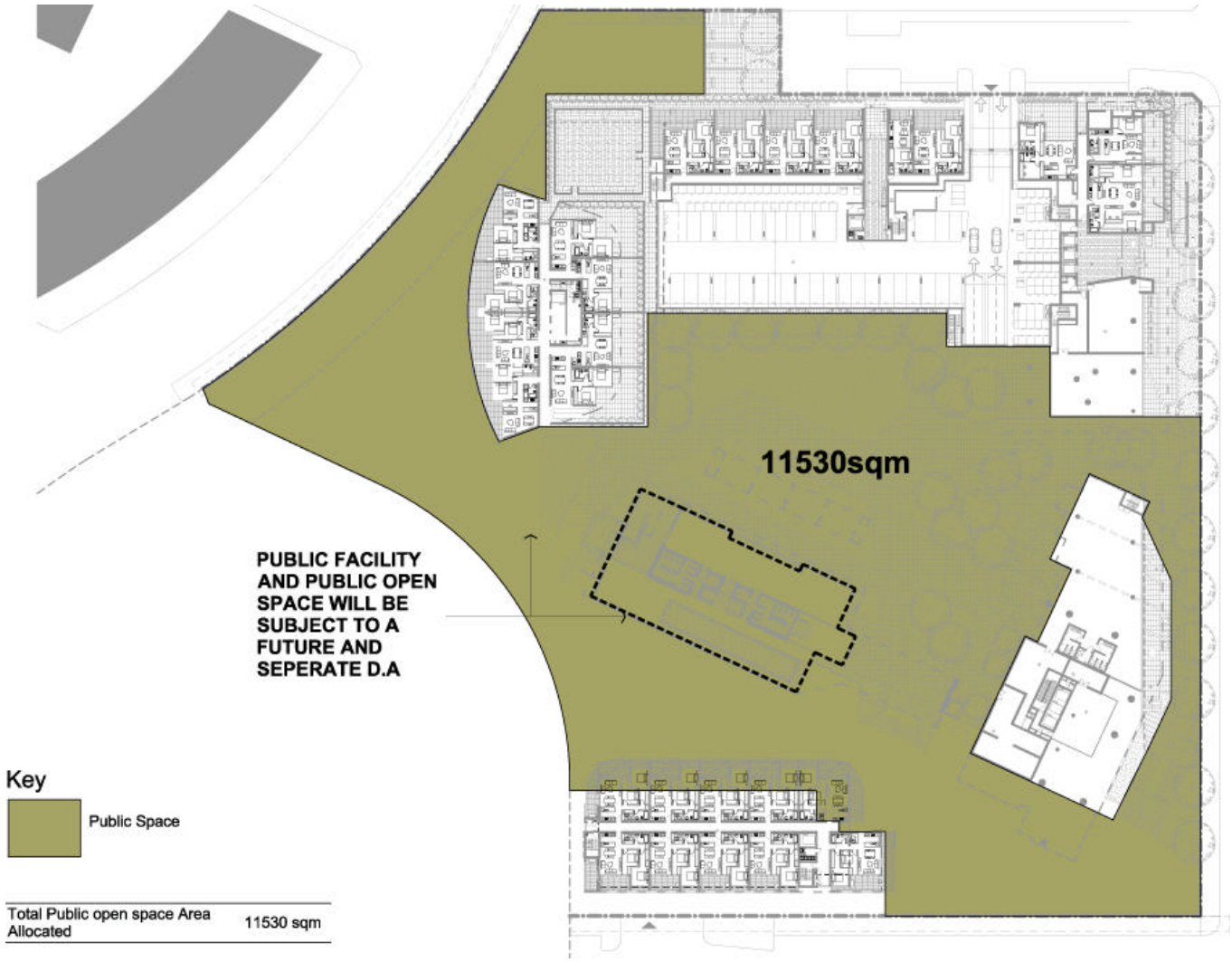


Figure 24. Proposed public open space
An A3 version of the proposed public open space dedication land. The public open space and public facilities will be subject to a separate Part 4 Development Application.

Common open space

In addition to the public open space a total of 1554m^2 of common open space accessible to residents and their visitors is provided for the private residential buildings, as follows:

- **Building A and B**: 992.8m^2 – Landscaped roof terrace above the car park between Building B and the podium level public park (**Figure 25**);
- **Building C**: 382.9m^2 – Landscape terrace at Podium Level (**Figure 27**); and
- **Building D**: 179.4m^2 – Landscaped roof terrace at Level 07 (**Figure 26**).
- **Building E**: 259.5 m^2 – Landscaped terrace fronting Gauthorpe Street (**Figure 27**).

Ground level apartments in Buildings B and E have garden courtyards fronting Timbrol Avenue and Gauthorpe Street respectively and all units have at leave one balcony for private open space.

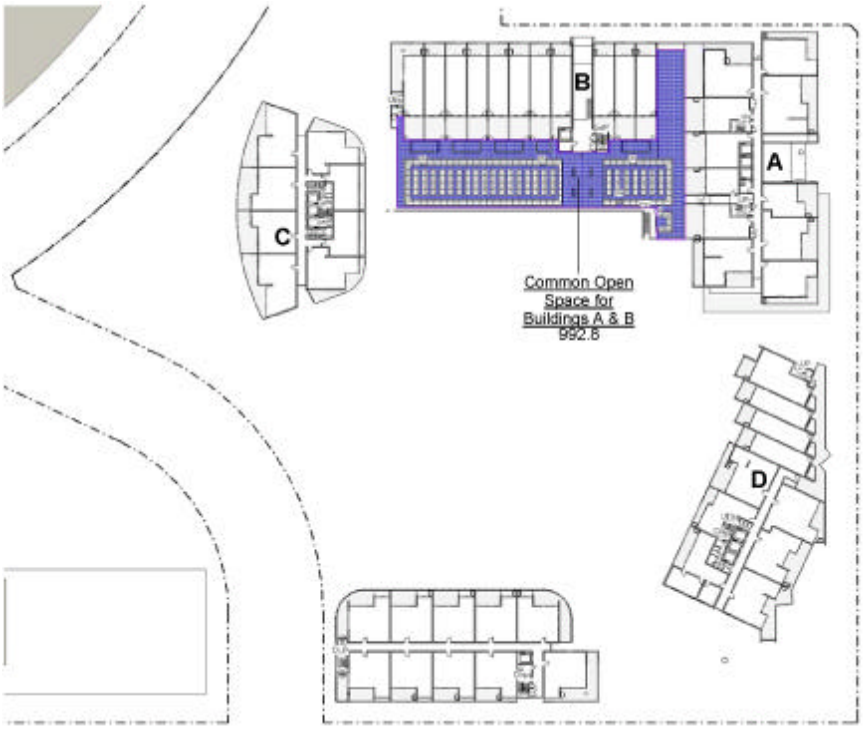


Figure 25. Common open space for Buildings A and B

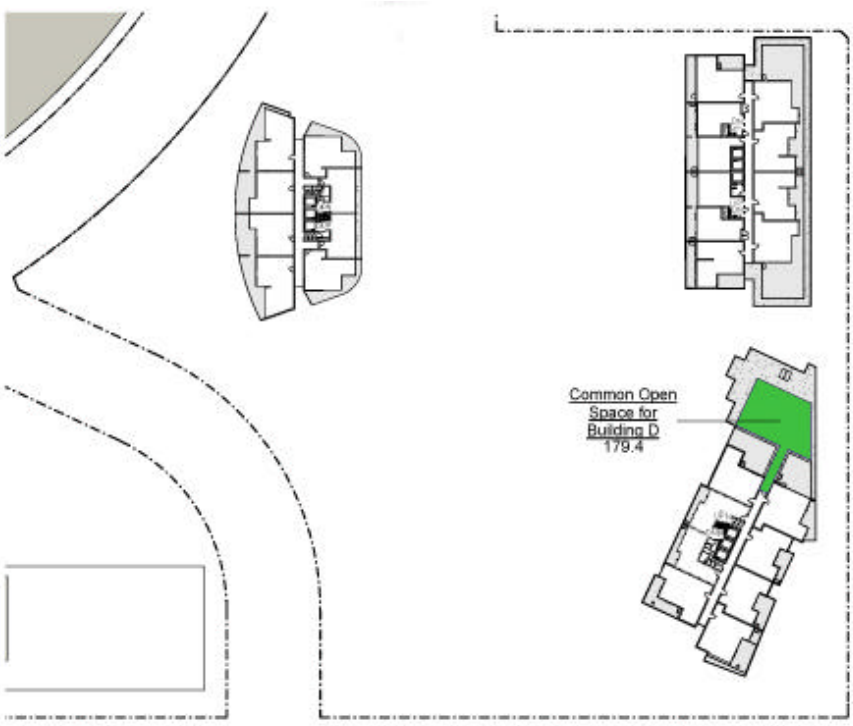


Figure 26. Common open space for Building D

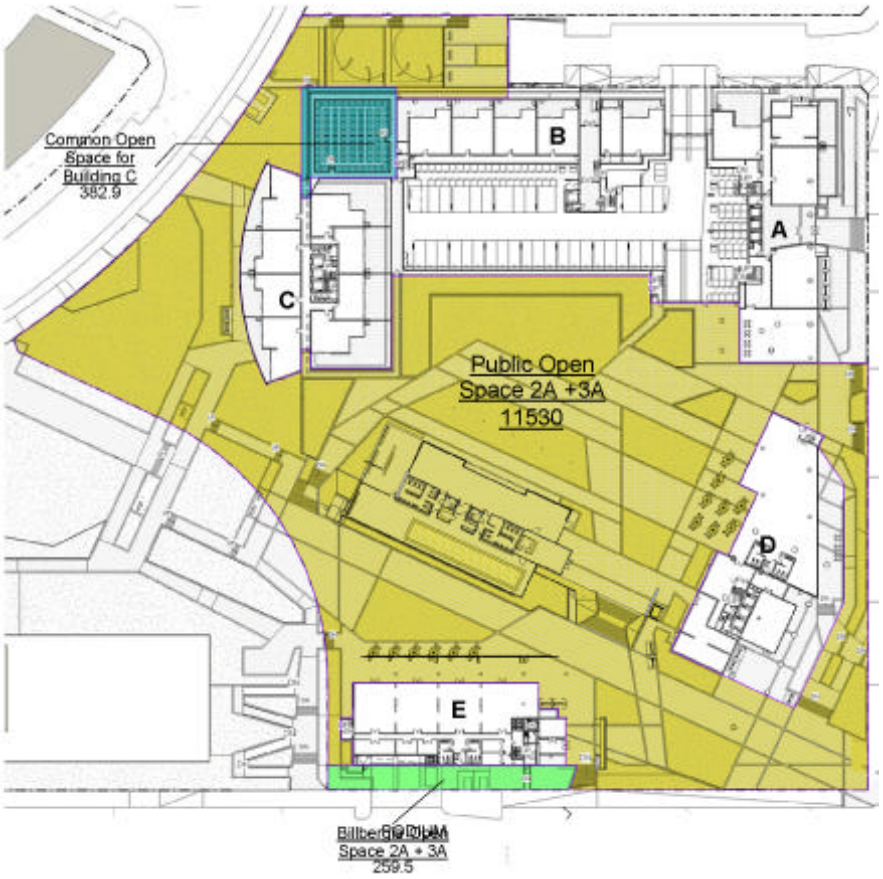


Figure 27. Common open space for Building C and E
The public open space and public facilities will be subject to a separate Part 4 Development Application.

4.14 Walker Street upgrade works

The subject site has an eastern frontage to Walker Street. The Rhodes DCP contains objectives and controls for the upgrade of Walker Street. The Walker Street upgrade works require new footpath, kerb and guttering, parallel parking street lighting, tree trees on both sides of the street.

The Proponent has had extensive consultation with Council at the time of the Site 1A Major Project Application MP 0110 for the multi-unit housing development for 256 units, approved by the Minister for Planning. The Proponent continued this consultation with Council in term assessment and approval of Development Consent No. DA423/2008 for the multi-unit housing development comprising 289 units at Site 2A.

Civil design drawings of the Walker Street upgrade works presented to Council are provided at **Appendix W**, along with Council's in-principle approval of Stage 1 of the upgrade works fronting Site 1A, with their required amendments. The proponent will continue to work with Council in the delivery of these public domain works to ensure their orderly delivery prior to the occupation of the adjoining building stages on Sites 2A and 3A, in accordance with Council's requirements. **Figure 28** provide a section through Walker Street, showing the proposed upgrade works committed to by the Proponent for the full width of the street. Street tree plantings are not shown on this engineering drawing, however street trees will be provided in accordance with the Precinct B Public Domain DA 89-4-2005 consent granted by the Minister for Planning.

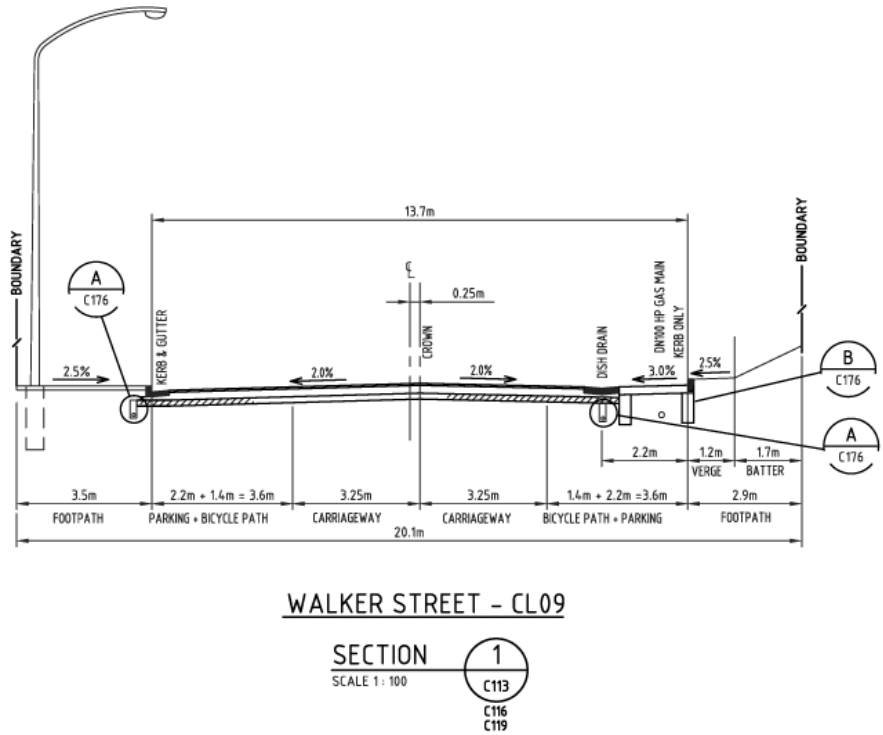


Figure 28. Walker Street upgrade Section
Refer to **Appendix W** for full set of civil drawings for the proposed Walker Street upgrade. Street tree planting is to be in accordance with the public domain DA.

4.15 Pedestrian access and cycling

The proposed development has been designed in accordance with the Building Envelope Plan applicable to the site within the Rhodes West DCP. Proposed pedestrian and bicycle linkages align with the DCP prescribed linkages. The proposed Landscape Plans at **Appendix F** illustrates the landscape treatments for the public domain linkages. Specifically, the following pedestrian linkages are proposed:

- Diagonal link from the corner of Gauthorpe Street and Walker Street through to Shoreline Park South and Shoreline Drive;
- Link between Building A and D from Walker Street to the upper podium level of Shoreline Park South; and
- Link between Building E and the adjoining Site 3B future development along the alignment of Marquet Street.

Pedestrian access is available from all street frontages to the proposed buildings either by way of direct access to podium level residential units or to common lift lobbies.

An assessment of the accessibility and equitable access of the proposed development including the public domain and pedestrian linkages is provided by Morris Goding Accessibility Consultants at **Appendix G**. Access to the public plaza and podium level is located between building D and E, providing pedestrian access to the public and retail areas of the development from the Walker Street footpath and Shoreline Park South from Shoreline Avenue. The access pathways will allow a person using a wheelchair adequate circulation areas to turn 180 degrees, compliant with the DDA Access Code.

There are two stairs from the plaza and 1 stair from Walker Street which provide entry access up to podium level (srl16.00). This level incorporated public space, a resident common space building and retail tenancies. A passenger lift adjacent to stair (near Building D) provides an accessible entry and path of travel from the plaza to podium level for people using wheelchairs in accordance with AS1428.1. Alternate access is available with access pathways to the podium level from Walker Street

Bicycle linkages will generally following pedestrian linkages through the site connecting with public street frontages, which contain commuter (Walker Street), local (Shoreline Avenue and Gauthorpe Street) and recreation cycleway (Foreshore Reserve). Bicycle parking is provided in convenient locations close to each building entry and the retail tenancies. Adequate and safe lighting is to be provided within the public domain to promote pedestrian activity in the evening and at night.

Locating the vehicle entries on secondary streets will avoid impacting pedestrian flows and amenity on the primary street frontages so that pedestrians accessing the retail tenancies and key through site links will not be adversely impacted.

4.16 Accessibility

An Accessibility Assessment has been prepared by Morris-Goding Accessibility Consulting (given in **Appendix G**), which provides strategies for maximising the reasonable provision of access for people with disabilities. The development was reviewed to ensure that ingress and egress, paths of travel, circulation areas, lifts, toilets, adaptable units and car parking is compliant with the relevant statutory guidelines.

The following standards are used to implement the objectives of the accessibility report:

- AS 1428.1 '*General requirements for access*';
- AS 1428.2 '*Enhanced and additional requirements*';
- AS 1428.4 '*Tactile ground surface indicators*';
- AS 4299 '*Adaptable housing*';
- Disability Discrimination Act 1992;
- The Building Code of Australia; and
- The Rhodes West DCP.

The Morris Goding Accessibility Consultants report provides that:

> *"In general, the development has accessible paths of travel that are continuous through. In line with the reports recommendations, the proposed development has demonstrated an appropriate degree of accessibility. The Project Application drawings indicate the compliance with statutory requirements, pertaining to site access, common area access, accessible parking, accessible sanitary facilities and adaptable accommodation, can be readily achieved".*

The accessibility report confirms that the proposed development is consistent with all accessibility requirements relevant to the proposal. The key recommendations from the access review include:

(i) Ensure an accessible path of travel to the podium level and main entry doors of buildings A-E from surrounding footpaths compliant with AS1428.1.

(ii) Ensure a continuous accessible path of travel at podium level between buildings A, B, C and D compliant with AS1428.1 to enable equitable access to common use residential facilities and public space from various building levels.

(iii) Ensure an accessible path of travel from the accessible visitor car spaces to the Building D lift facilities on basement Level 2, compliant with AS1428.1.

(iv) Ensure all main entry and common use doors provide at least one active leaf 850mm clear width and appropriate latch side circulation space compliance with AS1428.1-2009.

4.17 Safety and security

The design of the proposed development has been assessed as satisfying the principles of Crime Prevention Through Environmental Design (CPTED) as outlined below, and includes both passive and more direct (e.g. access cards', restricting access to the residential component) means of crime prevention and control.

The proposed design accords with the principles of CPTED as described by DUAP (now the Department of Planning) guidelines *"Crime Prevention and their Assessment of Development Applications, 2001'*. The principles and how the proposal has been designed to address them are described below:

Surveillance

Clear sightlines between private dwellings and the public open spaces are maintained by orientation of living areas toward the street frontages, and appropriate plantings of low- trees and shrubs at the private/public domain interface. 'Screen plantings' that obscure clear sightlines are avoided, and the level of lighting along the streets and footpaths and foreshore walkway and cycleway (as proposed in the open space and public domain DA-89-4-2005) will achieve good surveillance without compromising the amenity of residents. All common landscaped spaces, including the internal courtyard and civic plaza, have a degree of openness and overlooking from residences and the public domain, which should act to deter unwanted behaviour.

Vehicle and pedestrian access points to the site are clearly visible from living rooms and private open space of individual units.

Access control

A Security System for the development will provide access to residents through the use of 'proximity cards', and intercom access to guests for both pedestrian and vehicular access.

Territorial reinforcement

The differentiation of the public domain from private open spaces is clear and unambiguous. The public domain is strongly defined by streets, with street-fronting buildings, and open spaces with physical edges defined made clear through somewhat narrow pedestrian entrances to the central space, and a slight raising of this area from the street level; providing an appropriate threshold between ground level and the footpath level for good surveillance and definition of the private domain to distinguish it from the surrounding public streets.

The positive orientation of buildings to address public spaces and the landscape treatment of the public open space (proposed in DA89-4-2005) as shown at the western ends of Timbrol Avenue, combine to create a sense of local identity to the development. The distinctive character and high quality of the open spaces within the site and along the foreshore and in the streets that adjoin the site mean that it is likely to be well-used and enjoyed by new and existing residents, which will help to create a sense of community ownership of the public domain. This will increase the degree of passive surveillance of the area, and should in turn reduce opportunities for crime.

Space management

The public open space areas identified as Shoreline Park South, will be publicly accessible and remain open to public use. These spaces will be dedicated to Council following their embellishment.

Details of the public access to the public plaza, including an easement for unrestricted public access, are to be registered with the subdivision of the site.

4.18 Stormwater management

The proposed stormwater management concept design has been prepared by Cardno and is provided in the documentation at **Appendix H**. The Services Report, summarises the stormwater concept design as comprising the following elements:

- Gravity stormwater drainage will be provided from the roof areas to cater for a 1:20 and 1:100 year storm and will gravitate to the Sydney Water controlled drainage system in the adjacent streets.
- All pipework will be suspended and reticulated to the perimeter of the site where it is will drop vertically to pipework under the footpath and road.
- An onsite stormwater detention (OSD) tank is not required. The site will be provided with a communal recycled water connection. The recycled water will be used for toilets, laundries and landscape irrigation.
- A rainwater harvesting tank will intercept roof water run-off and re-use the water for the purpose of landscape irrigation.
- The stormwater drainage system will be designed in accordance with Canada Bay Council current stormwater guidelines, “Australian Rainfall and Runoff” and AS3500 the National Drainage and Plumbing Code.

4.19 Waste management

The Director General’s Environmental Assessment Requirements requires the submission of a Waste Management/Garbage and Recycling Management Plan which provides details of the proposed design to garbage and recycling bin/storage facilities and collection arrangements in accordance with Council’s new requirements. Council’s new waste and recycling requirements are outlined in the DCP.

Elephants Foot Waste Compactors Pty Ltd has prepared a Waste Management Report for the operational phase of the development. Refer to **Appendix J**.

In summary the report outlines the waste and recycling requirements for the proposed development in terms of the amount of water and recycling materials generated by the development and the proposed measures to handle, storage and collect waste and recycling materials from the site.

Waste management system

The architectural drawings at **Appendix B** show one cute per core in each proposed buildings with an inlet on every residential and retail levels and an area for a recycling bin in each chute inlet room.

Waste handling

Al residential and retail operators will deposit their garbage in the chute at each level. Elephants Foot recommend the use of 660 litre bins and compactors located at the base of each chute.

For recycling each garbage rooms on the levels are provided with an area for a 240 Litre recycling bin for occupants to deposit the recycling material. The caretakers/cleaners responsibility will be to exchange the recyclable bins and store them in the central garbage rooms within the basement levels ready for collection.

Garbage rooms and bins

A central garbage holding room is located beneath Building E. The room is accessible from Gauthorpe Street and is to be accessed by Council's Garbage collection service (or private contractor). It will be the responsibility of the caretaker to transfer all bins to the main holding room from the garbage rooms beneath each chute ready for collection.

The garbage room is to contain a total of 72 x 660 litre garbage rooms and 370 x 240 litre recycling bins, including all residential and retail waste.

Garbage chute and compactors

The proposed development incorporated chutes and compactor systems throughout all buildings in accordance with the Rhodes West DCP controls. Chute systems are designed to accommodate all general garbage waste from the residential units and retail tenancies. Residents and retail tenants will be able to drop garbage down the chutes at each level of the building, where compactors will reduced the volumes of waste to enable a more efficient storage of waste on site to await on-site collection.

Waste collection

The Waste Service trucks will enter the basement level from Gauthorpe Street and will reverse to the double doors of the garbage room and empty all bins into the truck. The recycling and garbage bins are to be stored in separate areas of the waste holding room.

The Waste Management Plan recommends that garbage collection should occur twice weekly given the large number of bins generated by the proposal. **It is understood from discussions with Council's Waste Services Coordinator, that Council may offer the twice weekly collection for the development**.

Garbage rooms construction recommendations

The Waste Management Plan includes recommendations for the construction of the garbage rooms in order to minimise odour and to minimise impacts on adjacent residential and retail users to maintain amenity and safety. **The Proponent commits to the recommended construction requirements for the proposed garbage rooms.** Refer to the draft Statement of Commitments.

4.20 Consistency with Building Code of Australia and fire safety

Blackett Maguire + Goldsmith Pty Ltd were commissioned by Billbergia Developments Pty Ltd to undertake a BCA assessment for the proposed development. Refer to report at **Appendix K**. The purpose of the assessment is to undertake a preliminary assessment against the deemed to satisfy provisions of the BCA ad identify any BCA compliance issues that require resolution for the proposed development.

The report states that:

> *"arising from the review, it is considered that the proposed development can achieve compliance with the relevant provisions of the BCA, by virtue of compliance with BCA Deemed-to-Satisfy provisions or Alternative solutions, following confirmation from the Fire Safety Engineer for the project".*

A schedule at Appendix 1 of the BCA assessment report provides fire safety measures that are to be implanted throughout the entire development. The fire safety measures are to satisfy Clause 168 of the *Environmental Planning and Assessment Regulation 2000".*

4.21 Operation and maintenance

The subject site comprises areas of private residential use including private open space, communal residential areas comprising common facilities, open spaces and common rooms, private retail use (with public access), and public open space for unrestricted public open spaces

The private residential areas including common facilities accessible to residents and their visitors will be managed as strata titled developments, with common areas will be the responsibility of a body corporate. This management arrangement will include the communal facilities in the podium building containing a swimming pool and gymnasium.

Strata application will be sought prior to occupation of the development for the engagement of Council waste collection services.

The strata subdivision of the development is intended to be sought from the City of Canada bay Council as part of a future Development Application.

5 Regulatory context

5.1 Metropolitan planning context

Consistency with the metropolitan strategy and other metropolitan planning and transport strategies have largely been addressed through the adoption of the proposed additional floor space under the Draft Rhodes West LEP and adopted DCP. This section of the report demonstrates that proposed development is highly consistent with the broad strategic planning and transport objectives, that have been imbedded in the policies of urban consolidation in Sydney for the past 20 years.

The proposed development is an exemplary example of the type of developments, promoted throughout these planning policies.

NSW State Plan 2010

The State Plan includes targets for the following key priorities for the State Government for NSW. A response as to how the development will assist in the achievement of these State targets is provided below:

Better Transport and Liveable Cities

Improve the public transport system

- The proposed development is located in an area where the State Government has committed additional train and bus services, which will benefit existing and future residents at Rhodes.

Provide reliable public transport

- Additional train and bus services to Rhodes will mean more frequent services. The transport providers will be responsible for service reliability.

Improve the road network

- The proposed development will provide additional funding through Section 94 contributions and contributions as part of the Voluntary Planning Agreement for local road upgrades.

Increase walking and cycling

- The site is located within easy walking distance of the Rhodes Waterside shopping centre, public open space. Cycleway existing and are proposed to be expanded to link the foreshore with the Railway station and beyond to the Bicentennial parklands and Sydney Olympic Park. The proposal included through site pedestrian links with active retail street frontages which will promote walking to local destinations.

Increase the number of jobs closer to home

- The proposal is for high density development with local shops and communal facilities within close proximity to Rhodes Corporate Park and the commercial offices at Rhodes West.

Grow cities and centres as functional and attractive places to live, work and visit

- The proposal development is generally consistent with Council's urban design vision for Rhodes outlined in the Draft Rhodes West LEP and Rhodes West DCP.

Improve housing affordability

- The proposed mix of apartments will improve housing affordability by providing predominately 1 and 2 bedroom units.

Supporting Business and Jobs

Speed up planning decisions

- Draft Rhodes West LEP has been prepared through the Gateway LEP process which was interned the stream line and speed up the processing and provide certainty for the consideration of rezoning proposals.

Healthy communities

Promote healthy Lifestyles

- The proposal included 1.16 Ha of public open space to be dedicated to Council. The open space provides recreational opportunities for residents.

Green State

Tackle climate Change

- The proposal will assist in the reduction of green house gas emissions through efficient energy use. The proposal goes beyond BASIX in terms of energy reduction targets.

Improve air quality

- The proposal complies with Council's car parking rates for residential development and no car spaces are provided for the non-residential uses which are to service local walk up customers. The restricted car parking ratios will aim to promote public transport usage and walking and cycling, which will inturn reduce carbon and particulate emissions from private mote vehicles..

- An Air Quality Management Plan including dust controls measures is to be prepared prior to the commencement of construction and implemented on site throughout the construction processes.

Reduce waste

- A Waste Management Plan has bee prepared for the proposed residential and retail uses that aims at minimising the amount of waste that goes to land fill, through the use of chute and compactor systems in each building in accordance with the Rhodes DCP.

Sydney Metropolitan Strategy

The Sydney Metropolitan Strategy provides a target of 60-70% of new dwellings to be located within existing centres. Rhodes is identified as a "Specialised Centre" and is considered an appropriate location for additional housing due to its location in proximity to public transport, local services as well as employment opportunities. Placing new house close of jobs is a key principle of both the NSW State Plan as well as the Sydney metropolitan Strategy. The strategy sets a target to increase the proportion of people living within 30 minutes by public transport to a strategic centre.

Draft Inner West Subregional Strategy

The Draft Inner West Subregional Strategy identified Sydney Olympic Park as a specialised centre and forms part of the Olympic Park-Rhodes Precinct.'

The Draft Strategy states that Rhodes is to undergo substantial residential growth to 2031. The City if Canada Bay Council has a dwelling target of 10,000 dwellings by 2031.

The Strategy also identified the need to locate housing in sustainable locations with good access to public transport. The overall view for Rhodes West as a Specialised Centre linked to Sydney Olympic Park is for a highly living, well connected place, with employment access and good amenity.

Metropolitan Transport Plan 2010

The NSW Premier announced in February 2010 that as part of the new Metropolitan Transport Plan: Connecting the City of Cities, a proposed new upgrade of the Western Express City Rail Service would mean that extra capacity on the system would be greater and specifically, four additional services on the Northern Line to the CBD via Rhodes would be achieved.

The additional rain loading due to the additional development at Rhodes, resulting from the Draft Rhodes West LEP is expected to be approximately 10% of the capacity of a single train and thus train capacity is not expected to be an issue, which has been confirmed by State Rail to the City of Canada Bay Council.

The Metro Transport Plan 2010 also provided funding for the completion of 43 strategic bus corridors across Sydney. In relation to Rhodes, it is understood that Sydney Buses recently advised Council that a new bus route, Metro Bus Route M41, providing a service between Hurstville and Macquarie Park, will be in operation from mid 2011. The new service will have stops along Concord Road and will therefore be accessed by residents of the subject development. It is further understood that Council will lobby Sydney Buses to provide a diversion of this route to Rhodes Railway Station.

Integrating Land Use and Transport policy package, NSW Department of Planning, 2005

The Integrating Land Use and Transport policy package was introduced in 2005 with the following aim:

- *to ensure that urban structures, building forms, land use locations, development designs, subdivision and street layouts achieve the following planning objectives, relevant to the proposed development:*
    - *Improving access to housing, jobs and services by walking, cycling and public transport.*
    - *Increasing the choice of available transport and reducing dependence on cars.*
    - *Reducing travel demand including the number of trips generated by development and the distances travelled, especially by car supporting the efficient and viable operation of public transport services.*

The proposed development is consistent with the Integrating Land Use and Transport Policy as it:

- Improve access for new residents to public transport by locating higher densities of development within easy walking distance of Rhodes Railway station;
- Increased train and bus services at Rhodes and in the Concord Road corridor as part of the State Government's Metropolitan Transport Plan 2010 to service the high density residential development, commercial offices and shopping entire uses;
- Car parking rates for residential uses have been lowers to promote public transport use, whilst maintain visitor car parking rates to minimise the impact of developments on on-street car parking;
- Locating higher density development in a location that is well services by retail uses within walking and cycling distance to minimise the
- Integrating local retail uses within the development to further reduce the number of trips made by cars for local daily grocery needs.
- Incorporating a range of recreational pursuits on the subject site to complement the existing recreation opportunities available in the region

5.2 State legislation

Environmental Planning and Assessment Act 1979 (EP&A Act 1979)

The Following key provisions of the EP&A Act 1979 are addressed in this section of the report:

- Section 5 Objects of the EP&A Act 1979
- Section 75B: Projects to Which Part 3A applies
- Sections 75D-75L: Environmental Assessment and approval of projects
- Section 93F: Planning Agreements
- Section 94: Development Contributions

Section 5: Objects of the EP&A Act 1979

The objects of this Act are:

(a) to encourage:

(i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,
(ii) the promotion and co-ordination of the orderly and economic use and development of land,
(iii) the protection, provision and co-ordination of communication and utility services,
(iv) the provision of land for public purposes,
(v) the provision and co-ordination of community services and facilities, and
(v) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and
(vi) ecologically sustainable development, and
(vii) the provision and maintenance of affordable housing, and

(b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and

(c) to provide increased opportunity for public involvement and participation in environmental planning and assessment.

The proposed development is consistent with the objects of the Act, as it:

- is generally consistent with the Draft Rhodes West LEP and DCP that seek to manage development at Rhodes West;
- achievements an orderly and economic use and development of the site;
- is to be serviced by all necessary utilities that are to be augmented to meet the increased demand from the development;
- creates an additional 1.16 hectares of public open space to be

dedicated to Council following its embellishment;

- facilitates the development of additional community facilities and services through the implementation of a Voluntary Planning Agreement with the City of Canada Bay Council;
- promotes a compact city form by located new development in existing areas. This avoids impacting areas of ecological sensitivity;
- is an example of ecologically sustainable development through high water and energy efficiency performance, proximity to multiple forms of non-car transport and employment of waste minimisation strategies.
- the sharing of assessment functions between the Department of Planning and the City of Canada Bay Council through the Minister's Instrument of Delegation; and
- the public exhibition of the Project Application in accordance with Part 3A of the EP&A Act 1979 allows for community input into the assessment of the project, continuing the consultation processes undertaken during the Gateway LEP processes.

Section 75B: Project to which Part 3A applies

Section 75B of the EP&A Act 1979 established the process by which particular major projects are approved by the Minister for Planning.

Under Part 3A of the EP&A Act 1979, the Minister can give (or refuse) approval to the carrying out of a project which is the subject of a Project Application. Approval can be given with such modifications of the project or on such conditions as the Minister may determine. The Minister for Planning can declare that Part 3A of the EP&A Act 1979 applies to a project, where the project is identified under an Environmental Planning Instrument.

State Environmental Planning Policy (Major Development) 2005 defines those developments which are Major Projects under Part 3A of the EP&A Act 1979. Clause 6(1)(a) of the Major Development SEPP states that major projects are: *"Development that in the opinion of the Minister, is development of a kind that is described in Schedule 1 or 2…".*

Schedule 1 of the Major Development SEPP lists project types, which are Part 3A projects. Clause 13 of Group 5 of Schedule 1 states that:

> *(1) Development for the purpose of residential, commercial or retail projects with a capital investment of more than $100 million.*

The Director General, as a delegate of the Minister for Planning declared under Clause 6(1) that the project was a Major Project, which Part 3A applies on the 27 August 2010. A copy of the Clause 6 Declaration recording the Minister's opinion that the project is one to which Part 3A applies is provided at **Appendix P**.

Sections 75D-75L: Environmental Assessment and approval of projects

Sections 75D-75L sets out the procedures for major Project Assessments, preparing Environmental Assessments for Part 3A projects, requirements for the Minister's approval of such projects, the requirement for Director General's Requirements (DGRs) to be issued, public consultation, and the appeals rights of the Proponent and Objectors.

Section 93F: Planning Agreements

Section 93F of the EP&A Act 1979 sets out the requirements for preparing Planning Agreements. A voluntary Planning Agreement (VPA) has been entered into by the Proponent and City of Canada Bay Council at the time of the gazettal of Local Environmental Plan Rhodes West, with the uplift in floor space area.

The VPA applying to the subject site is addressed in detail in **Section 6** of this report, having regard to the key issues of the DGRs in relation to development contributions.

Under the VPA Billbergia Development Pty Ltd is required to dedicate land free of cost in the form of public open space, pay a monetary contribution, as well as provide other material public benefits that are to be used for and applied towards a public purpose.

Specifically, the Voluntary Planning Agreement, relates to the provision of the following public benefits:

Dedication of land free of cost

- 11,030m^2 of public open space land
- The dedication of the embellished public open space is to be undertaken in stages following the staged development of the site in accordance Part B of Schedule 4 of the VPA.

Embellishment work

- Embellishment of public open space land at a cost of 450 per square metre, which equates to a value of $4,963,500.00;

Monetary contribution

Under Section 3.1 of the Voluntary Planning Agreement the monetary contributions payable by Billbergia Developments towards public benefits are outlined as follows:

(a) $1,000 for each square metre (or part thereof) of Additional Gross Floor Area in the development that it to be used for the purpose of retail premises within the meaning of the Amended LEP;

(b) $588.24 for each square metre (or part thereof) of Additional Gross Floor Area in the Development that is to be used for business premises within the meaning of the Amended LEP; and

(c) $588.24 for each square metre (or part thereof) of Additional Gross Floor Area in the Development that is to be used for residential accommodation within the meaning of the Amended LEP.

The timing of payment of the monetary contributions is provided in Schedule 3 of the VPA, related to the staged development of the project.

The monetary contribution is for the following public purposes:

- Embellishment of public open space including public toilets in Point Park and other embellishment and public facilities above the current standard of landscape embellishment and facilities provision considered as acceptable for the Rhodes Peninsula based on the Renewing Rhodes Contributions Framework dated November 2001 (Planning Framework); and the Renewing

Rhodes Development Control Plan 2000 adopted in November 2001;

- Upgrading of roads and footpaths in Rhodes (East and West) to improve access and traffic flows; vehicular, cyclist and pedestrian safety and management; in and out of the Peninsula; and to improve amenity and safety generally above and in addition to that required in the Planning Framework and Renewing Rhodes Transport Management Plan dated November 2001;
- Bicycle storage and user facilities in addition to those facilities which would have had to be provided under the current Planning Framework and Transport Management Plan;
- Facilities associated with car share scheme, but only those which are available to the general public;
- Construction of a community facilities building.

A copy of the exhibited Voluntary Planning Agreement is provided at **Appendix O** of this report. It is noted that since the exhibition of the VPA, the document has been signed by the City of Canada Bay Council and the Proponent.

Section 94: Development Contributions

Section 94 of the EP& A Act 1979 states that:

(1) If a consent authority is satisfied that development for which development consent is sought will or is likely to require the provision of or increase the demand for public amenities and public services within the area, the consent authority may grant the development consent subject to a condition requiring:

(a) the dedication of land free of cost, or
(b) the payment of a monetary contribution,
or both.

In addition to the public benefits, dedication of public open space and monetary contributions provided for under the Section 93F VPA, for the additional floor space under the Amended LEP, Section 94 development contributions are also to be levied under the Contributions Framework Plan. The contributions payable under the VPA are additional to the pre-existing contributions framework for Rhodes, established under SREP 29: Rhodes Peninsula. Refer to **Section 6** of the report for further detailed consideration of Section 94 development contributions, applying to the subject site and proposed development.

5.3 State Environmental Planning Policies

SEPP 65 – Design Quality of Residential Flat Development (SEPP 65)

SEPP 65 applies to the proposed development, which includes development defined under the SEPP as 'residential flat development', in that is meets the criteria being 'three or more storeys' and consisting of 'four or more self-contained dwellings'.

Table 10 provided a summary of the proposal's consistency with the design quality principles of SEPP 65. The comments provided are taken from the Design Verification Statement prepared by John Pradel and Adam Haddow, Registered Architects and Directors of SJB Architects.

The Design Verification Statement provides assurance from the project's design architects that the proposal has been designed in accordance with the Design Quality Principles of SEPP 65.

Table 10. SEPP 65 Design Quality Principles

SEPP 65: Design Principles	Consistency	Comments
Cl. 9 Principle 1: Context *Good design responds and contributes to its context. Context can be defined as the key natural and built features of an area.* *Responding to context involves identifying the desirable elements of a location's current character or, in the case of precincts undergoing a transition, the desired future character as stated in planning and design policies. New buildings will thereby contribute to the quality and identity of the area.*	Yes	"The subject land comprises a single allotment with a total site area of 20,675 sqm. The site has frontage to Shoreline Ave, Timbrol Avenue, Walker Street and Gauthorpe Street. The site was the subject of a previous Masterplan and has since undergone an extensive redesign to suit an increased density and reconfiguration of major thoroughfares. The redesign was undertaken with the assistance of a Council appointed Urban Designer and the new configuration was extensively documented in a DCP. There will be significant development of the surrounding precincts over the next 10 year period and it is within this framework that the design has been developed. The area is characterised by a mix of some retail and commercial properties and a significant number of apartment buildings ranging in height from 3 levels to 25 levels. Our proposal responds to its context by providing a series of appropriately scaled buildings with a mixture of both residential and retail space. The development has an appropriate street presentation as illustrated in the submitted elevations and three dimensional diagrams and is respectful of the scale and privacy of its neighbours. In view of the above, the proposed development is appropriate in its context".
Cl. 10 Principle 2: Scale *Good design provides an appropriate scale in terms of the bulk and height that suits the scale of the street and the surrounding buildings.* *Establishing an appropriate scale requires a considered response to the*	Yes	"The recently approved Development Control Plan establishes the desired height and scale of the site and the proposed development generally complies in this regard. Buildings vary in height from 6 levels up to 25 levels and have been carefully placed to minimize impact on adjoining properties and within the subject site. There are minor variations to the DCP controls and these have been highlighted in the Environmental Assessment along with

SEPP 65: Design Principles	Consistency	Comments
scale of existing development. In precincts undergoing a transition, proposed bulk and height needs to achieve the scale identified for the desired future character of the area.		appropriate reasons. Careful consideration has also been given in designing the location and scale of buildings to suit the future surrounds".
Cl. 11 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.*	Yes	"The form of the buildings are responsive to relevant DCP controls and the surrounding context. The building forms are responsive to the objectives of good design which call for, • Variety in the use of materials, • Clear distinction to different uses, • Ensuring that view corridors are protected, • Providing a diversity in apartment types, • Providing visual and acoustic privacy, • Provision for clear and safe entry points to the buildings, • Provision for entry to units from the footpath \ internal courtyards, and • Screening of any roof top plant rooms In view of the above the proposed development is considered to be consistent with the objectives".
Cl. 12 Principle 4: Density *Good design has a density appropriate for a site and its context, in terms of floor space yields (or number of units or residents).* *Appropriate densities are sustainable and consistent with the existing density in an area or, in precincts undergoing a transition, are consistent with the stated desired future density. Sustainable densities respond to the regional context, availability of infrastructure, public transport, community facilities and environmental quality.*	Yes	"The proposed development is consistent with the controls that relate to the site and the maximum allowable GFA identified in the DCP. The design also responds to this unique consolidated 'brownfield' site where the DCP recognizes a significant density opportunity with focus on major open public access areas. The proposed density has been comfortably accommodated on the site in a manner that does not compromise the amenity of adjacent occupants particularly in respect of solar access, cross ventilation, privacy considerations and relative scale to future development within the general near vicinity".
Cl. 13 Principle 5: Resource, energy and water efficiency *Good design makes efficient use of natural resources, energy and water throughout its full life cycle, including construction.* *Sustainability is integral to the design process. Aspects include demolition of existing structures, recycling of materials, selection of appropriate and sustainable materials, adaptability and reuse of buildings, layouts and built form, passive solar design principles, efficient appliances and mechanical services, soil zones for vegetation and reuse of water.*	Yes	"The proposed design solution is consistent with the principles of SEPP No. 65 particularly through the orientation and design of the units (solar access and ventilation) and the choice of construction materials to reduce heating and cooling costs; the capture of stormwater to provide for irrigation to landscaping and the selection of appropriate planting/landscaping (refer to landscape plan). A comprehensive analysis of the buildings has been undertaken in order to meet BASIX requirements and solar amenity. The Environmental Assessment details the buildings performance in this regard with a conclusion that the design is consistent with the stated objectives. The attached diagrams demonstrate compliance with solar access and natural ventilation".

SEPP 65: Design Principles	Consistency	Comments
Cl. 14 Principle 6: Landscape *Good design recognises that together landscape and buildings 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 in responsible and creative ways. It enhances the development's natural environmental performance 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 character. Landscape design should optimise useability, privacy and social opportunity, equitable access and respect for neighbours' amenity, and provide for practical establishment and long term management.*	Yes	"The proposed development makes provision for planting in common open spaces and areas where the provision of landscaping is practical. Fences and walls are included as vertical landscape elements designed to define boundaries between spaces or to rationalise a change in level. The design of fences and walls has an impact on the real and perceived safety and security of residents as well as on the amenity of the public domain and the identity of the residential development. A landscape design has been provided with the Development Application submission. The drawings include the following principles: • Provision of over 11,030 sqm of publicly accessible open space • Common open spaces for Buildings A to D – with common produce garden areas for • Buildings a, B and C • Use of significant trees and landscape elements to control the effect of wind in public • and common areas • Utilisation of significant planter boxes in common open spaces for planting. • Positive contribution to the streetscape character along Shoreline Ave and Walker and Gauthorpe Streets. • Improved energy efficiency and solar efficiency of dwellings and the microclimate of private open space. • Minimisation of maintenance by using robust landscape elements".
Cl. 15 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.*	Yes	"In conceiving the design the following issues were considered: • Each unit has been provided with a private recreation area (or balcony) that has a functional area and configuration conducive to recreational use. The private recreation areas are directly accessible from the internal living areas and most benefit from good solar access. • Over 69% of units have cross ventilation • Common corridor areas are naturally ventilated and with natural light. • Over 78% of units have a minimum of 2 hours of solar access on June 21 between 9am and 3pm. • Privacy between balconies has been carefully considered. • Effort has been made to avoid balconies or living room windows of dwellings with the development from directly overlooking the windows or balconies of other units. • Day lighting has been considered for the general amenity of all units. The depth of the dwellings has been restricted to maintain reasonable access to natural daylight to all rooms therein. The submitted architectural drawings indicate boundary setbacks and internal distances between buildings and habitable spaces".
Cl. 16 Principle 8: Safety and security *Good design optimises safety and security, both internal to the development and for the public domain.*	Yes	"Design initiatives have been incorporated as follows, • The principle building entrances are significantly marked, have suitable lighting, are clearly identifiable from public zones, and allow for passive surveillance. • The apartment buildings and common landscaped podium

SEPP 65: Design Principles	Consistency	Comments
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 clear definition between public and private spaces.		will be security controlled, • Building entrance is orientated towards the public streets. • The car park layouts are designed to minimise opportunities for alcoves. Columns or walls do not obstruct sight lines and the car parks are generally open and security access will be provided. • Lighting details will be furnished in accordance with Australian Standards at the lodgement of the Construction Certificate. • Direct access is available from the basement to the pedestrian foyers including for disabled access. A CPTED assessment has also been prepared to accompany the submission".
Cl. 17 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 provision of housing to suit the social mix and needs in the neighbourhood or, in the case of precincts undergoing transition, provide for the desired future community.* *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.*	Yes	"The locality has been zoned to permit residential developments based on broad review of the area by the relevant authorities in conjunction with community consultation. The proposed design will assist in realising a large residential precinct on a brown field site. Infrastructure networks have been developed within the near vicinity to allow for development of this scale including the upgrade of the adjacent Train Station and the development of significant commercial and retail precincts. The imminent remediation of the foreshore (which is linked to the development of this project) will also provide a significant public benefit in so far as providing for excellent public space with bicycle and walking tracks. Common area spaces have been provided in each of the 3 towers to promote occupant interaction and spaces which allow for Owner Corporation gatherings. A further significant Common Space has been provided to the central public open space and includes a Gymnasium, 25m lap pool and Steam Bath area. This facility will promote interaction amongst occupants in an environment which moves easily from indoor spaces to external. Common area produce gardens have been provided for the occupants of Bldg's A, B and C. It is envisaged that this will enhance sustainability and social interaction. This proposal also provides for a mix of 1, 2 and 3 bedroom units, thereby providing a range of housing choice which responds to the general market needs. It incorporates a broad range of units with different characteristics and each offers a high level of amenity. The design provides 15% adaptable housing opportunities".
Cl. 18 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 desirable elements of the existing streetscape or, in precincts	Yes	"The proposed building is designed having regard to the future surrounds and development of this Precinct and adjacent Precincts. The proposed development has been suitably treated to include material finishes which have a high aesthetic content and as outlined in the DCP. Particular effort has been made to enrich the public domain experience through an extensive use of landscaping and high

SEPP 65: Design Principles	Consistency	Comments
undergoing transition, contribute to the desired future character of the area.		quality materials including natural stone and textured pre-finished elements. Clever use of lighting in the public design will enhance the overall effect. The upper levels of buildings are more restrained in the use of material and rely on subtle use of geometry to achieve a play on facades and to achieve strong contrast of light and dark. The buildings are capped with roof elements which will provide significant visual interest from near and far. The design aims to be reflective of a contemporary design which also achieves distinctive buildings through a variation in the use of materials and form".

NSW Residential Flat Design Code 2002

The NSW Residential Flat Design Code 2002 published by the Department of Planning is part of package of measures under SEPP 65, which the State Government has prepared to improve the design quality of residential flat development across NSW.

It is noted that the NSW Residential Flat Design Code 2002 (RFDC) provides design principles and 'rules of thumb' standards, which if achieved can satisfy the design quality principles of SEPP 65. While these standards are contained in the RFDC, achievement of other standards may achieve the design principles. Consequently, a degree of judgement is needed to interpret the NSW RFDC rules of thumb, which apply to a wide range of multi-unit developments throughout NSW regardless of local context, climate, the existing and desire charactered and the site-specific and locality–specific development controls.

The Design Verification Statement at **Appendix D** provides an assessment of the proposal in terms of consistency with the NSW RFDC 2002.

SEPP (Building Sustainability Index: BASIX) 2004

The proposed multi-unit residential development demonstrates commitment to Ecologically Sustainable Development (ESD) principles in the design of the buildings in terms of energy and water conservation, material selection, water management, reuse and recycling, alternative water and electricity supply.

The DGRs require that an assessment of the proposed development against BASIX be undertaken. An ESD Report prepared by EcoSpecifier is provided at **Appendix Q**. BASIX Certificates for all buildings are provided at **Appendix U**.

The buildings have been assessment against BASIX for consistency with the minimum energy reduction target of 20% for all buildings and water efficiency target of 40%, as well as the acceptable thermal comfort levels within the residential dwellings.

Under the Voluntary Planning Agreement (VPA), the Proponent has committed to the achievement of energy and water conservation beyond the minimum targets set by the current version of BASIX.

SEPP 55 – Remediation of Land

SEPP 55 Remediation of Land requires that the consent authority, in this case the Minister for Planning, must not consent to the carrying out of development on land unless there has been a consideration as to whether that land is contaminated and if so whether it is suitable for the proposed development or requires remediation to make it suitable for the proposed development.

The site has been the subject of significant remediation activities that were approved by the NSW Minister of Planning under Development Consent.

Consideration of the contamination and associated human health risks is provided in **Section 6** of this report.

SEPP (Infrastructure) 2007

Clause 86 of the Infrastructure SEPP requires the application be referred to RailCorp during the exhibition period if there is excavation to a depth of ore than 2 metres below existing ground level within the following areas:

(a) within or above a rail corridor, or
(b) within 25m (measured horizontally) of a rail corridor. Or
(c) within 25m (measured horizontally) of the ground directly above an underground rail corridor.

A section has been included with the architectural drawings that show the profile through the site including the location of basement car parking, in relation to the Northern Railway Line corridor. This illustrates that now excavation is proposed within 25 metres from the rail corridor.

Clause 104 of the Infrastructure SEPP requires that the project be referred to the RTA if it involves the development of a residential flat building of more than 300 dwellings as well as more than 200 car spaces, terms to be a "traffic-generating development". As the proposed development includes 736 apartments and 773 car parking spaces, it is understood that the NSW Department of Planning will refer the application to the RTA for their comment during the public exhibition period and take their submission into consideration in determining the application.

The Infrastructure SEPP provides required for consent authorities to consider the impact of rail infrastructure on adjoining development, as well as development adjoining a rail corridor and its impact on the rail-related infrastructure. Potential impacts of the rail infrastructure on the proposed development include:

(a) Noise impacts on the amenity of residents;
(b) Vibration impacts on the amenity of residents and on the proposed building stability; and
(c) Electrolysis from stray currents causing corrosion in buildings.

Before determining the application the Minister for Planning must take into consideration any guidelines that are issued by the Director-General for the purposes of this clause and published in the Gazette. An assessment of the proposed acoustic impacts of the railway on the proposed residential dwellings is contained in the report by Acoustic Logic at **Appendix R**. The report provides an assessment of the proposed development against the *"Interim Guidelines for Development near Rail Corridors and Busy Roads"* published by the Department of Planning.

Sydney Regional Environmental Plan No. 29 – Rhodes Peninsula (Deemed SEPP)

SREP 29 sets out a number of restrictions for development within the Rhodes Peninsula. Land use provisions, as well as limits on floor space, building height are given in the SREP, which is a deemed SEPP and are detailed below:

- Total Gross Floor Area (GFA) for all sites within Precinct B is to be not more than 132,600m2;
- Total GFA may be increased to 156,000m2 provided there is a satisfactory embellishment and dedication of opens pace and

roadways, which are arranged to be maintained on an ongoing basis;

- A variation of 3% on the total GFA can be applied to the portion of the site that has a 6-storey height limit, allowing up to 8 storeys;
- Variation of 4% on the total GFA can be applied to the portion of the site that has a 4-storey height limit, allowing up to 6 storeys (Note: this is not applicable to Site 2A).

It is noted that SREP 29 will likely be repealed following the gazettal of the Draft Rhodes West LEP, which will contain the land use provisions and development standards for the Rhodes West area.

Table 11. Consistency with SREP 29 Rhodes Peninsula

SREP 29 – Rhodes Peninsula	Compliance	Comment
Consistency with aims and principles (Cl. 10) *The consent authority must take into consideration the aims of this plan and must be satisfied that the proposed development will be consistent with the achievement of the stated planning principles, being:* **1. Role and land use activities** • *Development should be carried out in a manner consistent with the principles of ecologically sustainable development.* • *Development of the Rhodes Peninsula is to provide for a significant increase in residential population, open space and limited commercial and retail uses.* **2. Built form** • *Building heights are to reflect and emphasise the topography and other natural attributes of the Rhodes Peninsula. Building heights should allow a reasonable sharing of views from buildings by their occupants, with lower buildings at the foreshore and the greatest building height and density adjacent to the railway line.* • *The height, form and orientation of buildings are to take into account visual impact, both land and water based, solar access, ventilation, wind impact and the amenity and privacy of residences.* • *Development is to provide for a high quality of landscaping and plantings.* **3. Public domain** • *The foreshore is to be publicly accessible, to be continuously linked within the Rhodes Peninsula and linked to public areas adjoining the Rhodes Peninsula, and to provide variation in open space character.* • *A range of recreational opportunities for the residents, workers and the community is to be provided within the public domain.* • *There should be public gathering points within the public domain. Those gathering points are to include places located at the water's edge accessible to public transport and some places at which small-scale retailing can occur.* • *Coordinated pedestrian and cycling networks and public transport services are to be provided throughout the Rhodes Peninsula, and are to strengthen the role of John Whitton Bridge cycleway and links to Homebush Bay and*	Yes	The proposed development is consistent with the aims and principles set out in SREP 29, which is demonstrated by the proposal's substantial compliance with the more detailed provisions of DCP 2000 and the Precinct B Master Plan. **1. Role and land use activities** All stages of the development will be undertaken following the principles of ESD. A total of 736 new residential units are to be built on the site, providing for a considerable increase in residents occupying what is considered a sustainable site. The site also incorporates open space and commercial uses, which will cater to the resident population. Holistically, the site forms part of an overall development for the Rhodes Peninsula, which will see a substantial increase in population to the area, along with open space and commercial opportunities to be constructed within the precinct, and existing facilities (eg. train station, road and ferry services, and Rhodes shopping centre) in close proximity. **2. Built form** The building heights reflect and emphasise the topography and natural attributes of the peninsula. This has been achieved by stepping down the development towards the foreshore. The positioning of the towers buildings to the east and fronting Shoreline Avenue maximises the solar access to the public open space, and views to the foreshore. A high quality of landscape finish and plantings is proposed through the development. Refer to Landscape Design Report at **Appendix F**. **3. Public domain** Site 2A and 3A is setback from the foreshore. There is access from Walker

SREP 29 – Rhodes Peninsula	Compliance	Comment
Bicentennial Park. Networks are to link with the railway station, areas adjoining the Rhodes Peninsula and the foreshore. • *In residential areas, walking and cycling are to be given priority and the passage of through motor traffic is to be discouraged.* • *The railway station should be linked to the foreshore through the provision of generously proportioned landscaped streets.* • *All streets should be publicly accessible.* **4. Accessibility, movement and parking** • *Transport and traffic should be managed in accordance with a comprehensive plan that provides for the coordinated provision of infrastructure and the staging of its provision.* • *Development should accommodate users of all modes of transport including public transport, cycling and walking.* • *The provision for vehicular movement is to be consistent with the development of a high-quality pedestrian environment within the street system.* • *A high degree of accessibility is to be provided to places in the Rhodes Peninsula for both able and disabled persons.* • *Parking controls are to support public transport strategies of the Government and to reflect road network capacities.* **5. Ecological issues** • *Development within the Rhodes Peninsula is to make a significant contribution to ecological sustainability through reduced energy requirements, particularly those of a non-renewable nature, and to waste reduction.* • *Water and energy efficient design criteria are to be promoted and soil erosion and sedimentation control measures implemented during remediation and construction phases.* • *Development should not have adverse impacts on the water quality of Homebush Bay or the Parramatta River.* • *Appropriate re-vegetation of the foreshores is to be encouraged.*		Street, Shoreline Avenue. Timbrol Avenue and Gauthorpe Street, through the site, or around its perimeter, towards Homebush Bay and the foreshore reserve. The large public park provides amenity and recreational opportunities for residents, and the site's proximity to the foreshore provides further recreational potential for residents, workers and the community. The ample bicycle parking and storage areas provided within the development encourage non-vehicular transport use, as do the site's proximity to the foreshore, train station, and shopping facilities. **4. Accessibility, movement and parking** Adequate car parking is provided on the site, including accessible/disabled spaces. Bicycle parking is provided and encouraged through the several bike paths near the site and proximity to public transport. **5. Ecological issues** The development is designed with consideration of the principles of ESD, and is in accordance with BASIX and other requirements.
Permissible uses (Cl. 11(2)) *Development of residential buildings, commercial premises, local shops and restaurants may be carried out only with development consent.*	Yes	Residential developments, commercial premises, local shops and restaurants are permissible uses in the zone with development consent.
Zone objectives (Cl. 11 (3)) *Consent may be granted if the consent authority is satisfied that it is consistent with all of the objectives of the zone.* *The site is zoned Residential, therefore the relevant objectives are:* *(a) To ensure that land within the zone is primarily used for residential purposes; and* *(b) To allow a limited range and scale of non-residential uses which are compatible with residential amenity, and primarily*	Yes	The proposal is consistent with the objectives of the Residential zone. The proposed development complies with the objectives in that it is primarily residential with some non-residential uses that will cater to local residents.

SREP 29 – Rhodes Peninsula	Compliance	Comment
service local residents.		
Infrastructure provision (Cl. 13) *The consent authority must not grant consent unless arrangements have been made to the satisfaction of the consent authority for:* • *Railway and bus infrastructure that will provide an adequate public railway and public bus service for people who will reside or work on, or otherwise use, the land to which this plan applies, and* • *Roads and related infrastructure of a standard adequate to provide public and private vehicular transport access to, and egress from, the site and the region.*	Yes	The Rhodes Transport Management Plan and Section 94 Contributions Plan provide the mechanisms for the provision of road infrastructure. The consent for DA 89-4-2005 details the proposed utility infrastructure for the site. Public domain works include all precinct-wide utility infrastructures on the site.
Floor space restrictions (Cl. 14) *Consent must not be granted for development within a Floor Space Precinct if it would result in the total gross floor area of all buildings within Precinct B being greater than 132,600m^2. Up to 156,000m^2 is permissible.*	Refer to comment	The proposed development will not exceed the maximum permissible floor space under the SREP alone. The proposal includes additional floor space, permitted under the exhibited Draft Rhodes West LEP.
Height of buildings (Cl. 16) *The number of storeys in a building on any land in the Rhodes Peninsula is not to exceed the number shown for the land on the Height Map, except where provided for below:* • *Not more than 3% of the total gross floor area allowed within Precinct B may be located above the 6th storey in buildings with a height of 7 or 8 storeys on land for which the number of storeys shown on the Height Map is 6.*	Refer to comment	The proposed development will provide a significant departure from the maximum height limited under SREP 29. The proposed heights comply with the Draft Rhodes West LEP heights.
Land near Great Northern Railway (Cl. 21) *Consent must not be granted for development on land, in the opinion of the consent authority will be affected by noise from the Railway, unless the development will incorporate noise attenuation measures to the satisfaction of the State Rail Authority.*	Yes See comment.	The train line runs parallel to Walker Street, and will have a minor amenity impact on the units facing to the east. A Noise Impact Assessment has been undertaken, and is included at **Appendix R** to this report. All units will have acceptable amenity subject to acoustic treatment as recommended by the report from Acoustic Logic at **Appendix R**.
Acid sulphate soils (Cl. 22) *Before granting a consent, the consent authority must consider:* • *The adequacy of an acid sulphate soils management plan prepared,* • *The likelihood of the proposed development resulting in the discharge of acid waters, and* • *Any comments received from the Department of Land and Water Conservation.*	Yes	Acid sulphate soils have been addressed in a remediation context, which gives approval to bulk excavation works on the site. The remediation works will continue as required and are expected to be completed in March/April 2011.

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

The Sydney Harbour Catchment SREP provides a planning framework for Sydney Harbour and its tributaries. The SREP (now Deemed SEPP) introduces zones for the waterways of the harbour and its tributaries; the waterways of Homebush Bay, adjacent to the development site, are zoned W5 – Water Recreation. This zone is a public recreation zone, which gives priority to public use and access to the water through appropriate water recreation facilities.

Sites 2A and 3A is approximately 100 metres from the foreshore at its closest point, and will not directly influence the use of the waterways. There are parks, bicycle paths and other recreational opportunities along the western strip of Rhodes West foreshore, all of which are easily accessible from the subject site, thereby encouraging the use of the facilities provided. No specific development controls within the Deemed SEPP are of relevant to the proposal.

5.4 Local Environmental Planning Instruments & policies

Rhodes West Master Plan 2010

The Rhodes West Master Plan was adopted by Council on the 8 December 2010. The Master Plan provided additional floor space to Precinct A, B and C above the maximum permitted under the RSPE 29: Rhodes Peninsula. The Master Plan sets out urban design and planning principles for the distribution of additional floor space and building height.

The Master Plan also proposed that additional community facilities, open space and other public benefits such as bicycle parking, local road, cycleway and pedestrian improvements.

The Master Plan has the following key elements:

- The heights of buildings in Precinct A , B and C up to a maximum of 25 storeys;
- A total of 66,000m2 of floor space, distributed between Precincts A, B, C and D, representing a 12% uplift in the amount of floor space permitted
- An additional 28% increase in consolidated open space, achieved by the higher building forms.

The Master Plan allocated 21,000sqm of floor space to Precinct B, split between the Billbergia Developments (Site 2A & 3A) and the RHB (Site 3B, 3C and 3D) remaining development sites. Additional open space was required to be provided in Precinct B for the uplift ion floor space and building height.

The Rhodes West LEP and the DCP are the Environmental Planning Instruments that seek to implement Council's vision first outlined in the Rhodes West Master Plan. An assessment of the proposal against the relevant EPIs and policies is provided in this section of the Environmental Assessment.

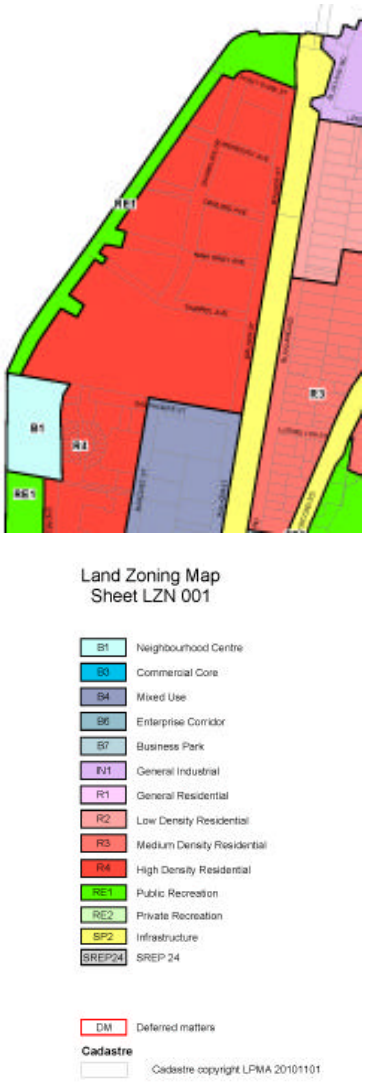


Figure 29. Draft Rhodes West LEP Zoning Map
The subject site is zoned R4 – High Density Residential, shown shaded red.

Draft Canada Bay Local Environmental Plan (Rhodes West) (Draft Rhodes West LEP)

Following the adoption of the Rhodes West Master Plan 2010, Council prepared a Draft Rhodes West LEP was publicly exhibited in July 2010. The Draft LEP has been forwarded to the NSW Department of Planning. It is understood the gazettal of the Draft LEP was imminent.

The Draft LEP contains the following amendments to Canada Bay LEP:

- A new Zone R4 High Density Residential into the zoning provisions of the LEP outlining the zone objectives, development permitted without consent, development permitted with consent and prohibited development;
- A new definition for the calculation of the height of Buildings and amends the building height map for the Rhodes West area to include development standard for the maximum height of buildings at Rhodes West for each development site;
- A new definition for gross floor area and amends the maximum Floor Space Ratio map for the Rhodes West area to include development standard for the maximum Floor Space Ratio for each development site; and
- A provision to permit retail premises and business premises on the ground floor level of residential flat buildings in the R4 – High Density Residential zone.

Permissibility of proposed uses

- The proposed retail, residential and ancillary common facilities of gymnasium, swimming pool and common rooms are permitted with consent.

Figure 30. Draft LEP 2010 Height of Buildings map
The maximum permitted height of buildings on the subject site is 82 metres.

Maximum building height

Table 12 provides the maximum heights in metres measured in accordance with the Draft LEP definition of height of building. Building height in terms of number of storeys is also provided.

All proposed buildings comply with the maximum permissible height shown in the building height map for the subject site.

Table 12. Maximum building height

Building	Required (Building Height Map)	Proposed
A	82 metres	81.7 m (25 storeys)
B		25 m (6 storeys)
C		72 m (20 storeys)
D		82 m (25 storeys)
E		28 m (6 storeys)

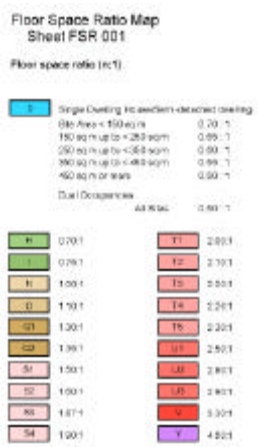


Figure 31. Draft Rhodes West LEP FSR map
The maximum permitted FSR for buildings on the subject site is 2.8:1.

Maximum Floor Space Ratio

The maximum permissible floor space ratio shown ion the Floor Space Ratio (FSR) Map for the subject site is 2.8:1. The subject site has an area of 20, 675m^2. This maximum permissible FSR equates to 55,986m^2 of floor space.

A detailed building by building and level by level breakdown of the proposed gross floor space, measured in accordance with the definition contained in the Draft Rhodes West LEP is provided with the architectural drawings at **Appendix B**. The proposed development has a gross floor area of 55,986m^2. Therefore the proposed development complies with the maximum 2.8:1 FSR.

5.5 Development Control Plans

Rhodes West Development Control Plan

The built form and urban design parameters for the development are clearly enunciated in the Rhodes West DCP. This section of the report provides an assessment of the Project Application against the site-specific objectives and controls of the Rhodes West DCP. **Appendix Z** provides an assessment of the project against the general objectives and controls for private domain and public domain.

Site-specific development controls

Prescriptive building envelope plans are contained in the DCP that define the footprints, street setbacks, heights, separation distances and orientation of buildings. Section 5.5.1 of the Rhodes DCP provides the site-specific built form controls for Site 2A and 3A as follows, with the key controls illustrates in the building envelope control plan at

Figure 32 and in the sections provided in **Figure 33** and **Figure 34**.

Table 13 provides an assessment of the proposal against the site-specific DCP controls for Suite 2A and 3A within Precinct B.

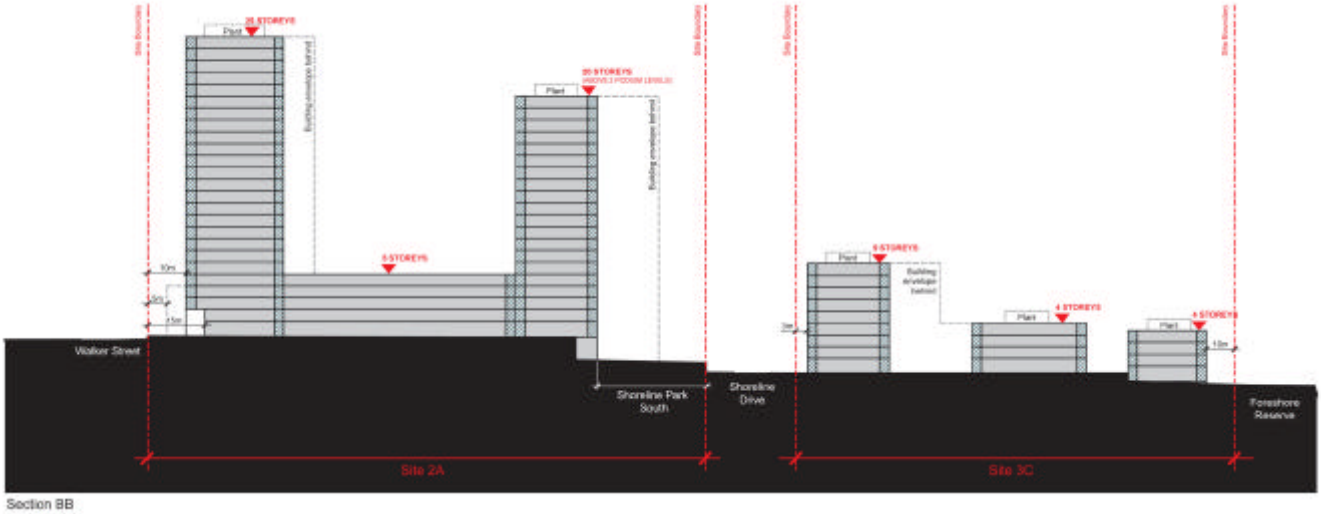
Table 13. Rhodes West DCP site specific controls

Rhodes West DCP Site-Specific Controls (Clause 5.5.1)	Comment
C1 *Building heights ranging from low-rise buildings of 4-5 storeys which frame the public open space to tower buildings in the north east corner (25 storeys), south east corner (25 storeys) and north west corner (20 storeys).*	The proposed development is generally consistent with the maximum heights of buildings under the Rhodes West DCP. • **Building A** – Complies with 25 storey control • **Building B** – Maximum 5 storeys required. 6 storeys proposed • **Building C** – Complies with 20 storey control • **Building D** – Complies with 25 storey control • **Building E** – Maximum 5 storeys required. 6 storeys proposed. Buildings B and E, at 6 storeys vary from the DCP controls by 1 storey. The proposed 6 storey height is considered appropriate. The additional 1 storey will not have any significant adverse impact on the surrounding areas in terms of view loss or overshadowing. It is considered more appropriate to provide an additional storey on these buildings, than to increased the width of the buildings to accommodate the floor space allowed under the Draft Rhodes West LEP. A taller thinner building has less bulk and will provide better internal amenity than a shorter building with greater width.
C2 *A Maximum Floor Space Ratio of 2.8:1.*	The proposed development has an FSR of 2.71:1, which complies with the maximum 2.8:1 FSR.
C3 *Car park entry from Timbrol Avenue.*	The proposal has two (2) vehicle access points. One access is provided from Timbrol Avenue. A second vehicle access point is provided from Gauthrope Street. The second access point is provided on a secondary road, in a location that is safe in terms of sight distances from the intersection of nearby intersections. Refer to Transport Impact Assessment at **Appendix I** for an

Rhodes West DCP Site-Specific Controls (Clause 5.5.1)	Comment
	assessment of vehicle access to the site.
C4 *Combined with Site 3B a minimum of 16,000m^2 of public open space.*	The proposal provides a total of 11,660m^2 of public open space across Sites 2A and 3A. This amount exceeds the minimum requirements for deduction of public open space. The VPA states that 11,030m^2 of open space is required to be dedicated.
C5 *One level of basement car parking and one level of partially above ground car parking.*	The proposed development includes three levels containing car parking. Two of these levels are within basements and a third level (behind Building B) is above ground.
C6 *Above-ground parking screened behind the street front building line to all streets and open spaces.*	The level of above ground car parking is screened from public view from surrounding streets by buildings. Landscaping including large streets are proposed at the interface of the above ground car park level with the podium level public open space.
C7 *Preferred location for non-residential uses fronting Walker Street and the through-site link open space.*	The proposal is consistent with the preferred location for non-residential uses identified on the DCP building envelope plan. Non-residential uses are proposed in the following locations: • **Building A** - Ground Level retail shops fronting Walker Street; • **Building D** – Ground level retail shops fronting Walker Street; • **Building E** – Ground level retail fronting the south side of the diagonally public plaza; and • **Communal facilities building** with gymnasium and swimming pool fronting the north side of the diagonally public plaza.
C8 *Minimum building setbacks as illustrated in Figure 80.*	Consistency with building setbacks is addressed in the following section of this report, having regard to the DCP Building Envelope Plan controls.
C9 *Separate pedestrian entries and lobbies for residential and non-residential uses.*	Separate pedestrian entries and lobbies are provided for residential and non-residential uses.
C10 *The preferred location for non-residential uses including retail and commercial uses is along the Walker Street frontage and fronting onto the diagonal pedestrian plaza from the south-east corner of the site.*	Refer to comment in response to **Control C7** above.
C11 *The indicative alignment of non-residential frontages on the northern and southern side of this of the pedestrian plaza are indicated on the building envelope plan. To avoid a 'gun-barrel' effect, it is recommended that the alignment is to be stagged with stepping and recesses to provide pedestrian interest.*	The communal gymnasium and swimming pool is contained within a building that generally follows the alignment of the diagonal pedestrian plaza space through the site. The façade of the building is broken with an appropriate level of articulation. Recesses are provided in the building to allow pedestrian access between the upper and lower podium and levels of the public open space. Pedestrian interest is also achieves through the use of a variety of materials and finishes and the vertical proportions of the façade treatment fronting the public plaza space.
C12 *Maintain a view corridor along the diagonal alignment of Marquet Street by providing an undercroft space with a minimum height of 15 metres beneath the tower building in the south west corner of the site exposed columns are to have a high architectural quality with a slender form and*	The key view corridor identified in the Rhodes West DCP, cutting diagonally through the site is maintained by sitting the proposed buildings D and E in accordance with the Rhodes West DCP setback controls.

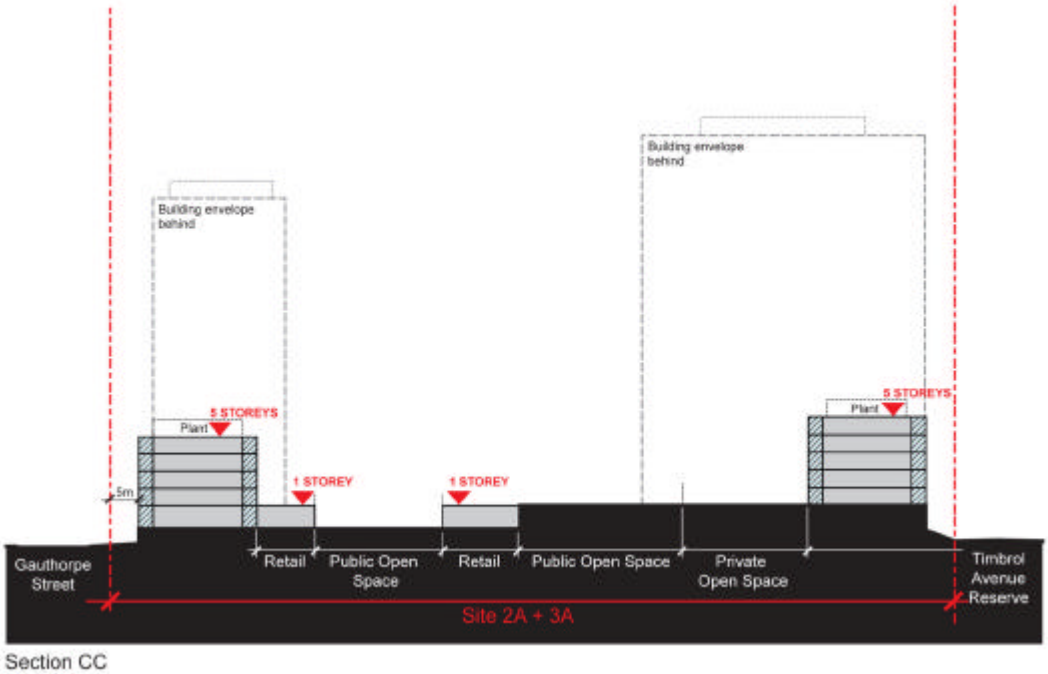
Rhodes West DCP Site-Specific Controls (Clause 5.5.1)	Comment
quality materials integrated into the overall architectural design of the building.	The undercroft space provided in Building D has a height of 19.4 metres, which complies with the minimum DCP controls of a minimum of 15m. The exposed column supporting the undercroft is a key component of the overall architectural solution for the building. Only a single structure column is provided, which will minimise the impact of Building D on the view corridor. The single column is slender in form and a high quality painted concrete finish is proposed. Refer to materials and finishes schedule on the architectural elevations and the materials and finishes sample board prepared by SJB Architects and submitted under separate cover.
C13 *To enhance the forecourt space at Timbrol Avenue/Walker Street provide an undercroft space over two levels of the tower building.*	The two level undercroft space and foreshore in the north eastern corner of the site required to Building A has not been accommodated in the proposed development. The Building A pedestrian entrances has been located towards the centre of the building frontage to Walker Street in order to better relate to the Walker Street and is combined with a common room and retail space that wraps around and into the public pedestrian link from Walker Street between Buildings A and D. It is considered an appropriate design solution to enable pedestrians entries the site to be separate from but engage with the public accessing the retail uses fronting Walker Street.

Figure 32. Rhodes West DCP 2010 building height limits
The above figure shows the height restrictions for Precinct B. The proposal generally complies, but does include some minor non-compliance as outlined within the Master Plan compliance table, and noted by the transfer of the 2-storey segment from the north-western end of the site to the north-eastern end, between the 4 and 6-storey components as given above. Source: Figure 052 from the Precinct B Master Plan.



Section BB

Figure 33. Section BB, Rhodes West DCP



Section CC

Figure 34. Section CC, Figure 79, Rhodes West DCP

Building envelopes

Consideration of required building height, building depth, street setbacks, separation distances, which are incorporated into the building envelope plan for Site 2A and 3A is provided below, for each building. A key control in the DCP to control the bulk of tower buildings is the limitation on the GFA of towers to a maximum 800m2.

A schedule of the GFA on a floor-by-floor basis is submitted with the application to demonstrate compliance with this control.

Building A

Building A differs from the DCP building envelope plan in terms of building setbacks to Walker Street and Timbrol Avenue. The DCP requires the lower levels of the building to create a streetwall setback 5 metres from Walker Street and a tower building setback a further 5 metres from Walker Street (total 10 metres).

The proposal is setback from Walker Street 13m at ground floor level, 8m-12m at Levels 1-6 and 10m-12m at Levels 7-24.

Building A is required to be setback 5 metres from Timbrol Avenue. The proposal is setback between 3m-5m at Ground Level-Level 6 and 5-10 metres at Levels 7-24. The DCP allows balconies to extend beyond these required building setbacks.

Building A complies with the minimum setbacks to Walker Street and Timbrol Avenue.

Building B

The DCP showed building B potentially linked to Buildings A and C. The buildings are separated which is consider the right approach to provide views from Timbrol Avenue through the site to the public open space. Separating buildings will also provide greater privacy between dwellings in adjacent buildings. Building B complies with the minimum street setbacks of the DCP.

Building C

Building C has a slightly different orientation than required by the DCP. It is now proposed that the north/south alignment with east and west orientation of the long facades. The altered orientation from the DCP is to optimise views to the west and west and to provide separation between buildings B and C, whilst maintaining the required DCP setback to Shoreline Drive. The building is compliant with the minimum 10m setback to Shoreline Drive. The address of this building is Shoreline Avenue. A key consideration for the orientation of Building B is to provide a clearly defined address to Shoreline Avenue and integrate this with the public open space. The proposed building footprint allows for a greater linkage of open space between the pocket of open space at the lower level of Timbrel Avenue fronting Shoreline Avenue and the large park space, further south along Shoreline Avenue.

Building D

The building setback to Gauthrope Street of Building D is proposed as 20 metres for Ground Level (podium) to Level 04 and 10 metres above Level 05. The DCP requires a 20 metres setback from Gauthrope Street for the full height of the building.

The proposed building setback is considered appropriate given the setback of the 'undercroft' space complies with the minimum 20 metre setback distance. This also allows the 34m separation distance to Building A (at its closest point), which is consistent with the NSW Residential Flat Design Code 2002 separation distances.

Building E

In the DCP building envelope Building E includes an area of non-residential uses at ground level facing onto the diagonal through site link/plaza. While in the DCP we do not consider this to be an appropriate location for retail uses to ensure the highest pedestrian flows along the street frontage benefit the viability of retail uses. Gauthorpe Street is a better location for retail uses that activates this street frontage, which will likely have higher pedestrian flows. Refer to comments above under Land Use.

Podium/swimming pool building

The design presented in this Environmental Assessment is indicative only. The podium/swimming pool building will be subject to a separate and future development application with the public open space.

The intention of the DCP for this building was for a less regular and more articulated to provide a visually interesting interface with the adjacent public plaza. Only an indicative building alignment was provided in the DCP.

The communal facilities building are considered to have a good degree of articulation in the southern façade at the interface with the lower level public space. A response to the Site-specific DCP controls in **Table 13**.

6 Environmental Assessment

This section of the report provides an environmental assessment of the proposal against the key issues identified in the Director General's Requirements. A copy of the DGRs is provided at **Appendix A**. The relevant Environmental Planning Instruments (EPIs) policies and guidelines are addressed in **Section 5** under the regulatory context and the key issue no. 12: Consultation is addressed in **Section 1** of this report under the heading consultation undertaken. A Draft Statement of Commitments is provided at **Section 7**. The following key issues are addressed below:

- Built form and Urban Design Impacts
- Public domain/Open space and accessibility
- Environmental and Residential amenity
- Transport and Accessibility (construction and operational)
- Noise and vibration assessment
- Ecologically Sustainable Development (ESD)
- Drainage and Stormwater Management
- Contamination, Human Health Risk Assessment and Geotechnical Issues
- Utilities
- Contributions
- Consultation
- Staging

6.1 Built form and urban design impacts

The Environmental Assessment is required to address the height, bulk and scale and visual impact of the proposed development within the context of the locality, and the desired future character contemplated by the Draft Canada Bay Local Environmental Plan (Rhodes West), and the Draft Rhodes West Development Control Plan. In particular, a detailed consideration should be given to envelope/height and contextual studies to ensure the proposal integrates with the local environment.

The Environmental Assessment is required to provide a visual analysis to and from the site from key vantage points, including photomontages and 3D modelling with physical and computer images of the proposed development.

The Environmental Assessment is required to address the design quality of the development with specific consideration of the facades, massing, setbacks, building articulation, use of appropriate colours, materials/finishes, landscaping, overshadowing and public domain, including an assessment against CPTED Principles.

A detailed assessment of each building against the site-specific building envelope controls of the Rhodes West DCP is provided in **Section 5** of this report. The proposed development is generally consistent with the building envelope plans of the Rhodes West DCP, which has been adopted by Council and therefore is considered to be appropriate in the context of the desired future character of the site and surrounding area.

A visual analysis of the proposed development is provided in Section 5 of this report, which illustrates the development from 7 vantage points from

surrounding streets and within the site. 3D rendered images of the development is provided in favour of photomontages due to the changing nature of the surrounding area and the large scale of the site and proposed development. The future context under the Draft Rhodes West LEP and DCP is shown in the 3D perspectives.

The Architectural design approach for the proposed development has been described in the Design Verification Statement prepared by SJB Architects, the design architects for the development at **Appendix D**.

Proposed facades, massing, setbacks, building articulation, use of appropriate colours, materials/finishes, and landscaping are all illustrated in the architectural drawings and landscape plans appended to this Environmental Assessment. A shadow analysis is provided in the following section of this report and in the accompanying shadow diagrams. A CPTED assessment is provided at **Section 4** of this report.

Figure 35. Level 03

6.2 Public Domain/Open Space and Accessibility

The Environmental Assessment is required to outline the function, landscape character, access rights and accessibility for able and disabled persons in respect of the areas of proposed public open space, including a plan clearly identifying and describing the area of open space to be dedicated to public use as part of 'Shoreline Park South'.

The Environmental Assessment is required to detail the type, function and landscape character of the various private, communal and public areas on site. Pedestrian circulation and linkages between various open areas should be demonstrated in a schematic form.

The Environmental Assessment is required to include a public art strategy for the development.

The proposed public open space has been designed in accordance with the relevant standards for accessibility. An assessment of the paths of travel through the public open space is provided at **Appendix G**.

A plan showing the area of public open space to be dedicated to Council is provided at **Figure 24**.

The type function and landscape character of the various private, common and public open space areas is provided in the Landscape Plans and design report at **Appendix F**. Pedestrian linkages between the various open spaces are clearly illustrated in the architectural drawings and landscape plans appended to this Environmental Assessment.

Public art proposals for the site will be best determined in consultation with the City of Canada Bay, who will take ownership of the public open spaces. As such it is proposed to continue to consult with Council to determine the most appropriate themes as well as the selection of specific works of public art to be incorporated into the public domain areas of the site.

The Draft Statement of Commitments include a commitment from the Proponent to prepare a public art strategy with Council prior to the issue of the first Construction Certificate for residential buildings on the site. Also, a commitments is made by the Proponent to make a monetary contribution to the City of Canada Bay Council for public art on the site. Refer to **Section 7** of this Environmental Assessment.

6.3 Environmental and Residential Amenity

The Environmental Assessment is required to address:

- Solar access;
- Acoustic privacy;
- Visual privacy;
- View loss; and
- Micro climate issues such as wind speeds and impacts generated around tall buildings.

The Environmental Assessment is also required to identify mitigation measures necessary to achieve a high level of environmental and residential amenity, and any other relevant environmental provisions. A key guideline for residential amenity applying to the development is SEPP 65 and the NSW Residential Flat Design Code 2002. **Section 5** provides

an assessment of the proposal against the key residential amenity design principles and rules of thumb standards under these guiding planning instruments.

Good residential amenity is achieved passively in the design of residential buildings and surrounding public domain, through the following measures:

- Building and apartment orientation to optimises sunlight access to living rooms and private open space;
- Good sunlight access to public parks and open spaces, that residents can use;
- An internal acoustic environment, where potential nuisances from external noises sources are mitigated and residents are not disturbed, particularly in the evening and at night;
- Building and units oriented and separated to minimise direct overlooking opportunities
- Building spaced and separated to allow view sharing between buildings and key corridors in the public domain maintained.
- An external wind environment, particularly in public domain areas of high pedestrian activity, that is pleasant to walk and is designed to avoid hazardous and unpleasant wind impacts.
- Adequate storage space provided, which is conveniently located within living rooms, hallway cupboards, laundries as well as close to allocated car parking spaces in secure areas.

These residential amenity principles are discussed in further detail below:

Acoustic privacy

An assessment of the impact of rail-related noise is provided at **Appendix R**. This demonstrates with appropriate glazing adequate residential amenity can be maintained for units facing the railway line. As such an acceptable level of acoustic privacy will be achieved.

Visual privacy

The proposed buildings are generally sited in accordance with the Rhodes West DCP. Building separation distances are in accordance with the NSW RFDC controls. Units are oriented to avoid direct overlooking opportunities. As such an acceptable level of visual privacy will be achieved.

View loss

As provided above, the proposed buildings are generally sited in accordance with the Rhodes West DCP. The degree of view loss is no greater than that which would be expected form the building envelopes contained in the DCP, which has been adopted by Council. The proposed development is generally consistent with the Rhodes West DCP.

There is expected to be come view loss from the surrounding developments to the north and south which currently across the site towards the waters of Homebush Bay. Given the location of the tower buildings, and the separation distances provided between the tower buildings, views will be maintained between buildings

Wind impacts

An assessment of the potential impacts of the proposed development on the wind environment of the site and surrounding area has been carried out by MEP Consultants Pty Ltd. Refer to **Appendix S**.

The Wind Impact Assessment assess the impact of development on wind conditions in the public access ways surrounding the base of the buildings, using the following criteria:

In main public access ways wind conditions are considered:

- Unacceptable if the peak gust wind speed during the hourly mean with a probability of exceedence of 0.1% in any 22.5^{o} wind direction sector exceeds 23 ms^{-1} (the bust of wind speed at which people begin to get blown over)
- Generally acceptable for walking in urban and urban areas if the peak wind gust speed during the hourly mean with a probability of exceedence of 0.1% in any 22.5^{o} wind direction sector des not exceed 16 ms^{-1} (which results in half the wind pressure of a 23ms^{-1} gust).

For more recreational activities wind conditions are considered:

- Generally acceptable for stationary short exposure activities (windows shopping, standing or sitting in plaza) if the peak gust wind speed during the hourly mean with a probability of exceedence of 0.1% of any 22.5o wind direction sector does not exceed 13ms-1.
- Generally acceptable for stationary, long exposure activities (outdoor cafes and restaurants) if the peak gust wind speed during the hourly mean with a probability of exceedence of 0.1% in any 22.5^{o} wind direction sector does not exceed 10ms^{-1}
- The probability of exceedence of 0.1% relates approximately to the annual maximum mean wind speed occurrence for each wind direction sector. These criteria are developed graphically in terms of hourly mean wind speed versus frequency of occurrence in Melbourne (1978).

MEL Consultants undertook a review of the proposed architectural drawings and developed solutions to mitigate a number of potential areas where wind impacts may have exceeds the maximum criteria outlined above.

The following provides a summary of the wind conditions expected at the base of each of the buildings and in the public open spaces:

- **Building A** (25 storeys) – is exposed to all wind directions and will induce a significant amount of wind flow down to ground level in all directions.
    - On the north side the connection to Building B will block wind flow out to Timbrol Avenue;
    - On the south w wind-break feature has been incorporated between Building A and D along with substantial landscaping as to prevent window conditions at this level exceeding the criteria for walking comfort for both easterly and easterly winds. Extension of the awnings/canopies at the base of these buildings will assist in controlling downward draft wind conditions between these buildings.

- The north-east corner of building A would will no exceed the criteria for walking comfort;

- **Building B** (6 storeys) – is well protected by the upstream buildings and facing only moderate wind conditions. MEL Consultants do not expect
- **Building C** (20 storeys) **–** will be exposed to strong westerly and southerly winds. The proposed landscape design incorporates large tree plantings surrounding the base of the building as well as low level shielding. Landscaping and screen wind breaks have been incorporated at the corners of the building so that pedestrian walkways are keep away from the corners of the building. Easterly and westerly winds will not adversely impact on walking comfort beyond the acceptable criteria listed above.
- **Building D** (25 storeys) – will be exposed to strong westerly and southerly winds. The main concern raised by MEL Consulting in terms of wind impacts on this building is that wind flows will be induced down the face of the building and around the building corners. This is of particular concern at ground level on both the north and south ends. Significant landscaping at the corners of the buildings have been added to keep pedestrian walkways away from the corners and to lift these corner wind flows so as not to impact building entries.
- **Building E** (6 storeys) – wind conditions are expected not to exceed the criteria for walking comfort.

The report provides a drawing illustrating the proposed wind mitigation measures that will assist in maintaining the pedestrian environment around the buildings with acceptable levels of wind so as not to adversely impact on pedestrian safety and amenity.

The MEL Consultants report states in conclusion that:

> *"that while the proposed development at the Rhodes Precinct B Sites 2A and 3A, is quite wind sensitive, the problem areas have been recognised and provisions has been made for the inclusion of wind ameliorating features. During our review of the documentation we have made some adjustments to the built form and introduced wind screens and strategically placed landscaping to counter the problem areas".*

Storage

Residents living in residential units are often limited in the amount of storage available to them for large bulky items. It is desirable to provide dedicated storages within residential units for the convenience of residents. Storage should generally be located within the unit in areas that are convenient located to access from the living space, hallway, laundry. The NSW RFDC 2006 and the Rhodes West DCP have the space storage requirements as follows:

- 1 bedroom unit – $6m^3$
- 2 bedroom unit – $8m^3$
- 3+ bedroom unit – $10m^3$
- A minimum of 50% of the storage volume required must be located within the unit.

All units in the development achieve the minimum volume requirements per unit. All units have some storage provided in the unit. The majority of the units comply with the minimum 50% requirement for storage within the unit. There are some units which have a 1m high storage unit on the balcony/terrace.

The two types of unit which do not conform with the minimum proportion of storage within the units have larger size storage cages at the basement levels, than the minimum requirement. **Table 14** provides a summary of the storage cages provided in the basement levels to be allocated to the proposed units.

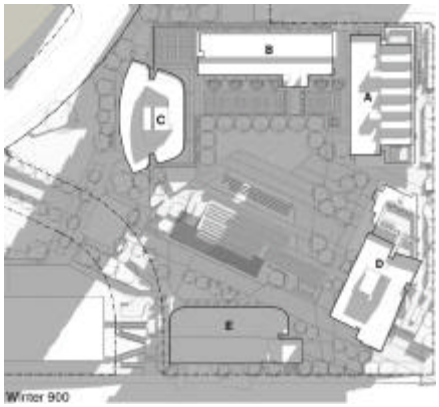
Table 14. Residential storage provided in basement levels

Unit type	Number of cages Required	Area required (50% of required total)	Area provided	Number of cages provided
1 bed +studio	291	$3m^3$	3m3 - $5m^3$	164
2 bed units	414	$4m^3$	5m3 – $7m^3$	443
3 bed units	31	$5m^3$	<$7m^3$	129
Total	**736**			**736**

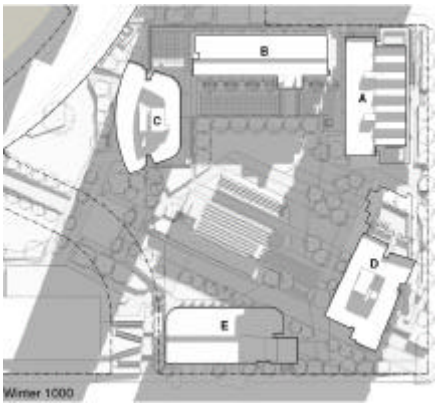
Solar access and overshadowing

Figure 36 shows the shadows diagrams for the proposed development between 9am and 3pm at 21 June (mid winter). The shadow analysis shows that throughout the majority of the time between 9am and 3pm throughout the year large areas of the public open spaces will be in sun. This is achieved by the lower height of Building B to the north of the park. Sunlight access plans of the proposed development show that the proposed development will have a high level of performance in terms of sunlight access to apartments given the origination of the units.

Refer to the assessment of the project against the NSW RFDC 2002 daylight access rules of thumb.



9am



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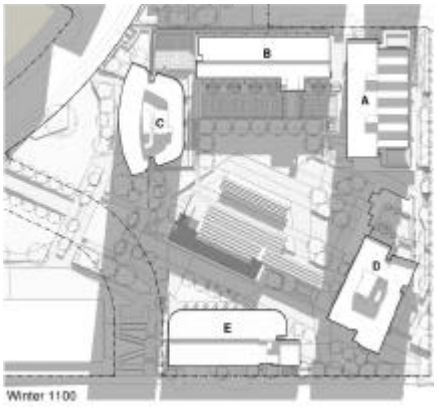
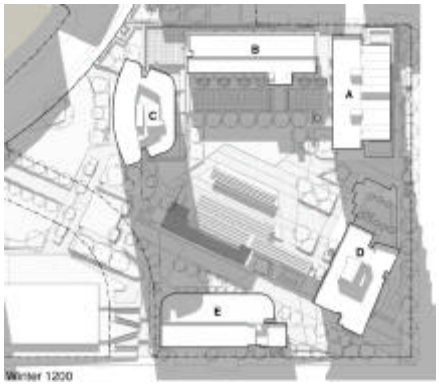
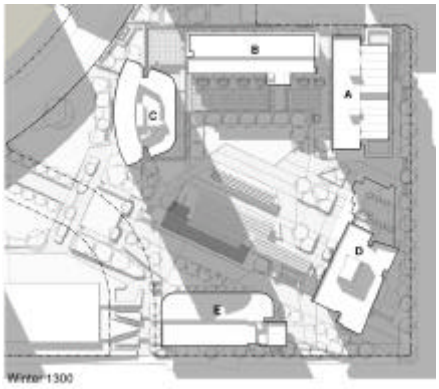


11am



12noon



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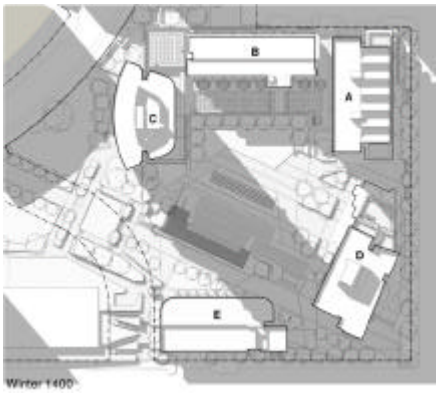

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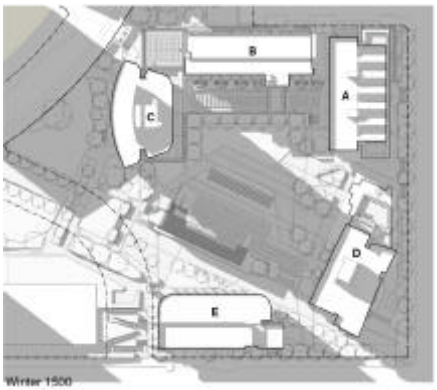

3pm

Figure 36. Shadow diagrams at mid winter (June 21)

6.4 Transport and Accessibility

The Environmental Assessment is required to address the following transport and accessibility matters:

- Review and update where necessary, the traffic impacts for the site that were addressed in the following reports prepared by Masson Wilson Twiney:
  - *"Transport Management Plan (2001)" and the*
  - *"Traffic Report Rhodes Peninsula – Traffic and Transport Analysis for Additional Development (13 March 2009)".*

  The review should consider:
  - traffic generation;
  - on-street parking demand and provision;
  - any required road/intersection upgrades;
  - access;
  - loading dock(s);
  - car parking arrangements;
  - measures to promote public transport usage;
  - need for additional bus services; and
  - pedestrian and bicycle links.
- Provide an estimate of the trips generated by the development and identify any required road or intersection upgrades.
- Provide an assessment of the implications of the proposed development for non-car travel modes (including public transport, walking and cycling), and a 'Green Travel Plan', including consideration of a car share scheme.
- Identify measures to mitigate potential impacts for pedestrians and cyclists, and on bus operations and passengers during the construction stage of the project.
- Demonstrate the provision of appropriate on-site car parking and vehicle access for the proposal having regard to local planning controls and RTA guidelines, and in light of the proximity of the site to Rhodes Railway Station.
- Prepare a Construction Traffic Management Plan to mitigate any potential impacts on accessibility and public safety during the construction phase(s) of the development.

Operation transport impacts

Traffic generation and impacts

The transport generating capacity of the entire Rhodes West redevelopment was estimated and assessed in terms of this impact on the existing road network and transport infrastructure in the Rhodes Peninsula – Traffic and Transport Analysis for Additional Development report prepared by Masson Wilson Twiney (now Halcrow). A Transport Impact Assessment has been prepared by Thompson Stanbury Associates provides an assessment of the traffic generation of the proposed

development, having regard to the assumption made in the Halcrow Report.

The development is projected to generate approximately 257 peak hour vehicles trips. The transport assessment states that the retail uses are not likely to generate traffic, because the retail will be 'walk-up' type retail uses and not likely to generate parking demand and hence generate traffic. The gymnasium is also proposed to services the residents of the site and potentially the immediately surrounding areas, and therefore is unlikely to generate parking demand and hence traffic. It is therefore concluded that the proposed peak traffic generation is likely to be closer to 200 trips per peak hour.

The Transport Assessment Report prepared for the subject development confirms that the distribution of traffic generated will be distributed to the north and to the south along Walker Street (via Gauthorpe Street and Timbrol Avenue, with some minor movements along Shoreline Avenue. More broadly the following traffic distribution is confirmed in the Halcrow report:

- 50% of traffic will travel north via Concord Road;
- 15% of traffic will travel to the south-east via Concord Road; and
- The remaining 35% of traffic will travel to the south-west via Homebush Bay Drive.

An assessment of the proposed operation traffic generated by the development on the operating capacity of the access intersections at Rhodes Peninsula has been undertaken by Thompson Stanbury Associates, having regard to the Halcrow (formally Masson Wilson Twinney) report of 2009.

The Halcrow intersection modellings showed that the additional traffic projected to be generated for the overall Rhodes West development swill likely result in the Concord Road intersections with Averill Street and Mary Street operating at near capacity. The Halcrow report concluded that:

> *"the intersection analysis results indicate that generally the additional traffic from the additional proposed development* (incorporating the subject development) *would not create measurable adverse impact when compared with the traffic conditions under the approved development levels".*

The level of service at the intersection of Homebush Bay Drive and Oulton Avenue is projects to remain with a good operation with spare capacity.

Given the accident history at this intersection, it is understood that the RTA have requested that Council investigate measures to improve road safety at Homebush Bay Drive and Oulton Avenue intersection. Council have advised that RTA that such intersection upgrade works would be funded through a Voluntary Planning Agreement. It is anticipated that further consultation in this regard between the Department of Planning, RTA AND Council will determine the funding mechanisms for any future road works.

Public Transport demand

The Halcrow transport and traffic study prepared for the Rhodes Wester Master Plan identified that the overall Rhodes redevelopment with additional density will generate an additional 280 peak public transport trips, made up of the following:

- 179 morning and 192 evening peak train trips;
- 74 morning and 81 evening peak bus trips; and
- 8 morning and 8 evening peak ferry trips.

The additional **train** loading is expected t be about 10% of the capacity of a single train and thus "train capacity is not expected to be an issue". The new Metropolitan Transport Plan: Connecting the City of Cities, a proposed new upgrade of the eastern Express City Rail Service would mean that extra capacity on the system will be greater, with 4 additional services on the Northern Line to the CBD via Rhodes will be provided.

The projected additional **bus** trips can be accommodated. It is understood that Sydney Busses recently advised Council that a new bus route, Metro Route M41, providing a service between Hurstville and Macquarie Park, will be in operation from mid 2011. The new bus service will have stops along Concord Road and will therefore be accesses by residents of the subject development (and indeed the entire Rhodes area). It is also understood that Council will lobby Sydney Busses to provide a diversion of this route to service Rhodes Railway Station.

The project increase in ferry demand is anticipated to be negligible not to warrant increasing services.

Car parking

The Rhodes West DCP outlines the car parking requirements for the different uses proposed as follows:

Residential

- Maximum 1 resident space per dwelling (average);
- Minimum 1 visitor space per 20 apartments, Maximum 1 space per 10 apartments; and
- Maximum 1 service vehicle per 50 apartments.

Retail

- 1 space per 40m^2

Applying these rates to the proposed development a maximum total of 736 residential parking spaces, minimum of 37 and maximum of 74 visitor spaces and 27 retail spaces. The total site-wide car parking requirement is:

- Minimum: 800 car spaces;
- Maximum: 837 spaces.

It is proposed to provide a total of 773 car parking spaces on site. Of these spaces 37 visitor spaces are provided comprising 35 standard spaces and 2 spaces design in accordance with the minimum disabled parking space standards. The residential parking spaces comprise 666 standard spaces, 70 adaptable spaces and 48 spaces which are in a tandem configuration.

The proposed tandem spaces are to be allocated to two and three bedroom units, which is permitted because the DCP parking requirement specifies than the residential parking rate is an average of 1 space per unit. Therefore some smaller 1 bedroom units will not be allocated spaces. This approach is considered appropriate given the excellent proximity of the site to public transport services and the desire for housing affordability.

In terms of retail parking no spaces are proposed. It is noted that on street car parking is available immediately surrounding the subject site. Parking is available for all users. The street frontage is approximately 425m surrounding the site which can accommodated 70-80 parking spaces. The Thompson Stanbury Report states that:

> *"It is therefore anticipated that there will be adequate parking to cater for the likely demand for non-residential uses as most users would be local who would walk or cycle to them (as would be the case with the adjoining recreational and community facilities)".*

Access

Access to the site is as follows:

- A separated ingress/egress driveway to Gauthorpe Street in the south-west corner of the site with separated 4.5 m side ingress and egress laneways with a 1 metre wide raised concrete median;
- A separated ingress and egress driveway to service Timbrol Avenue approximately 45 metres to the west of Walker Street providing a 3 metre wide ingress and egress laneways separated with a 1 m side concrete median.

The proposed driveways services the development comply with the RTA's Guidelines to Traffic Generating Development requirements for combined ingress/egress driveways.

The proposed access arrangements have been split between Timbrol Avenue and Gauthorpe Street. Given the numbers of vehicles entering and exiting the development it is appropriate and desirable to split access between the two side streets. The accessways are located outside the areas nominated in the Rhodes West DCP as vehicle access restrictions (Refer to Figure 75).

The Thompson Stanbury Transport Assessment report states that there is good sight distances between the frontage roads of Walker Street and Shorelines avenue having regard to the requirements of Australia Standard AS 2890.1-2004. The access locations are considered to be satisfactory.

Loading docks and site servicing

Garbage collection is proposed to via the Gauthorpoe Street driveway and collection will occur on site. A loading areas has been designed with a height clearance of 3.8 metres to accommodate garbage collection vehicles. A swept path analysis of the loading and service vehicle area was undertaken. This analysis illustrated that the 8.8 metre long Medium Rigid Vehicles (MRVs) are capable of accessing the site in a forward direction via Gauthorpe Street, reverse into the loading area and exit the loading area via Gauthorpe Street in a forward direction.

In terms of other service vehicles including mall delivery vans through to large removalist vehicles, the small delivery vans are proposed to be accommodated in loading bays within the basement parking area with access from Gauthorpe Street. These spaces are to be clearly signposted.

Larger removalist vehicles and delivery trucks are proposed to service the site via signposted loading zones within adjoining street frontages. The loading zones can operate during specific times to avoid impacting on-street parking and to ensure adequate turn over of vehicles.

Promoting public transport usage

Council has committed to engaging a specialist Travel Planner to prepare detailed Transport Plan (or a Green Travel Plan) to assist with the coordination of services and promoting non car-based modes of travel to incoming residents.

The Green Travel Plan provides a series of voluntary travel behaviour change initiatives aimed at encouraging the use of more sustainable transport such as walking, cycling, car pooling and public transport. The ravel Plan is to focus on proving better information, offering incentives and mode specific actions to optimise use of more sustainable travel modes.

Once the Travel Plan is prepared for the entire Rhodes West area, a site specific plan can be prepared to addresses the provision of advice to prospective residential apartment purchasers and tenants about reduced level of car parking in the area and public transport options, including the provision of a publicly access car share scheme with designated on-street parking areas adjacent the site. A summary of the objectives and potential inclusions of a site based Green Travel Plan is provided within Appendix 5 of the Transport Impact Assessment report at **Appendix I** to this Environmental Assessment.

Pedestrian and bicycle links

The proposed development has been designed in accordance with the Building Envelope Plan applicable to the site within the Rhodes West DCP. Proposed pedestrian and bicycle linkages align with the with DCP prescribed linkages. The proposed Landscape Plans at **Appendix F** illustrates the landscape treatments for the public domain linkages. Specifically, the following pedestrian linkages are proposed:

- Diagonal link from the corner of Gauthorpe Street and Walker Street through to Shoreline Park South and Shoreline Drive;
- Link between Building A and D from Walker Street to the upper podium level of Shoreline Park South; and
- Link between Building E and the adjoining Site 3B future development along the alignment of Marquet Street.

An assessment of the accessibility and equitable access of the proposed development including the public domain and pedestrian linkages is provided by Morris Goding Accessibility Consultants at **Appendix G**.

Bicycle linkages will generally following pedestrian linkages through the site connecting with public street frontages, which contain commuter (Walker Street), local (Shoreline Avenue and Gauthorpe Street) and recreation cycleway (Foreshore Reserve). Bicycle parking is provided in convenient locations close to each building entry and the retail tenancies. Adequate and safe lighting is to be provided within the public domain to promote pedestrian activity in the evening and at night.

Locating the vehicle entries on secondary streets will avoid impacting pedestrian flows and amenity on the primary street frontages so that pedestrians accessing the retail tenancies and key through site links will not be adversely impacted.

Construction phase transport impacts

An outline of a Construction Management Plan has been prepared by Thompson Standbury at Section 10 of their Transport Assessment Report. The Proponent committees to preparing a detailed construction management plan prior to the commencement of construction. The construction management plan details, the following matters:

- Construction vehicle transport routes;
- Construction site access locations and management measures;
- Construction personnel parking controls;
- Stage by stage construction traffic generation; and
- Impacts of construction on adjoining traffic and pedestrian movements, in particular the Rhodes Railway Station and Shopping Centre precinct located to the south of the site.

Refer to Transport Assessment Report at **Appendix I**.

6.5 Noise and Vibration Assessment

The Environmental Assessment is required to address the issues of noise and vibration impacts from the railway corridor and provide detail of how this will be managed and ameliorated through the design of the building, in compliance with relevant Australia Standards and the Department's *"Interim Guidelines for Development near Rail Corridors ad Busy Roads".*

An Noise and Vibration Assessment has been undertaken by Acoustic Logic, that addresses the following requirements:

- Issues 6 and 8 as detailed in the Draft Director General's Requirements (DGR's).
- Point 2 of the letter from Rail Corp dated 14 September 2010.
- Issues raised by the DECCW in their letter of 13 September 2010

Noise Impact Assessment

The Report identified the environmental noise sources that may impact future occupants of the site as primarily rail and traffic noise and makes recommendations for acoustic treatments to reduce these impacts to within acceptable levels.

The potential noise impacts on the subject development are train noise from the northern rail corridor, which is located approximately 35 metres to the east of the site boundary. The Noise Impact Assessment has adopted the noise impact criteria, from the Department of Planning Guideline *Development Near Rail Corridors and Busy Roads – Interim Guidelines*, as provided in **Table 15**.

Table 15. Internal Railway Noise Level Criteria

Location	Time of Day	Allowable Noise Level
Living and sleeping areas	Day	40dB(A)Leq(15hr)
	Night	30dB(A)Leq(15hr)

Unattended and attended measurement of the external noise levels generated by road traffic and the railway were undertaken on Walker Street and ion the northern rail line. The measures noise levels have had regard to the measured noise from vehicle traffic and trains passing by the site, the duration of the train passby and number of rail movements per hour were taken into consideration. **Table 16** provides a summary of the unattended measures noise levels documented for the noise impact assessment.

Table 16. Unattended measures noise levels

Location	Daytime Level dB(A)Leq(15hour)	Night Time dB(A)Leq(15hr)
Eastern Façade of 40 Walker Street (approximately 40 metres from rail line	63	58

The Noise Impact Assessment includes a number of recommendations to minimise noise intrusion into the proposed development. The recommended glazing for windows oriented to the railway line and adjoining streets have considered the orientation of windows, barrier effects, roof the total area of glazing, façade transmission loss and room sound absorption characteristics.

The recommended glazing constructions for each of the buildings is provided in Section 4.3 of the Noise Impact Assessment. The recommended glazing type will reduce noise to internal noise levels within the nominated criteria for the various space types during the day and at noise

It is noted that the potential increase in rail movements on the northern line, has been considered in the proposed acoustic treatments. Noise Impact Assessment states that:

> *"The acoustic treatments discussed above have been designed such that a comparatively large increase in rail movements (a doubling) can occur while still achieving compliance with Department of Planning recommended noise levels".*

Rail vibration assessment

In terms of rail induced vibration, an assessment is provided at **Appendix R** against the relevant guidelines, namely the RIC's and SRA's Interim Guidelines and the *British Standard BS 6472:1992 "Evaluation of Human Exposure to Vibration in Buildings (1Hz to 80Hz)"*.

Rail Noise Vibration measures were conducted in line with future proposed eastern façade which is the potentially worst effected façade nearest the railway line. The measures vibration levels, duration of train passby and the number of rail movements per hours were used to determine the overall vibration dose (VDV) at the proposed development for both daytime and night time periods.

The VDVs were found to be less than the "low probability of adverse comment" criteria (the most stringent criteria) for the subject site. The report states that:

> *"No vibration attenuation treatment to the development is required".*

Having regard to the proposed increase in rail traffic, the report states that:

"Measured vibration levels are significantly lower than acoustic criteria. Even a very significant increase in rail traffic in the future (more than three times current levels) could be accommodated without the need for any vibration isolation of the building".

Noise emission impact assessment

The potential noise emissions which may be generated by the site have been assessed to be mechanical plant noise, increased vehicle noise, and noise from retail/commercial tenancies within the development and recommends acoustic and management controls in order to reduce these noise impacts on nearby properties and to new dwellings within the subject development.

The criteria for the noise emission assessment is based on the Industrial Noise Policy Objectives (both Amenity and Intrusiveness Criteria).

Intrusiveness is calculated with reference to the background noise levels. Noise monitoring was undertaken for the preparation of the noise assessment report. Measured background noise levels are provided in **Table 17**.

Table 17. Measured Background Noise Levels

Location	**Background noise levels dB(A) L90**		
Walker Street, Rhodes	**Daytime** (7am – 6pm)	**Evening** (6pm – 10pm)	**Nightime** (10pm – 7am)
	50	48	38

The Intrusiveness and Amenity Criteria are presented in Table 11 of the Noise Impact Assessment report. In terms of the noise emissions from the development, the following comments are made:

Mechanical Plant

- A detailed assessment of the external mechanical plan will be undertaken prior to the issues of a construction certificate once the plant selections have been finalised. Acoustic Treatments are to be determined in order to control plan noise emissions to the levels within the Noise Emission Requirements for Residential Receives provided in the Noise Impact Assessment prepared by Acoustic Logic.
- All plant types are to be satisfactorily attenuated to levels that comply with the Industrial Noise Policy criteria through appropriate location and (if necessary) acoustic treatments such as screens, enclosures and in-duct treatments (attenuators or lining) included.

Commercial and retail tenancies

- Loading docks, mechanical plant (kitchen exhaust fans) and the outdoor dining areas have been the potential to disturb residents of nearby residential units.
- Noise Impact Assessments are to be undertaken with any future development proposals for the use of the retail tenancies that have the potential to generate noise to advise levels that may impact residents. Noise from retail tenancies can be adequately controlled in terms of controlling patron numbers and trading hours to ensure a reasonable amenity for future residents.

Refer to Noise and Vibration Assessment Report at **Appendix R**.

6.6 Electrolysis and stray currents

The subject site is located adjacent the Northern Railway line. Walker Street separates the site from the railway corridor. The majority of d.c current to power electrified trains returns to the railway sub stations via the railway lines. Stray currents from the electrified railway lines have the potential to be conducted to adjacent and adjoining developments where:

- Metallic structures are close to the railway lines and are large and long enough; and
- Leakages of stray currents to soils are of sufficient frequency and magnitude to cause of problem.

Stray currents can lead to electrolysis type corrosion problems in buildings.

An stray current and electrolysis assessment for the project has been conducted by Corrosion Control Engineering (CCE). In summary the results of the assessment show that there will be some effects from stray currents at the site. The report states that:

"We rate the present effects ad being insignificant on the proposed structure. However stray traction current effects at the site could change with time".

As stray current effects may change over time, the CCE report recommends the following protective measures:

- *The installation of heavy plastic membrane (e.g. Forticon) under any new in or on ground reinforced concrete slabs and/or piers to electrically isolate the slabs and/or piers from soil and the stray currents;*
- *The use of plastic, rather than metallic in-ground pipework where possible.*
- *An alternative to using plastic membrane is to use high strength, high cover (40 MPa) and 600mm concrete around all on or in-ground steel reinforcing.*

These recommendations have been adopted in the draft Statement of Commitments at **Section 7** of this report.

Refer to the Electrolysis and Stray Current assessment at **Appendix L**.

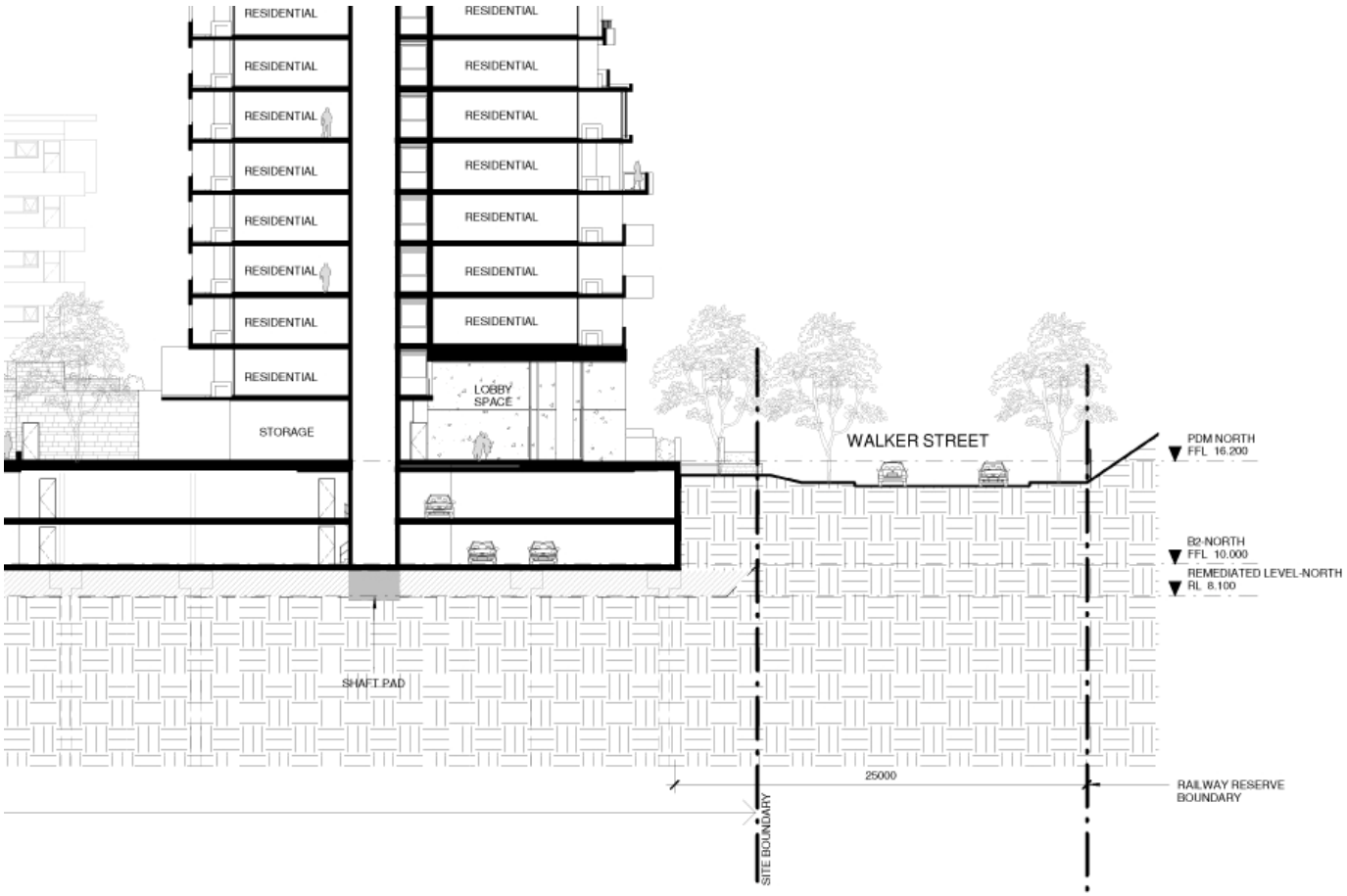

Figure 37. East West section with relationship to rail corridor

6.7 Ecologically Sustainable Development

The Environmental Assessment is required to detail how the development will incorporate ESD principles in the design, construction and on-going operation phases of the development.

The Environmental Assessment is also required to demonstrate that the development has been assessed against a suitably accredited rating scheme such as BASIX and other relevant criteria to meet industrial best practice.

This section of the report provides an assessment of the proposed development against the principles of Ecologically Sustainable Development. A description of the ESD initiatives employed in the design and future construction of the project are also describes a summary of the performance of the project against the established rating scheme for residential development in NSW, BASIX is also provided.

ESD initiatives and BASIX performance

BASIX has been used to provide specific benchmarks for the residential component, which makes up the vast majority of the development. Billbergia will meet and exceeds the minimum BASIX targets that currently are mandated under SEPP BASIX. In collaboration with the architects, consultants and Ecospecifier Consulting, Billbergia strive to develop building principles that will consistently exceed these minimum benchmarks.

Thermal comfort performance, water and energy efficiency ESD initiatives proposed are described in below:

Thermal comfort

The thermally efficient materials and passive design techniques incorporated into the proposed development to achieve the high performance are:

- Double glazed, tinted, Low- E, argon- filled glazing for all windows (to reduce heat loss in winter and heat gain in summer)
- High levels of external wall insulation (R2.5 added insulation for all walls, including those adjacent to car parks and subfloors)
- Roof insulation (R3.0 or more added insulation);
- Hebel, concrete walls and concrete slabs used to provide internal thermal mass;
- Generous balconies used to provide horizontal solar shading;
- Sunhoods and pergolas used to provide additional horizontal solar shading;
- Generous window openings in bedrooms and living areas to provide natural ventilation and passive cooling;
- Dual aspect and/or corner aspect for many apartments to assist with cross ventilation; and
- Compact design and small external surface areas for many units (to reduce heat loss and heat gain through the building envelope).

Water and Energy – BASIX Initiatives

BASIX certificates for all proposed buildings are provided at **Appendix U**. The proposed development has performed very well in regards of achieving the thermal comfort, water and energy targets. The water score was 40/40 and the Energy score was 20/20. The many water and energy efficient strategies are listed in the BASIX report and have been summarised below.

The water score has not included the dual reticulation system (since it is a future water supply) so in reality the future water performance will far exceed 40/40 (and should be closer to 50/40).

Water Efficiency initiatives:

- 5 star taps;
- 4 star toilets;
- 3 star showers (mid- range, i.e. between 6 and 7.5 L/min);
- 4 star washing machines (possibly for some dwellings);
- 3 star dishwashers;
- Large rainwater tank collecting from roofs for all irrigation water and car- wash water;
- High percentage of indigenous planting (over 50%);
- Sprinklers for car park and within high- rise buildings (with test water reused in a closed loop); and
- Dual reticulation for toilets and laundries (designed for the future treated wastewater supply to this area, hence no extra marks are given in BASIX).

Energy Efficiency Initiatives

For the common areas:

- PV cells to generate solar power;
- Pool pump with timer and solar pool heating (gas- boosted) with 70m^2 of solar collectors;
- Gas heated sauna;
- Central gas- fired storage hot water system (with insulated ringmains and supply risers);
- Compact fluorescents in lifts, activated by call buttons;
- Compact fluorescents in hallways and lobbies (with daylight sensors and motion sensors);
- Fluorescent or compact fluorescent lights in other common areas (with motion sensors, time- clocks and/or manual switches);
- Fluorescent lights in car park areas with motion sensors and time clocks (and just 20% permanently lit “safety lighting”);
- VVVF lifts with gearless traction;
- BMS (building management system);
- PFC (power factor correction);
- Car park has 15% natural air supply, CO sensors and variable speed fans;

- Hallways and lobbies areas are naturally ventilated;
- Plant rooms are supply and exhaust and garbage rooms are exhaust only.

For the apartments:

- Undedicated compact fluorescents and/or LEDs in all rooms in the dwellings;
- Individual ducted exhaust and individual fans (switched on/off) to ventilate bathrooms and laundries (as opposed to inefficient central systems);
- Efficient reverse cycle AC – 1.5* for both heating and cooling (new rating system);
- Zoned air conditioning controls to ensure that only the required bedrooms and/or living areas are being conditioned, at any given time;
- Gas cooktops and electric ovens;
- Dishwashers 3 star energy and 3 star water; and
- Dryers 2 star

An ESD Report prepared by EcoSpecifier is provided at **Appendix Q**. A BCA Section J assessment report is provided at **Appendix K**. BASIX Certificates for all buildings are provided at **Appendix U**.

6.8 Drainage and Stormwater Management

The Environmental Assessment is required to address drainage and groundwater issues associated with the development and the site, including:

- Stormwater;
- Drainage infrastructure; and
- Incorporation of Water Sensitive Urban Design measures

Section 3 of the report describes the proposed stormwater management solutions to be employed on the site. Stormwater Concept Plans are provided at **Appendix H**.

6.9 Contamination, HHRA and Geotechnical Issues

The Environmental Assessment is required to address any relevant contamination and geotechnical issues associated with the proposal in accordance with SEPP 55 and other relevant legislation and guidance, and should consider the impact on human health having regard to the surrounding construction and remediation activities on the Rhodes Peninsula.

Implications of remediation on future site construction and occupation

Potential impacts of remediation activities on occupants and construction workers

Active remediation works involving the excavation and treatment of contaminated materials have been completed within Precinct B in

accommodate with an approved remediation action plan. The final phase of remediation involving the decommissioning of the plant is underway and the Proponent understands that remediation will be completed in March/April 2011, followed by the issue of a site auditor statement, certifying that the site is suitable for the proposed land uses.

Construction of the Site 2A and 3A development is likely to commence in mid 2011. Construction duration of the first stage of 18-20 months is anticipated. Therefore residential occupation is not due to occur until the completion of all remediation activities on Precinct B.

In terms of the risks to construction workers on Site 2A, there is potential for construction work to commence before the competition of remediation works on Precinct B. Should this be the case, the Proponent will implement a Construction Environmental Management Plan. A Construction Environmental Management Plan was prepared by Billbergia Developments Pty Ltd and implemented during the construction of the residential development at Site 1A, to the north of the subject site.

Should an occupation certificate be sought for the proposed residential development prior to the completion of remediation, the Proponent commits to prepare a Human Health Risk Assessment to demonstrates that the site is safe to occupy. As states previously, the timetable for planned occupation is unlikely to overlap with the remediation activities, which are nearing completion.

Earthworks

During excavation works, care will be taken to separate classified materials. Excavated/disturbed materials will be replaced in the order/depth that they were removed and the surface level restored and maintained upon reinstatement.

Excess soil that cannot be reinstated into the original excavation area (or at another suitable location) will be classified and assessed for off-site disposal as per the NSW EPA's *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes* (1999).

Excavation for the construction of buildings on the site is to be carried out in accordance with the Site Management Plan. Piling for building foundations, which will break the maintenance layer into the remediated fill layers is to utilise piling techniques which minimise the amount of fill which is excavated. Piling techniques should displace the remediated fill in situ rather than it being excavated for the building foundation piles. This will ensure that the remediated fill remains on site.

The construction of the proposed development involves the excavation of the site for piles and columns to support the tower buildings. The excavation for theses piles and columns is required to penetrate through the maintenance layer that caps the remediated layers of materials. There is potential environmental risk of excavating remediated materials during the construction process.

A Construction Environmental Management Plan (CEMP) was prepared by Douglas Partners for the construction of Site 1A. This Plan, which was submitted to the DECCW and the Department of Planning (and approved) sets out the environmental management practices, protocols and procedures required to minimise environmental impacts during the installation of displacement piles and associated works.

The objective of the CEMP is to provide a management plan to enable the

works to be conducted according to relevant statutory requirements and environmental best practice, with minimal, adverse, environmental and health impact, in order to maintain conditions suitable for the proposed residential development i.e. in line with the status of the site on completion of the site audit.

The proponent commits to implementing the same CEMP for the subject development.

On-going management of site contamination

Management of the site is to be undertaken as per the Site Management Plan, to be finalised following the validation of the site by the Site Auditor.

The provision of a positive covenant on the common stratum for each development lot has been accepted to satisfy the conditions of the remediation consent ahs been accepted on the adjoining Site 1A. The positive covenant on the common stratum of each lot satisfies the DGRs for Site 1A Major Project by ensuring that prospective purchasers of dwellings will be advised on the potential human health impacts. Refer to **Appendix T**.

Individual unit owners will each own a share of the common stratum forming part of the strata plan, which is intended to be resolved through submission of a future Development Application to Council. The positive covenant sitting on the title will form part of the contract of sale of the individual lot and they will be advised through the necessary conveyance prior to the purchase of the unit.

It is considered that this approach will ensure a transparent and equitable notice of the future potential liabilities/legacies associated with the presence of contaminated material on the site to parties who may have an interest in the site including individual unit owners, consistent with the remediation consent.

Erosion and sedimentation controls

To minimise the potential of contaminants migrating into Homebush Bay or surrounding areas, appropriately installed siltation controls will be provided and maintained.

Intrusive works will be developed to prevent surface water originating in surrounding areas from being contaminated. Surface water runoff will be controlled by appropriate means including, but not limited to, the use of temporary bunds, diversion drains, ditches, straw bales and silt fences. The runoff controls will be installed in accordance with Department of Land and Water Conservation Guidelines and regulatory requirements. The work may include the construction of stormwater retention basins, covers over stormwater pits, bunding, silt fences, straw bale barriers, and the use of oil absorbent products.

Management Plans

Detailed management plans will be prepared prior to excavation/disturbance of the soils on-site and implemented for the duration of the works, in relation to the following:

- Air quality;
- Water quality;
- Noise; and
- Contaminated soil.

Disposal of contaminated materials

Spoil that is not returned to its original location (depth and area) will be appropriately managed. This may entail assessment and off-site disposal to a licensed landfill facility.

If the material is to be disposed to landfill, the process will be conducted in accordance with the NSW EPA's *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes* (1999) (or other relevant EPA requirements) and will involve, at a minimum, analytical testing for the chemicals of concern. Provisions for temporary storage of the excess soil in an environmentally responsible manner prior to disposal would be detailed in any application for excavation on-site.

This would include measures such as:

- Placement of material on a sealed or plastic lined surface;
- Construction of sediment retention features around stockpiled materials;
- Vapour and odour suppression;
- Dust suppression; and
- A monitoring program to ensure the effectiveness of these storage measures.

Geotechnical and groundwater considerations for building construction

Douglas Partners have prepared a memorandum, following their inspection of the base of the borrow pits on each of the Sites 2A and 3A. The memorandum states that:

> *"The rock was typically medium to high strength shale and will be suitable for supporting the proposed buildings using appropriately designed piles".*

The memorandum also confirms that the regional groundwater table is below the proposed basement level which is at the top of the capping/maintenance layer on both Sites 2A and 3A. As such groundwater does not pose any impacts on the construction of the proposed basements. Refer to **Appendix AA**.

6.10 Utilities

The Environmental Assessment is required to demonstrate the consultation has occurred with the relevant utilities authorities and service providers and address the existing capacity and requirements of the development for the provision of utilities including the staging of infrastructure to service the site and the development.

Proposed utilities services for the proposed development are documented in the Cardno report at **Appendix H**. The reports outlines all of the design methodology for each of the services to the development including:

- Mechanical services;
- Fire services;
- Hydraulic services including stormwater; and
- Lift services.

The report outlines the following in relation to each of the services:

- Building services utility supply philosophies for the respective disciplines (sewer, gas, stormwater, town mains water and essential fire services mains;
- General building services methodology;
- Building services spatial requirements; and
- Provides conceptual building service designs.

Consultation with utility provided during the preparation of this Environmental Assessment to confirm the capacity of existing services and whether there are requirements for service upgrades to support the proposed development is provided in **Section 1**.

6.11 Contributions

The Environmental Assessment is required to address the provision of public benefits, services and infrastructure having regard to Council's Section 94 and Section 94 A Contribution Plans, and provide details of any Planning Agreement or other legally binding instrument proposed to facilitate this development.

The Environmental Assessment is also required to given consideration to the impact on the capacity of existing services and facilities, including:

- Emergency services;
- Upgrading of local roads;
- Increased bus services;
- Funding for schools and hospitals;
- New medical and health facilities.

Development Contributions

Rhodes Contributions Framework Plan

The proposed development will be subject to the development contributions under the Rhodes Contributions Framework Plan, prepared by the Department of Planning. It is understood that conditions will be levied under this Contributions Plan for all residential and non-residential floor space up to the maximum permissible under the Stage 1 Master Plan 268-6-2003.

Voluntary Planning Agreement

A Voluntary Planning agreement applies to the subject site. A copy of the exhibited VPA dated 1 July 2010 with this Environmental Assessment at **Appendix O**.

The VPA was exhibited with the Draft Rhodes West LEP and DCP. It is understood that since the exhibition of the VPA, the VPA has been signed by the City of Canada Bay Council and the Proponent.

Under the VPA Billbergia Development Pty Ltd is required to dedicate land free of cost in the form of public open space, pay a monetary contribution, as well as provide other material public benefits that are to be used for and applied towards a public purpose.

Specifically, the Voluntary Planning Agreement, relates to the provision of the following public benefits:

Dedication of land free of cost

- 11,030m^2 of public open space land
- The dedication of the embellished public open space is to be undertaken in stages following the staged development of the site in accordance Part B of Schedule 4 of the VPA.

Embellishment work

- Embellishment of public open space land at a cost of 450 per square metre, which equates to a value of $4,963,500.00.

Monetary contribution

Under Section 3.1 of the Voluntary Planning Agreement the monetary contributions payable by Billbergia Developments towards public benefits are outlined as follows:

(d) $1,000 for each square metre (or part thereof) of Additional Gross Floor Area in the development that it to be used for the purpose of retail premises within the meaning of the Amended LEP;

(e) $588.24 for each square metre (or part thereof) of Additional Gross Floor Area in the Development that is to be used for business premises within the meaning of the Amended LEP; and

(f) $588.24 for each square metre (or part thereof) of Additional Gross Floor Area in the Development that is to be used for residential accommodation within the meaning of the Amended LEP.

The timing of payment of the monetary contributions is provided in Schedule 3 of the VPA, related to the staged development of the project.

The monetary contribution is for the following public purposes:

- Embellishment of public open space including public toilets in Point Park and other embellishment and public facilities above the current standard of landscape embellishment and facilities provision considered as acceptable for the Rhodes Peninsula based on the Renewing Rhodes Contributions Framework dated November 2001 (Planning Framework); and the Renewing Rhodes Development Control Plan 2000 adopted in November 2001;
- Upgrading of roads and footpaths in Rhodes (East and West) to improve access and traffic flows; vehicular, cyclist and pedestrian safety and management; in and out of the Peninsula; and to improve amenity and safety generally above and in addition to that required in the Planning Framework and Renewing Rhodes Transport Management Plan dated November 2001;
- Bicycle storage and user facilities in addition to those facilities which would have had to be provided under the current Planning Framework and Transport Management Plan;
- Facilities associated with car share scheme, but only those which are available to the general public;

The VPA does not form part of this Part 3A application, as it was established with the. This Part 3A Planning Application is consistent with

the VPA, and Billbergia Developments commit to enacting the agreed public benefits and contributions, in a staged way consistent with the staged development of the site.

Impact of the development on infrastructure capacity

At the time of considering the Rhodes West Master Plan, which preceded the Draft Rhodes West LEP and DCP, Council addressed the impact of the uplift in floor space and additional public facilities and open space on existing urban infrastructure.

Emergency services

It is understood that Council will continue discussions with the Fire Brigade to determine, whether additional Fiore Brigade services are required and if additional land is required for future explanation of the Fire Brigade functions at Rhodes.

Upgrading of local roads

The upgrade of local roads to cater for the development at Rhodes West is to be funded from levying developers under the Rhodes Contributions Framework Plan and from the contributions levied through voluntary planning agreements with developers. Council has adopted a strategy to allocate contributions to local road improvements. The proposed development is to contribute a share of the cost these local road upgrades. The timing of the implementation of these local road works will be dependent on the staged payment of contributions, inline with the staged development of the subject site and other sites at Rhodes West.

Increased bus services

The projected additional **bus** trips can be accommodated. It is understood that Sydney Busses recently advised Council that a new bus route, Metro Route M41, providing a service between Hurstville and Macquarie Park, will be in operation from mid 2011. The new bus service will have stops along Concord Road and will therefore be accesses by residents of the subject development (and indeed the entire Rhodes area). It is also understood that Council will continue to S discuss the diversion of this bus route to service Rhodes Railway Station with Sydney Busses.

Funding for schools and hospitals

During the preparation of the Rhodes West Master Plan, Council was advised by the Department of Education and Training its concerns about the potential impact of the proposed increased in residentially density on future government school demand locally. It is understood that Council will continue to discuss solutions for accommodating the demand for school placements in the local area.

New medical and health facilities

Rhodes is located within easy access of the Concord Hospital, a major regional Hospital, which provides a full range of medical services. Should there be an impact on the medical services provided at the Hospital, the

The proposed development, is consistent with the maximum permissible FSR, and therefore the impact f the development on existing infrastructure

serving the Rhodes West and the subject site, will not be greater than that which Council considered acceptable in the exhibited Draft Rhodes West LEP.

6.12 Consultation

The Environmental Assessment is required to demonstrate that an adequate and appropriate level of consultation in accordance with the Department's *Major Project Community Consultation Guidelines October 2007* has occurred.

Section 1 of this report provides a summary of the consultation activities undertaken with government agencies, utility providers as well as the community. It is noted that a significant amount of consultation has occurred during the preparation of the new Planning Framework (LEP/DCP/VPAs) for Rhodes West by the City of Canada Bay Council.

Consultation activities has occurred during the preparation of this Environmental Assessment and additional activities are also plan during the formal Environmental Assessment exhibition period, which are outlined in **Section 1**.

6.13 Staging

The Environmental Assessment is required to include details regarding the staging of the proposed development including the provision and timing of all required infrastructure works and any staging of the delivery of public domain works. The design and embellishment of public open space is subject to a separate Part 4 Development Application.

The proposed development will be constructed in 5 stages as illustrated in **Figure 38**, and described as follows:

- **Stage 1 –** An areas of 6100m^2 of the site comprising Building A and a portion of public open space;
- **Stage 2 -** An areas of 2305m^2 of the site comprising Building B;
- **Stage 3 -** An areas of 3612m^2 of the site comprising Building C and a portion of public open space;
- **Stage 4 -** An areas of 6312m^2 of the site comprising Building D, the communal facilities building and a portion of public open space; and
- **Stage 5 -** An areas of 2440m^2 of the site comprising Building A and the final portion of public open space.

It is noted that a significant proportion of the public open space, that will be dedicated to Council is to be achieved in the first three stages of the development.

Public access between Walker Street and Shoreline Avenue will be achieved in the first stage of construction.

Figure 38. Staging plan
The proposed development is to be constructed in 5 stages. The design and embellishment of public open space is subject to a separate Part 4 Development Application.

7 Draft Statement of Commitments

The Director General's Requirements including a requirement to provide a Draft Statement of Commitments detailing measures for environmental management, mitigation measures and ongoing monitoring for the project.

This section of the report outlines the commitments made by the Proponent to manage the site and the development and mitigate the on-going impacts of the development, that are understood to be implemented part of the conditions of development consent.

7.1 Other development approvals

The Proponent commits to seeking separate development approvals for the following development on the subject site:

- Public open space and public facilities
- Separate retail use and fitout for each tenancy
- Strata and Stratum subdivision

7.2 Ecological Sustainable Development

All dwellings are to be design and constructed to meet the minimum BASIX targets for energy and water conservation and thermal comfort, as outlined in the BASIX Certificates submitted with the Environmental Assessment.

7.3 Open space and public domain

The separate Development Application for public open space and public facilities is to be prepared by the Proponent and submitted to Council prior to the determination of this Part 3A Major Project Application.

All public open space areas are to be dedicated to the Council.

Embellishment works will be undertaken in accordance with the agreed staging under the signed Voluntary Planning Agreement for the subject site. The staged embellishment of the public open space is to be completed prior to the occupation of the corresponding building construction stage.

7.4 Public art

The Proponent will work with Council to prepare a public art strategy for the site in accordance with the Rhodes West DCP. Public art strategy is to be prepared in consultation with Council and finalised prior to the issue of the first Construction Certificate for the residential buildings on the site.

The Proponent commits to provide a monetary contribution to the City of Canada Bay Council of $25,000 for the provision of public art on the site. The monetary contribution is to be provided to Council prior to the issue of the first Construction Certificate for the residential buildings on the site.

7.5 Walker Street upgrade

Upgrade works to surface and both sides of Walker Street is to be undertaken in accordance with the civil drawings prepared by the Proponent and submitted to Council for approval at **Appendix W** of this Environmental Assessment. Works to Walker Street are to be in accordance with Council's standards.

The timing for the construction of the proposed Walker Street upgrade works is to be in accordance with the staged development of Site 2A and 3A. Each stage of the Walker Street upgrade works are to be completed prior to the issue of an Occupation Certificate for the immediately adjacent building ion the corresponding stage of development.

7.6 Residential apartment design

The Proponent commits to construct the residential buildings in accordance with the Architectural Plans prepared by SJB Architects, and in accordance with the Design Quality Principles of SEPP 65.

7.7 BASIX Certificate

The Proponents commits to constructing the proposed development in accordance with the BASIX Certificates provided with the Environmental Assessment.

Certification is to be provided to the Certifying Authority that the commitments identified in the BASIX Certificate have been fulfilled prior to the issue of an Occupation Certificate. The Proponent will provide a copy of the documentation to Council.

7.8 Consistency with the Building Code of Australia

The Proponent commits to comply with the relevant provisions of the Building Code of Australia.

7.9 Construction Management

Prior to the commencement of construction works, the Proponent will provide a Construction Management Plan prior to the commencement of works. The construction management plan is to include the following sub-plans:

- Air Quality Management Plan
- Noise and Vibration management Plan
- Construction Traffic Management Plan

7.10 Hours of construction activities

The Proponent committees to undertake construction activities within the timing times:

- Monday to Friday: 7am to 6pm
- Saturday: 8am to 1pm

No construction work is to be undertaken on the subject site on Sundays or Public Holidays.

7.11 Electricity supply details

Details confirming the proposed electricity supply and outcomes of negotiations between the Proponent and Energy Australia regarding existing power cables on the subject site are to be provided to the Principal Certifying Authority prior to the issue of the first Construction Certificate.

7.12 Gas supply details

An application to Jemena will be made by the Proponent for the provision of gas supplies to the subject site. Details are to be made available to the Principal Certifying Authority, provision to the issue of the first Construction Certificate.

7.13 Stormwater infrastructure

Stormwater infrastructure including connections to the approved stormwater infrastructure within the public domain areas are to be constructed in accordance with Council's requirements.

7.14 Erosion and Sediment Control

The Proponent will implement the erosion and sediment control measures recommended by Cardno in the Stormwater Management Report submitted with the Environmental Assessment throughout the construction period.

7.15 Waste Management

The Proponent commits to adopting the recommended garbage room construction requirements outlined in the report prepared by Elephant Foot submitted with the Environmental Assessment, as follows:

1. The room floor to be sealed with a two pack epoxy;
2. All corners coved and sealed 100 mm up, this is to eliminate build up of germs;
3. A hot and cold water facility provided for washing all the bins;
4. A bucket trap type floor water installed where all concrete levels are to direct the water to;
5. All wall painted with light colour and washable paint;
6. Equipment electric out lets to be installed 1700 mm above FFL;
7. The room must be mechanically ventilated;
8. Optional automatic odour pest control system installed to eliminating all pest types. Note: This can be done after hand over where management can install if needed);
9. All hinged doors are to self closing, roller doors must be key operated with only access to authorised personnel; and
10. Garbage collection area, must be provided adjacent to the garbage room with in the building envelope, all bin movements should be on even surface way from ramps.

The Proponent will provide documentation to the PCA demonstrating that the recommendations have been sufficiently addressed prior to the issue of a Construction Certificate.

7.16 Positive covenant & Site Environmental Management Plan

The Proponent commits to the registration of the public positive convent on the title of the land that references the Site Environmental Management Plan that outlines the procedures and protocols for any future excavation of the site in accordance with **Appendix T** of the Environmental Assessment.

7.17 Construction Environmental Management Plan

The Proponent commits to preparing a detailed Construction Environmental Management Plan prior to the commencement of any construction on the site.

The Construction Environmental Management Plan is to include, but not be limited to the following sub-plans:

- Air Quality and dust management;
- Soil and water management;
- Contaminated Land Management;
- Waste management and reuse; and
- Noise and vibration management.

The Contaminated Land Management sub-plan will detail procedures for the constructing piles for building structure, which may excavate through remediated material.

A DECCW accredited site auditor (preferably with previous experience on the former Lednez site) will review the Contaminated Land Management sub-plan. The Site Auditor will also confirm that excavation works for the building piles, that may disturb remediated material have been undertaken in accordance with the Contaminated Land Management sub-plan.

Documentary evidence that excavation works have been undertaken in accordance with the Contaminated Land Management sub-plan from a Site Auditor is to be provided to the Certifying Authority prior to the issue of a Construction Certificate for above ground building works.

7.18 Acoustic mitigation measures

Mechanical Plant

The Proponent commits to undertaking an assessment of all external mechanical plant prior to the issues of a construction certificate once the plant selections have been finalised.

Acoustic treatments are to be determined in order to control plan noise emissions to the levels within the Noise Emission Requirements for Residential Receives provided in the Noise Impact Assessment prepared by Acoustic Logic submitted with the Environmental Assessment.

All plant types are to be satisfactorily attenuated to levels that comply with the Industrial Noise Policy criteria through appropriate location and (if necessary) acoustic treatments such as screens, enclosures and in-duct treatments (attenuators or lining) included.

8 Conclusion

This Environmental Assessment has been prepared by Architectus on behalf of Billbergia Developments, in response to the Director General's Environmental Assessment Requirements. It is submitted to both the City of Canada Bay Council and the Department of Planning for public exhibition with the Part 3A Project Application.

The report provides an overall planning assessment of the proposed development against the relevant needs of consideration under the applicable controls and objectives, outlining the proposed development's level of compliance, and the history of development on the subject site and the Rhodes Peninsula.

The proposal is highly consistent with the relevant Draft Rhodes West LEP and DCP standards and controls. Non-compliances are justified within the report, and are considered minor, and to have no significant detrimental environmental or amenity impacts. The appendices following this report give detailed analyses on specific aspects of the application in response to the project DGRs and the recommendations of these reports are to be followed through construction and operation of the development, as outlined in the Draft Statement of Commitments.

Important aspects of the development, such as provision of adequate solar access, natural ventilation, carparking and access, acoustic amenity, remediation of soil and the protection of human health, and design quality and aesthetics are satisfied or appropriately managed as applicable.

The proposal is suitable for the site, and offers an opportunity to create a high quality mixed-use development within an established urban area, which is generally consistent with previous planning approvals for precinct, and will have minimal adverse environmental impact.

Accordingly, it is recommended that the Minister for Planning support the proposed development and grant consent subject to appropriate standard conditions and the Proponent's Draft Statement of Commitments.