G. ENVIRONMENTAL IMPACT ASSESSMENT - CONCEPT PLAN

SHEPHERDS BAY URBAN RENEWAL

89. PUBLIC BENEFITS

Consistent with Council's LEP 2010 objetcives to "provide a mixture of compatible land uses", the Concept Plan facilitates future development of a vibrant new living area with a mix of uses - residential community, convenience retailing, café's, entertainment and limited commercial spaces. The mix of landuses have been informed and prepared by Hill PDA, attached as **Annexure 10**, Council's DCP and more recent Council statement's with regard to limitations on potential for commercial uses in the area. As detailed in the Economic Assessment, the recommended level of commercial uses has been limited to daily convenience shops, café's and restaurants to ensure no significant impacts on nearby commercial areas and the existing shopping facilities within the Waterpoint development adjacent.

There are a number of social, economic and environmental benefits offered by the Concept Plan including:

1. Better, more useable open spaces, connections and meaningful 'place making'.
2. Distinct precincts – formal, informal, active, passive, social hubs etc.
3. Potential for community facilities – community theatre space, market area, childcare, Council administration.
4. Potential for commuter car park under signature building.
5. Greater respect for and community understanding of riparian environment.
6. Greater emphasis on non-motorised modes of transport and connections to ferry, rail and buses.
7. Increased view corridors to the water and visual and physical linkages to provide for a high quality internal residential amenity.
8. More seamless connections between the new development and existing neighbourhood.
9. Better public access and enjoyment of the foreshore.
10. Open, welcoming addition to the suburb, not 'gated' community.
11. Leadership in the reuse of stormwater and waste water in the landscape and potentially surplus for Council's nearby parkland.
12. More defined, elegant built form when viewed from the water.
13. Significant improvements to the stormwater management of the locality and minimise risk of flood inundation.
14. Dedication of parts of the site for public parkland/ open space.
15. Enhancement and restoration of riparian environment, foreshore and natural drainage systems.
16. Commitment to sustainable development practices such as green buildings, green infrastructure, facilitating alternative modes of transportation and integrated stormwater management planning.
17. Creation of foreshore pathway/ cycleway with a number of social and recreational nodes along the way connecting buildings and precincts to each other and creating links to the Ferry wharf.
18. A diversity of housing types and sizes that exceeds the requirement of the LEP/ DCP.
19. New road and infrastructure improvements with benefits beyond those of serving Shepherds Bay including strengthening connections and access to the foreshore.
20. Development cost charges and increased property tax revenues to be used by Ryde City Council for community-wide improvements and services as well as the creation of financial benefits that will result to the community from direct and indirect development-related jobs and services.
21. A mix of apartment sizes will be provided in response to affordable housing.
22. Approximately 10% of the apartments will be of accessible design suitable for disabled persons.
23. Flexible spaces will be provided on ground level for retail development and consideration will be given to flexible (live/ work) units.

90. CONSULTATION

DGR 11: CONSULTATION
Undertake an appropriate and justified level of consultation in accordance with the Department's Major Project Community Consultation Guidelines October 2007.

The purpose of the Consultation Strategy produced by Straight Talk, is to engage relevant stakeholders through a "robust and inclusive process that allows for two-way communication between the project team and relevant stakeholders", including residents of the broader Meadowbank and Shepherds Bay area.

It is intended that the Consultation Strategy result in meaningfully engagement with the full range of stakeholders, including residents, local businesses, relevant community groups and government authorities to support the lodgement of the proposal during the public exhibition. Consultation techniques aim to raise stakeholder awareness of the proposal, obtain input on issues, values and concerns related to the proposal and to incorporate feedback into the planning and development process to improve the proposal through possible design, construction and operational measures that could mitigate environmental, economic and social impacts.

The owners of the site have been actively involved in the community consultation process with Council during the creation of the DCP and its more recent review. Their involvement in this process has informed them of community concerns and aspirations for the site which have been incorporated into the planning and design of the new development. It is envisioned that any additional community concerns will be addressed through the community consultation process.

A full copy of the Consultation Strategy is included as **Annexure 3** of this EA.

A variety of community consultation techniques have already taken place been or are planned to be employed to ensure that the planning process is inclusive. The components of the community consultation comprise the following:

- Meetings with Department of Planning, Councillors and Ryde Council;
- Advertisement in the local newspaper;
- Production and distribution of an informational flyer;
- Establishing and maintaining a project website;
- Community display and discussions sessions; and
- Targeted stakeholder meetings and discussions.

Key consultation meetings included:
- Two meetings with the Department of Planning (29 October 2009 and 16 September 2009)
- One meeting with Ryde Council (3 August 2010)
- Two meetings with Ryde Councillors (10 August 2010 and 21 September 2010)
- Presentation to the Chamber of Commerce on 10 November 2010

These meetings addressed development options, staging, public benefits and the detailed design of the project. More specifically discussions included potential building footprints and height, existing views and new view corridors, location of open space, pedestrian and cycle access, building interface with public domain, connections to public transport and increasing linkages and access to the foreshore.

As agreed with the Department of Planning, formal community consultation will commence upon lodgement of this application. It will be undertaken in association with the Department of Planning.

91. ISOLATED SITES

DGR 3: ISOLATED SITES
The proposal should seek to amalgamate with the adjacent properties within the Meadowbank Employment Area not included in the application so that there is a more appropriate and reasonable relationship with future developments in the locality. The EA shall include details outlining negotiations with the owners of the affected properties. In the event that amalgamation is not possible, the EA shall address development potential of the isolated sites, and identify how future staging of these isolated sites can be integrated into the overall Meadowbank Employment Area.

Holdmark Property Group and their associated companies, own or have an interest in all properties that are subject of this Concept Plan Application. However, at the request of the Director General of Planning additional sites that do not form part of the Application, within the boundaries of the Concept Plan site area were included in the Concept Plan design process to ensure they were not disadvantaged by the redevelopment of the area.

The Holdmark Property Group have unsuccessfully attempted to purchase these properties and have made the owners aware of the project. Refer to the accompanying letters from Colliers and Colin Biggers and Paisley.

For further detail refer to Part C.

92. BUILT FORM URBAN DESIGN/ PUBLIC DOMAIN

DGR 2: BUILT FORM URBAN DESIGN/PUBLIC DOMAIN

The EA shall address the height, bulk and scale of the proposed development within the context of the locality. In particular, detailed envelope/ height and contextual studies should be undertaken to ensure the proposal addresses the surrounding environment and the desired future character for the locality.

The EA shall address the design quality with specific consideration of the scale, massing, setbacks, building articulation, landscaping, safety by design and public domain, including an assessment against the CPTED principles.

The EA shall provide the following:

- comparable height study to demonstrate how the proposed height relates to the height of the existing/approved developments surrounding the subject site, within the subject site and the locality;
- visual and view analysis to and from the site from key vantage points, including from the water and from the opposite side of the Parramatta River. This analysis should also include a consideration of views from existing and approved buildings within the Meadowbank Employment Area and surrounding areas; and
- options for siting, scale, massing and orientation of building envelopes; and
- options for the provision of/and enhancement of public open space, and, location of roads, footpaths and vegetative reserves,

The EA shall demonstrate how the Stage 1 Project Application development will integrated with the overall Concept Plan proposal.

The EA shall provide a summary of community benefits, eg. the provision of public open space, provision of pedestrian and cycle links, rejuvenation of the foreshore area/riparian area, and infrastructure upgrades.

92.1 Context, Setting, Streetscape and Character

The character of the new development will draw on the character of the recent adjoining residential development, the unique natural setting adjacent to the Parramatta River, historic uses of the site and the existing industrial development. The foundation for the character is based on the desired character for Shepherds Bay as detailed in Council's DCP and Council's Riverwalk Strategy. Adaptive re-use of industrial building façades, public art, landscaping and building articulation are design elements that contribute to creating a warm and inviting character for the development. The urban design of the site, including the design of building, road and open space contribute to creating spaces for people to interact.

The Concept Plan envisions the integration of the development with the foreshore and riparian vegetation connecting it to nearby parklands. The development will contribute to the quality and identity of the context by responding to the natural and built form of the area. It will provide an attractive connection between the inner Meadowbank neighbourhood and the waterfront. The proposed taller signature building will add a significant feature to the area distinguishing as a new urban living area in the locality. Existing and future residents of Shepherds Bay will benefit from increased view corridors and substantial new parklands and pedestrian connections leading down to an enhanced foreshore environment.

92.2 Scale

The Concept Plan will result in a total gross floor area of a similar order to the development scenarios tested by Council's traffic consultants Urban Horizon in 2007 which informed Council's review of Shepherds Bay DCP control and found to be achievable in terms of traffic and transport impacts. Specifically they tested the following Scenarios for the MEA:

1. Masterplan Scenario 1 – Existing Controls Fully Developed (Existing development + 225,000 commercial + 875 residential)
2. Masterplan Scenario 2 – Revised Controls Fully Developed (Existing development + 90,000 commercial + 1,900 residential dwellings)

This is supported by Varga Traffic report at **Annexure 11**, which was based on a generous 300,00sqm GFA, whereas the Concept Plan only envisages an upper limit of approximately 260,000sqm.

The density and height of the development supports regional strategic plans for urban consolidation near transport hubs, recreation facilities and employment areas. It will make an important contribution to housing supply forecasts. The development is well suited to the regional context, availability of public transport and infrastructure, community facilities and recreational resources.

92.3 Development Options Explored

Based on the detailed site analysis draft two scenarios were originally developed, the 'Block Concept' and the 'Harbour View Concept'.

Option 1, the Block Concept was based on generally on the principles established in Council's LEP and DCP, as varied by the built forms of the two significant recent developments - Waterpoint and Bay One in Shepherds Bay. This development concept explored the construction of a number of 'perimeter' style residential developments, with buildings orientated around central landscaped areas. This option introduced the possibility of additional north-south pedestrian, cycle and vehicular links between Constitution Road and the foreshore.

It also incorporated the opening up of additional view corridors to the water from Constitution Road and beyond, over and above those identified in the existing and Draft DCP. Under the Block Concept it was envisaged that heights of buildings would range between 5 and 8 storeys generally uniform to the topography of the land and similar to more recent residential development nearby with a taller 16 storey signature building at the corner of Church and Well Streets. This Option also provided some additional open space above those envisaged in the DCP but was generally thought to be too uniform in building massing, resulting in 'more of the same' development in Shepherds Bay.

Option 2, the Harbourview Concept was generally based on the principles established in Council's LEP with the exception of building heights. This development concept, while similar in built form to Option 1, relied more on upgrading the east-west pedestrian, cycle and vehicular links through the precinct by connecting Nancarrow Avenue to Belmore Street together with providing significantly more public parkland. It was envisaged that heights of buildings would generally range between 3 and 8 storeys, similar to more recent residential development nearby with several taller 18-22 storey buildings in the centre of the site and a taller signature building at the corner of Church and Well Streets. In this Option, smaller footprint, taller slimmer building envelopes increased opportunities for better solar access, views to the water and parkland when compared to a DCP compliant development.

Both of these Options relied on regrading of the significantly altered topography of the Concept Plan site to facilitate accessible access between the various precincts.

These Options were discussed with both the Department of Planning and Council and it was decided that a third Option which incorporated elements of both schemes was preferred. The Preferred Option, the Terrace Concept, incorporates 4 - 9 storey building heights with two 12 storey buildings in the central area of the site to articulate and mark the central spine of the new development and one16-18 storey signature building on the signature site fronting Church Road to act as 'gateway' entry statement.

This Option is based on the general principle of a uniform height distribution across the Concept Plan site with regard to a regraded topography, with taller buildings near the central core, away from the perimeter roads to engender a sense of place and to take advantage of the water views offered to the site.

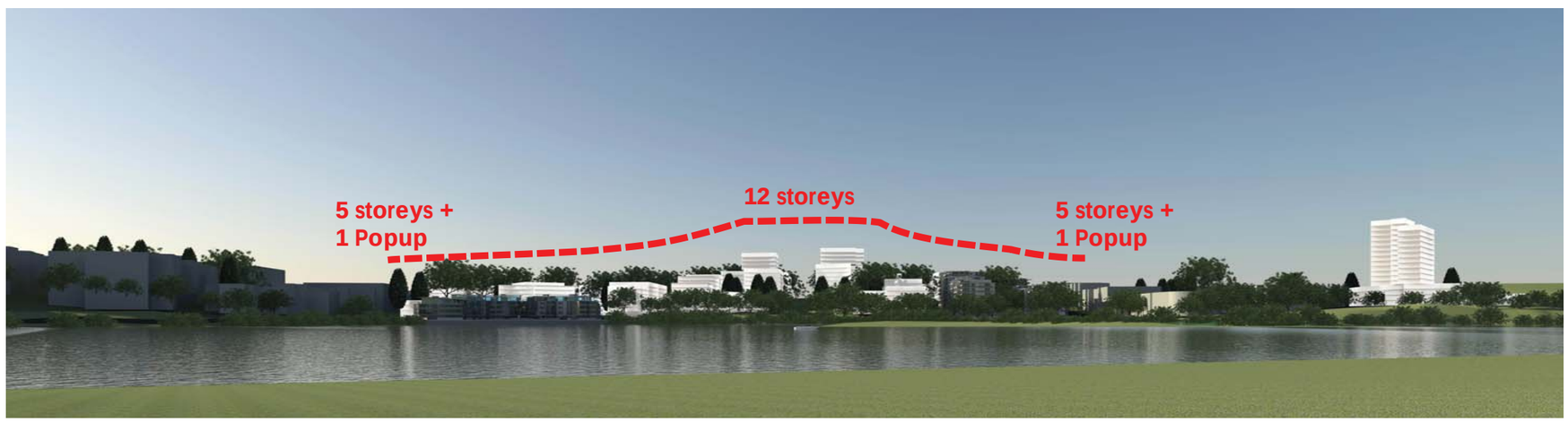

FIGURE 68. TERRACE CONCEPT - VIEW FROM NORTHERN BANK OF RHODES TO SHEPHERDS BAY (REFER TO COMPLETE SET OF ILLUSTRATIONS OF CONCEPT OPTIONS EXPLORED, PAGES 45 & 47)

92.4 Heights

The heights proposed within the Concept Plan respond to the recently constructed residential developments in the MEA area and other waterfront developments such as in Homebush Bay and Breakfast Point.

The Concept Plan proposes that heights of building envelopes illustrated on the Heights Map at **Figure 37** be referenced to the RL's of the adjacent streets. On this basis, as detailed in the Architectural Drawings at **Annexure 2**, the resultant street wall height of the Concept Plan buildings are generally consistent with recent adjacent residential developments. Variations from the LEP building height controls are sought where view access will not be impacted by marginally taller buildings, refer to **Figures 2 and 3**.

The proposed heights of buildings in the Concept Plan were informed by a detailed Urban Renewal Study by Robertson + Marks Architects and a View Analysis, undertaken by Richard Lamb and Associates, together with input from discussions with Council and the Department of Planning during the initial stages of the planning and design process to determine the appropriate scale for the development in terms of bulk and height. The outcome of the analysis of the site and surrounding context has resulted in a development that responds to the scale of the street and surrounding buildings.

Although variations are sought to the LEP/ DCP maximum height development standard, the height, bulk and scale of the proposed development has been designed with respect to the site context and recent developments adjacent to the Concept Plan site that have all relied on the variation of the LEP/ DCP maximum heights on the basis of community benefits offered.

Specific consideration has been given to views, scale, massing of surrounding development, street and parkland environments, solar access, safety by design and public domain.

The basic principle adopted was smaller building footprints to achieve greater amounts of public open space and additional pedestrian links to the water and public transport nodes and new view corridors, over and above those envisaged in Council's LEP/ DCP. These were traded off against taller, slimmer building forms which create less solar impact and enable broader view corridors to the water from the surrounding area than a LEP/ DCP complying development scenario.

The use of 3-D modelling of the site and surrounding development included in **Annexure 2** illustrates that the development responds to the height of adjoining development, the topography of the site, views to and from the site and integration of important view corridors. The modelling illustrates how the building form relates and responds to recent development.

Particular attention has been taken to setback building heights and bulk from the frontages of Constitution Road and other main roads at the boundaries of the Concept Plan site to respect lower density residential development opposite. In that instance, however, due to the topography, even a LEP compliant height development would block any potential views to the waterfront (currently, generally blocked by industrial buildings). This also applies to other areas within the Concept Plan site, where compliant development heights would result in similar view impacts to the Concept Plan heights due to changes in topography. Refer **Section 81** of this EA for discussion of differences in height maxima between the Concept Plan and LEP.

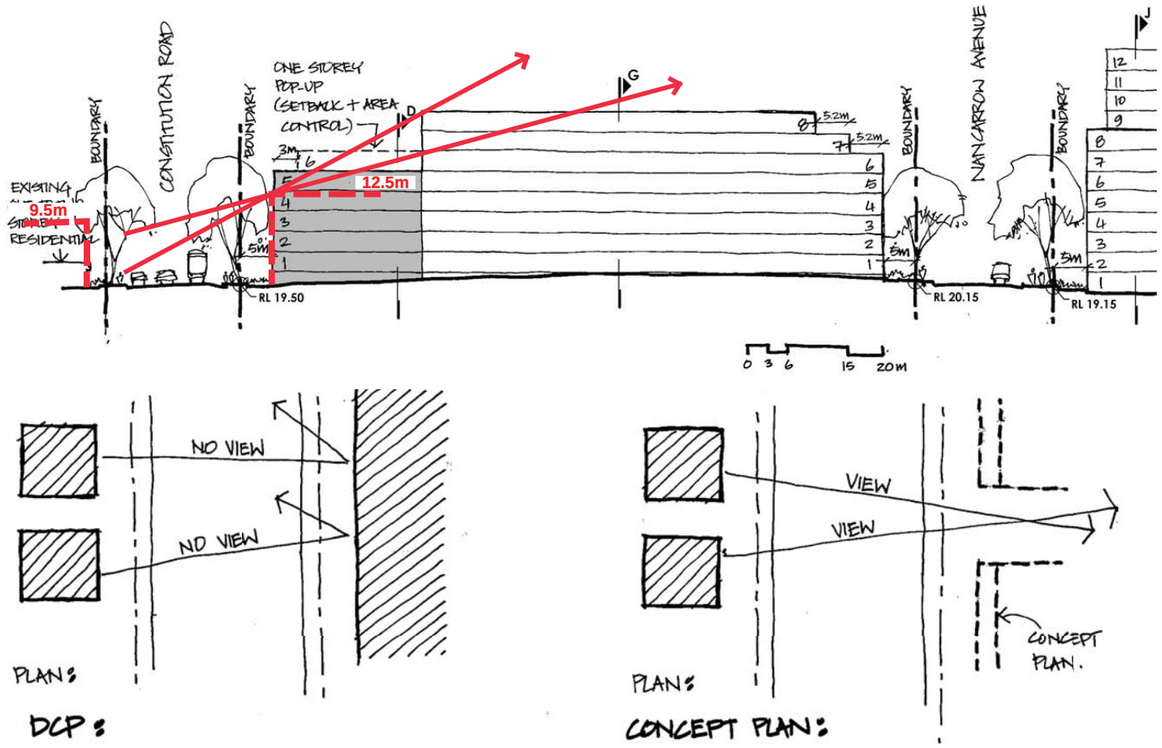

FIGURE 69. LEP/DCP COMPLIANT HEIGHTS AND BUILDING FOOTPRINTS COMPARISON WITH CONCEPT PLAN ON CONSTITUTION ROAD

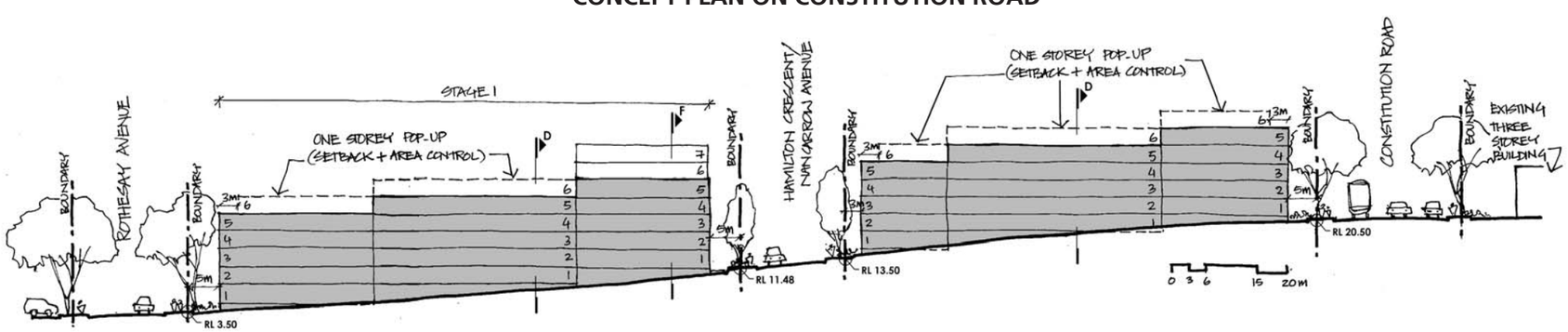

FIGURE 70. BELMORE STREET ELEVATION
(REFER TO COMPLETE SET OF STREET WALL DIAGRAMS, PAGES 50 & 51)

92.5 View Analysis

All three development options were informed and reviewed by Richard Lamb and Associated in their View Analysis attached as **Annexure 8**. Their assessment was based on a three step analysis:

1. Existing visual character and resources analysis of the site and the surrounding context;
2. Analysis of the Concept Plan site's visual catchment and the factors which condition its visibility and the extent of visual change that would occur in the catchment as a result of the proposed development; and
3. Assessment of appropriateness and impacts on scenic quality, landscape character and on specific views and items of significance by assessing factors such as the physical absorption capacity and the compatibility of the proposal with the existing and desired future character of the development site and the surroundings.

The View Analysis assessed views to and from the surrounding locality of Shepherds Bay. Richard undertook a detailed field analysis to identify the potential visual exposure of the proposed development from both the public and private domains and the general visual effects of the distribution of built form proposed. This also included an assessment from the waterway and from the southern side of Parramatta River. Observations were made on the visual exposure of the proposed development from the existing residential developments from the streets, waterways and foreshores.

In summary, their assessment of the potential impact of the Preferred Option are as follows:

The Concept Plan results in retention of all Council DCP view corridors and the opening up of additional views from the surrounding residential areas to Shepherds Bay as identified on the Site Analysis Plan at **Figure 29** (page 42) and the Concept Plan Views Map at **Figure 47** (page 59). The general principle of the Concept Plan layout and building height distribution is such that the future buildings will present a lower height closer to the street along Constitution Road, Bowden Street, Belmore Street and Rothesay Avenue with the taller components of the buildings set further back. The new or extended view corridors created by the Concept Plan in addition to those identified in Council's DCP include:

a. Extended view corridor in the existing north-south alignment of Hamilton Crescent West (identified in Ryde DCP 2010).
b. A vista to the south, off Nancarrow Avenue, across existing industrial development at 20-36 Nancarrow Avenue (identified in Draft DCP 2008).
c. A vista to the south, near the existing eastern terminus of Nancarrow Avenue/Hamilton Crescent West, across a narrow lane leading to an existing industrial building (identified in Ryde DCP 2010).
d. A continuous vista off Constitution Road between Hamilton Crescent West and Bowden Street.

Richard Lamb concluded that the Concept Plan development will cause a positive change to the existing character of the site and the surroundings and will be compatible with the existing, emerging and desired future character of the site and the surroundings as envisaged by the MEA Master Plan in DCP 2010. It appropriately responds to the character adjacent to the bounding streets by providing adequate setbacks and lower building heights adjacent to the boundary streets.

The development site is zoned B4 Mixed Use under the LEP 2010. In our opinion, the proposed Concept Plan and Stage 1 Project supports the relevant zone objective:

"To recognise topography, landscape setting and unique location in design and land-use"

In summary, the development envisaged in the Concept Plan and proposed in the Stage 1 Project maintain and improve visual linkages, foreshore access, view corridors and vistas. It positively reinforces the maintenance of the existing views looking south towards the foreshore and the Parramatta River from both the public domain and residences and would have no significant negative effect on views looking north. The proposed development positively enhances and promotes views to Sydney Olympic Park and the City in excess of those required by the relevant planning instruments.

The development envisaged in the Concept Plan and proposed in the Stage 1 Project will result in improved view access from the development, larger and better quality public open spaces, higher pedestrian physical and visual permeability, legibility and residential amenity, with potentially greater casual surveillance and security.

This environmental assessment examined the impacts of the built form, urban design and public domain and in accordance with the findings of the visual analysis determined that the proposed development responds appropriately to the height, bulk and scale in context of the locality, supports State and local strategic plans for the area and provides considerable public benefits.

92.6 Comparable Height Study

As detailed in **Section 31** and illustrated on diagrams included in **Annexure 2** , the final preferred Concept Plan is based on a detailed height study of the surrounding existing and approved built forms, together with other comparable developments along the foreshores of the Parramatta River.

The subject lands sit amid a number of significant new developments, constructed in line with the vision for a revitalised Meadowbank.

A number of the existing industrial buildings within the Concept Plan Site have heights ranging from 4 to 7 equivalent residential storeys.

Adjacent new residential developments – Bay One and Waterpoint, with variations to the LEP height development standard, range in height from 4 to 9 storeys.

92.7 Massing

The Concept Plan envisages smaller building footprints than permitted under Council's LEP and DCP envelopes to enable greater provision of public open spaces and pedestrian links and view corridors through the Concept Plan site and therefore a better planning outcome. This has been offset by taller building forms where they will serve to create a sense of place while not impacting on views or solar access of adjacent developments to any greater degree than a complying LEP scenario. Taller buildings in a slender built form cast narrower shadows which fall generally onto the individual proposed development sites. At the foreshore and near public spaces heights are lower to reduce impact and offset any impact of the taller building components and minimise overshadowing of the reserve. The Concept Plan design reflects the recommendations of the Visual Impact Assessment at **Annexure 8** and the resultant building locations and heights maintain existing views and create additional views and access through the site to the water and proposed parks.

Particular attention has been taken to setback building bulk from the frontages of Constitution Road and other perimeter roads at the boundaries of the Concept Plan site to respect lower density residential development opposite. In that instance, however, due to the topography, even a LEP compliant height development would block any potential views to the waterfront (currently, generally blocked by industrial buildings). See **Figure 3**. This also applies to other areas within the Concept Plan site, where compliant development heights would result in similar view impacts to the Concept Plan heights due to changes in topography. Refer **Section 81** of this EA for discussion of differences in height maxima between the Concept Plan and LEP.

The Concept Plan scaling and massing of buildings reflects the recommendations of the Visual Impact Assessment at **Annexure 8** and the resultant building locations maintain existing views and create additional views and access through the site to the water and proposed parks.

92.8 Overshadowing

The constraints of the southern orientation of the site have been addressed through varying building envelopes. Building forms are stepped in design to increase solar access. Particular attention has been given to solar access to public and communal open spaces.

The internal grid arrangement of development provides a high level of permeability, through-site linkages and views. The built form creates internal open spaces and adequate building separation for natural daylight access, privacy and view sharing. Most of the apartments will have NE and SW facing living spaces due to orientation of site and water views to the south.

FIGURE 71. SUNSHADOWS

The Sun Shadow Studies demonstrate that generally that the existing adjoining building will not have their daylight access significantly reduced. The Public Open Spaces between buildings on the site have acceptable solar access with appropriate daylight access to public open spaces between March and September, for the constraints of the existing north western/ south eastern street axis orientation. Streets are orientated between 40º west of north and 50º east of north provide opportunity for good solar access. The buildings shapes will allow solar access to dwellings and private open space. The typical 18 metre wide spacing between buildings ensures adequate solar access to all buildings on the site. In mid winter the area adjacent to the north eastern and north western building facades is in full sun from 10 am to 2 pm.

Courtyards between buildings are of adequate size to ensure that direct sun onto the ground occurs in areas that are designed for people. The building envelope limits will allow adequate solar access and privacy to neighbouring dwellings. A maximum building depth of 18m allows articulation and modulation of the front and rear faces of primary buildings. Articulation of the building facades will allow opportunities for solar access into dwellings. Trees and landscaping will be selected to provide good winter solar access and summer shade.

Refer to the Solar Assessment at **Annexure 12.**

92.9 Setbacks

Setbacks have been provided generally in accordance with Council's DCP. The setbacks to the streets will ensure the development is of a human scale and does not dominate the streetscape. Setbacks also allow for site lines, landscaping, pathways and grassed verges, consistent with Councils Public Domain Technical Manual.

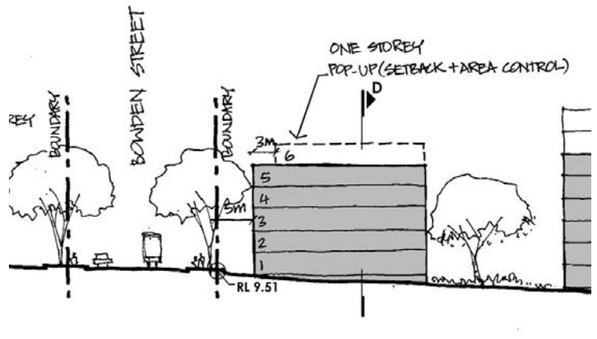

FIGURE 72. NANCARROW AVENUE NORTH STREET WALL ELEVATION ILLUSTRATING SETBACKS

The Concept Plan and Stage 1 Applications retain all existing street reservations and in some circumstances augment them and enhance the character of the spaces for pedestrians. Where possible the proportions of the street are to be enhanced by lowering street wall heights at frontages, with generous, DCP compliant setbacks along the Concept Plan Site perimeter streets with taller building forms set well back from street frontages to ensure a human scale in the streets, the foreshore reserve and new central park/ plaza.

92.10 Public Domain – Open Spaces, Plazas, Streets

The proposed development involves the provision of approximately 10,000 sq.m of public domain improvements, including 4,125 sqm of new dedicated parklands within the boundaries of the Concept Plan site and improved foreshore parkland, foreshore access, access to three public transport nodes, local streets, footpaths and shared-zones. The proposal also includes recommended locations for public art elements that serve to reflect on the various historic uses of the site and Shepherds Bay.

In support of Council's LEP 2010 objective to "create safe and attractive environments for pedestrians", the Concept Plan envisages a new vibrant waterfront living area with extensive parklands and active uses supporting new high quality accessible and sustainable residential developments. All areas have been designed to provide users with a safe and enjoyable experience, consistent with the CPTED principles of Safety by Design. Where possible, building envelopes in the Concept Plan and Stage 1 Project have been designed to be lower in height at the street and park frontages with building bulk set back to retain a human scale and solar access in the streets and other public domain areas. This is demonstrated in detail by the Stage 1 Project where the higher building forms are setback from the primary street frontages and foreshore reserve.

Public domain includes public open spaces, plazas and streets. Public domain areas have been strategically located to integrate with the existing environment, break up the development and provide increased access and view corridors to the foreshore through and improved connections to public transport hubs, recreational resources and the surrounding neighbourhood.

Various sized spaces have been provided to reflect the location and intended purpose. Due to the proximity of major recreational spaces, the public domain within the development is predominantly passive, with flexible spaces creating opportunities for special events or celebrations, break out spaces and children's play. The public domain areas are to build on the sites natural and cultural features including creating an active foreshore, incorporating public art and building elements reflecting historic industrial uses and incorporating natural elements into the development through creative landscape design. The landscape design and stormwater management will enhance the sites natural environmental performance by coordinating soil and water management.

Refer to the Landscape Plans and Report at **Annexure 13.**

92.11 Private Open Spaces

Apartments will be provided with individual private open spaces. These spaces will be of appropriate size to ensure useability and will have direct access from living areas. Ground floor apartments will be provided with terraces/ courtyards while upper floor apartments will be provided with balconies. All developments will comply with the private open spaces contained in the Residential Flat Design Code as a minimum. Private open spaces will be oriented to address streets and other public domain areas to maximise passive surveillance.

92.12 Safety and Security

A Crime Prevention Through Environmental Design (CPTED) Assessment has been prepared by PLACE Design Group and is attached at **Annexure 7**. The report addresses surveillance (passive and active), access control, territorial re-enforcement and space management. A summary of the CPTED assessment findings is included below:

Passive Surveillance

The public spaces will be well supervised through natural surveillance created by building layout, orientation and location. The development has a number of streets that will run along the site boundaries and through the site. These streets will increase passive surveillance of the development from the public domain, as well as the surveillance of the public domain from within the development. The safety and security of each street is enhanced by increased activity and surveillance provided by on-street visitor parking, living rooms and balconies overlooking the street, and multiple building entries that maximise the number of entries along the street frontage.

The perimeter style development has balconies and living areas overlooking central communal spaces, and also overlooking the streets and adjoining foreshore, which maximises opportunities for passive surveillance by residents of the development. The proposed development incorporates clear sight lines between the public and private open spaces. All public and communal areas will be well-lit to improve security. The proposed landscaping does not have potential 'dead ends' or spaces where offenders can hide. The central private communal open spaces maximises opportunities for passive surveillance by residents.

Active Surveillance

The development will have the benefit of a 24-hour manned estate management as part of the strata agreement. Their role would be to manage such things as the security systems and the general security of the development. Use of the communal open space shall be actively encouraged which will provide for increased security of the development. Lobbies/ shared entrances shall have buzzers and intercoms made of strong, vandal-proof materials. Stairwells, lobbies and shared entrances shall be permanently lit from a control device located away from these areas.

Access Control

All building entries in the development will be clearly marked. A security system will be installed in the development which consists of security cameras and swipe card access to buildings. Transition between the public and private domains shall be controlled. For example, private car parking areas and private and communal open space areas will be separated from the public domain by back-to-base security controlled gates with intercoms.

The legibility of pathways and cycleways ensures that access is direct and efficient. The foreshore is a natural edge which guides pedestrian and cycle movements. Within the site landscaping, fencing and gardens will be used to define pedestrian routes. All proposed access ways will be clear and well defined. The central communal space and other public domain areas have been designed to be open and inviting, well lit, with direct access to all apartments in order to encourage pedestrian activity.

Territorial Re-enforcement

Boundaries between private and public spaces will be clearly defined. Transitions between the public and private domains shall be controlled. Private car parking areas and private and communal open space areas will be separated from the public domain and controlled by gates with back-to-base security and intercoms.

The communal spaces in the middle of the development is proposed to have a high quality landscaped open space which will ensure its constant use, and in turn, enforces the principle of 'territorial reinforcement'. The public spaces within the development will have a sense of community ownership. They will relate to the proposed development and locality so that residents connect to it and feel a sense of responsibility towards it. They will be high quality well maintained spaces that will be used, enjoyed and revisited by residents and the community. Well used spaces are less likely to be targets for crime.

The development will have a 24-hour monitored estate management as part of the strata agreement, which would add to the level of security in the development.

Space Management

The development will have 24-hour estate management as part of the strata agreement. Their role would be to manage such things as the security systems, waste removal, cleaning, maintenance and regular upgrading of all common property and spaces. A security system will be installed in the development which will consist of security cameras and swipe card access to buildings. Communal spaces will be built and maintained to a high quality so that they remain attractive spaces for the use of residents.

93. LAND USE

DGR5: LAND USE
The EA shall address the relevant regional and local strategies in relation to the desired future mix of land uses, and provide a justification for the solely residential floorspace being proposed.

The Concept Plan site is appropriately zoned to permit and encourage its redevelopment for residential and mixed uses.

This brownfield site presents a unique opportunity for redevelopment to allow for new residential development that is more suitable to the location of the site and its surrounding residential uses, as envisaged by Council in the objectives for the area contained in their LEP and DCP.

Strategic directions contained in Council and State planning policies indicate that significant commercial or industrial uses are no longer economically feasible and point to transforming the precinct for residential purposes.

Specifically, the City of Ryde website describes the MEA as follows:

"The Meadowbank Employment Area is strategically located near Victoria Road and Church Street on the southern boundary of the City of Ryde. It has easy access to Ryde's shopping centres and services and to major arterial roads, making it easy to travel into the city, to the coast or to the mountains.

Meadowbank has excellent public transport facilities and the riverfront parks provide many recreational opportunities. Good neighbourhood schools are within walking distance. ....

The new Development Plans aim to change an aging industrial area into a vibrant, mixed-use community overlooking the Parramatta River. The area will be socially, economically and environmentally sustainable: a place where people can live, shop, work and play - without using the car."

However, Council in its 2008-2012 Management Plan acknowledge that the market for commercial or industrial uses on the Concept Plan site are now limited, stating:

"The Meadowbank Employment Area (MEA) is in transition. The planning documents that are now in place allow for change of land use, from the traditional industrial land uses to commercial, light industrial and residential activities. These controls have been reviewed to allow for greater emphasis on residential developments."

The limiting of non-residential uses on the Concept Plan site is supported in an Economic Assessment by Hill PDA land economists accompanying this Application and previous studies carried out for Council which indicate that the area is well serviced by larger employment areas in the region at Top Ryde, Macquarie Park, Rhodes and Sydney Olympic Park. The Hill PDA Economic Assessment is attached as **Annexure 10.**

Accordingly, the Concept Plan supports the primarily residential redevelopment of the Shepherds Bay site. The site is located close to community services and facilities, public transport and higher density residential, mixed-use, commercial and industrial development. The location of the site adjacent to the Parramatta River foreshore, mangrove communities and connection to the regional open space network including Ryde Riverwalk. These factors provide an excellent opportunity to design a new, primarily residential development that is responsive to the unique natural setting, promotes and enhances recreational opportunities and utilises existing public transport networks and provides significant benefits to the existing community of Shepherds Bay.

This EA has made reference to justification for the predominantly residential development in various sections of this report.

94. TRANSPORT AND ACCESSIBILITY IMPACTS

DGR 6: TRANSPORT AND ACCESSIBILITY IMPACTS (CONSTRUCTION AND OPERATIONAL)

The EA shall address the following matters:

- provide a transport and accessibility study prepared with reference to the metropolitan transport plan – connecting the city of cities, the updated state plan, NSW planning guidelines for walking and cycling, the integrated land use and transport policy package the RTA's guide to traffic generating developments, and the Meadowbank Employment Area – masterplan transport assessment July 2007, considering traffic generation (including daily and peak traffic movements), an estimate of the trips generated by the proposed development, any required road/intersection upgrades, access, loading dock(s) & service vehicle movements, car parking arrangements, measures to promote public transport usage and pedestrian and bicycle linkages;
- the transport and accessibility study should model the key intersections listed in the RTA's letter dated 22 April 2010;
- provide and assessment of the implications of the proposed development for non-car travel modes (including public transport, walking and cycling); the potential for implementing a location-specific sustainable travel plan, the provision of facilities to increase the non-car mode share for travel to and from the site, including an assessment of existing and proposed pedestrian and cycle movements through, and within the vicinity of the subject site, taking into account Council's Ryde Bicycle Strategy and Masterplan 2007;
- demonstrate that a minimalist approach to carparking provision is taken based on the accessibility of the site to public transport;
- demonstrate how users of the development will be able to make travel choices that support the achievement of relevant state plan targets;
- aim to enhance east-west and north-south access through the site, including improvements to pedestrian access from/through the site to Meadowbank rail station to the west and Church Street bus services to the east,
- the provision of sufficient on-site car parking for the proposal having regard to local planning controls and RTA guidelines. (note: the department supports reduced car parking rates in areas well-served by public transport); and,
- preparation of a traffic management and accessibility plan (TMAP).

In support of Council's LEP objective to *" integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling"*, one of the principal design objectives of the Concept Plan was to create a 'transit-oriented' development based heavily on improved accessibility to the three public transport nodes in Shepherds Bay. Safe, high quality pedestrian and cycle links are proposed to encourage a shift away from the use of private cars in Shepherds Bay. To this end the Concept Plan has included all new links required by Council's DCP and added more.

A Transport and Accessibility Study (TMAP) prepared by Varga Traffic Planning, at Annexure 11 supports the Concept Plan and Stage 1 Applications. The TMAP:

- describes the site and provides details of the development proposal in terms of traffic, access and transport;
- reviews the road network in the vicinity of the site, and the traffic conditions on that road network,
- identifies appropriate transport measures and strategies which will improve transport outcomes for Shepherds Bay residents in terms of public transport, walking and cycling,
- assesses the traffic implications of the development proposal in terms of road network capacity, and
- assesses the adequacy and suitability of the off-street car parking facilities proposed on the site.

During the preparation of TMAP discussions were held with officers from Council's Traffic Engineering Section and the Roads and Traffic Authority's Development Assessment Unit. The RTA requested that a capacity analysis be undertaken at a number of intersections located on Victoria Road and Church Street in the vicinity of the site, as follows:

- Victoria Road/Bowden Street
- Victoria Road/Belmore Street
- Church Street/Well Street
- Church Street/Junction Street
- Church Street/Morrison Road

In addition, the TMAP also analysed the operational performance of a number of local road intersections located around the perimeter of the site, as follows:

- Porter Street and Loops Street and Parsonage Street
- Belmore Street and Constitution Road
- Constitution Road and Hamilton Crescent
- Constitution Road and Bowden Street
- Railway Road and Bank Street.

New Road Infrastructure

The TMAP notes that the Concept Plan envisages a number of improvements to the local road network in Shepherds Bay as follows:

- removal of the existing two-lane elevated roadway/viaduct along Constitution Road, and the construction of a new road at ground level, comprising two traffic lanes plus two kerbside parking lanes
- construction of a new two-way local access road along the foreshore, between Belmore Street and Bowden Street, generally following the alignment of Rothsay Avenue, and
- construction of a new two-way local access road between Belmore Street and Bowden Street, generally following the alignment of Nancarrow Avenue and Hamilton Crescent.

Improved Public Transport, Pedestrian and Cyclist Accessibility

The TMAP also notes that the Concept Plan site enjoys excellent access to three modes of public transport and facilities:

- located approximately 500m walk from Meadowbank Railway Station and the local shopping centre which comprises a range of shops, restaurants and services such as the local post office, in addition to retail facilities (including a new supermarket) are located adjacent to the site in the Waterpoint development on Belmore Street.
- located within approximately 300m walking distance of the local primary school, and approximately 500m walking distance from Meadowbank TAFE College.
- with direct access to a number of regular bus services which traverse the site via Constitution Road and Bowden Street which connect with Meadowbank Railway Station and Meadowbank Ferry Wharf, in addition to the more regional services available in Church Street and in Victoria Road, to the east and north of the site respectively.
- With the ferry wharf is located approximately 400m walk from the mid-point of the site, providing regular ferry services between Parramatta and the Central Sydney CBD.

The TMAP concludes that planned changes and improvements to the local road network within the Shepherds Bay Precinct envisaged by the Concept Plan *"will significantly improve the permeability of the neighbourhood for pedestrians and cyclists, particularly for those residents wishing to walk or cycle to the nearby primary school, TAFE college, railway station or ferry wharf".*

In addition, it is concluded that the Concept Plan will improve facilities for cyclists in Shepherds Bay with the provision of a number of new bicycle paths. New bicycle paths are proposed along Constitution Road and along the two new east-west access roads as well as a bicycle path following a north-south alignment between the foreshore and Constitution Road and the completion of the foreshore link bicycle path.

Traffic Impacts of Concept Plan Development
The TMAP concludes that the redevelopment envisaged in the Concept Plan will not generate additional traffic when compared to the existing industrial uses, this was based on the industrial sites currently operating at a 40% vacancy rate. They consider the changes and improvements to the local road network within the Shepherds Bay Precinct proposed in the concept Plan will significantly improve the permeability of the neighbourhood for pedestrians and cyclists, particularly for those residents wishing to walk or cycle to the nearby primary school, TAFE college, railway station or ferry wharf and encourage greater use of public transport.

Based on the traffic generation rates nominated in the RTA Guidelines the proposed Shepherds Bay Urban Renewal Project is expected to result in an increase in the traffic generation potential of the precinct of approximately 150 vehicles per hour.

This was assessed to be relatively minor, particularly when it is considered in the context of the existing traffic flows of some 11,000 vehicles per hour on the adjacent road network (ie. on Church Street and Victoria Road). In addition, it should also be noted that the increased or additional traffic flows will be dispersed over a number of different routes which form part of the road network serving the local area.

The report also concludes that no upgrading to the existing road network is required other than work already proposed along Constitution Road as part of area-wide stormwater upgrades. Specifically the TMAP concluded in terms of traffic impacts:

- the road improvements proposed in Constitution Road will satisfactorily accommodate the needs of the proposed development ;
- the potential growth in through traffic volumes by 2026 may warrant the implementation of traffic calming measures to ameliorate the effects of that growth in through traffic activity;
- the cumulative development potential of the proposed development will not have any unacceptable traffic implications in terms of road network capacity, and;
- the proposed development will not have any adverse impacts on the performance of nearby intersections, and will not require upgrading or road improvement works, other than those proposed in Constitution Road.

Parking
The TMAP addressed the proposed car parking provision in the Concept Plan which is to be provided generally in accordance with the parking rates nominated in Council's DCP, although it is noted that in some instances part of the visitor parking component may be accommodated using on-street kerbside parking where appropriate. The DCP parking provisions have been applied to the Stage 1 Project Application. However, in order to satisfy the DGR objective of reducing reliance on cars, it is recommended that for the next stages of the Concept Plan development that the lower car parking rate in Council's DCP be adopted to take into account the proximity of the site to a variety of public transport services, most notably the Meadowbank Railway Station and Ferry Wharf.

Service Vehicles/ Loading Docks
Future stages of the development will provide loading and servicing facilities appropriate to the proposed uses in consultation with Council.

Location Specific Sustainable Travel Plan
The TMAP recommends the preparation of a Sustainable Travel Plan for the Concept Plan site which seeks to reduce dependence on private car travel. Key features of the sustainable travel plan could include at least commitments to:

1. Establish high quality and efficient pedestrian and cycle links to existing routes to encourage travel by these modes,
2. incorporate fibre/internet to the home
3. community education to support public transport initiatives,
4. provide a "How to Find Us" website facility with links to bus and train timetables etc.
5. provide a "Handover Pack" to all new residents that identifies existing walking, cycling and public transport options available.

Civil Design
The Civil Engineering component of the development will be designed to comply with:

- The relevant current Australian Standards and Design Codes including Austroads and the Roads and Traffic Authority Road Design Guidelines.
- The requirements of the relevant Statutory Authorities and Local Regulations including Council Master Scheme requirements and the Shepherds Bay Development Control Plan.
- Relevant Natspec technical specifications modified to the requirements of this project prepared by a suitably qualified Civil Engineer.

Consistency with Council and Regional Bike Plans
The Proposed public domain areas within the Concept Plan have been designed to take into account the foreshore location of the site, changing demographics, existing open spaces in the locality, the findings of Council's Plan - "*Parks on Track for People 2025*", the Ryde Bicycle Strategy and Regional Bike Plan, the Ryde Riverwalk Strategy and discussions with Council officers and Councillors. Refer to **Section 86-88.**

95. ENVIRONMENTAL AND RESIDENTIAL AMENITY

DGR 7: ENVIRONMENTAL & RESIDENTIAL AMENITY
The EA must address solar access, acoustic privacy, visual privacy, and view loss and demonstrate that the concept plan development and Stage 1 Project Application achieve a high level of environmental and residential amenity. The concept plan overall, and the Stage 1 Project Application will need to address SEPP 65 and the Residential Flat Design Code (RFDC).

The Concept Plan development achieves a high level of environmental and residential amenity.

A Solar and Natural Ventilation Assessment was prepared by Steve King to assess the amenity of the development. The consultant worked with the developer to inform the design of the development. The assessment acknowledges that the site slopes steeply to the south and has a dominant view over the harbour in the same direction. Together with a planning constraint which encourages the preservation and reinforcement of the existing street grid, this limits the potential to achieve midwinter solar access to a significant proportion of any likely mix of apartments, in building forms that can achieve appropriate densities.

The consultant considered if alternative massing strategies could achieve significantly different proportion of apartments that can be said to enjoy a higher level of solar access amenity. The assessment concludes that the concept plan adopts a layout and massing strategy that has the potential to achieve approximately the optimum balance between solar access for apartments, exposure to prevailing summer cooling breezes, the preservation of winter solar access for parts of the public domain during the relevant parts of the day, and competing urban design and amenity issues.

95.1 Solar Access

The Concept Plan site is south facing with topography sloping towards the south. The orientation of the site places constraints on solar access. Shadow Diagrams prepared by Robertson Marks Architects included as **Annexure 2** to this EA. A Solar Access and Natural Ventilation Report, prepared by Steve King is also included in **Annexure 12.** Steve King worked with the developer to inform the design of the development. Their assessment acknowledges that the site slopes steeply to the south and has a dominant view over the harbour in the same direction. Together with a planning constraint which encourages the preservation and reinforcement of the existing street grid, this limits the potential to achieve midwinter solar access to a significant proportion of any likely mix of apartments, in building forms that can achieve appropriate densities.

The consultant considered if alternative massing strategies could achieve significantly different proportion of apartments that can be said to enjoy a higher level of solar access amenity. The assessment concludes that the concept plan adopts a layout and massing strategy that has the potential to achieve approximately the optimum balance between solar access for apartments, exposure to prevailing summer cooling breezes, the preservation of winter solar access for parts of the public domain during the relevant parts of the day, and competing urban design and amenity issues.

Solar access is restricted largely as a result of the grid arrangement of development, and built form designed in accordance with the Master Plan contained in the City of Ryde DCP 2010. However, the layout of the site provides a high level of permeability, through-site linkages and views. Buildings have been aligned to the street frontages to create internal open spaces and adequate building separation for daylight access, privacy and view sharing. Harbour frontage and views are a sought after amenity and finite resource in Sydney. A large number of potential residents would consider water views a greater amenity than direct solar access.

Nevertheless all apartments receive ample daylight. The common areas will enjoy good solar access.

The Sun Shadow Studies demonstrate that generally the existing adjoining buildings will not have their daylight access significantly reduced. The Public Open Spaces between buildings on the site have acceptable solar access with appropriate daylight access to public open spaces between March and September, for the constraints of the existing north western/ south eastern street axis orientation. Streets are orientated between 400 west of north and 500 east of north and provide opportunity for good solar access. The buildings shapes will allow solar access to dwellings and private open space. The typical 18 metre wide spacing between buildings ensures adequate solar access to all buildings on the site. In mid winter the area adjacent to the north eastern and north western building facades is in full sun from 10 am to 2 pm. Courtyards between buildings are of adequate size to ensure that direct sun onto the ground occurs in areas that are designed for people. The building envelope limits will allow adequate solar access and privacy to neighbouring dwellings. A maximum building depth of 18m allows articulation and modulation of the front and rear faces of primary buildings. Articulation of the building facades will allow opportunities for solar access into dwellings. Trees and landscaping will be selected to provide good winter solar access and summer shade.

Review of the sun shadow diagram demonstrate the following:

IMPACTS ON SURROUNDING AREAS

- In summer, between 9 am and 3 pm, the Concept Plan development will not impact on sun access to the existing adjoining buildings around the perimeter of the Concept Plan site.
- In summer, between 9 am and 3 pm, the bulk and height of Concept Plan development will not be overshadowed by any of the existing adjoining buildings around the perimeter of the Concept Plan site.

IMPACT ON NEW PARKS

- In summer, between 9 am and 3 pm, the Concept Plan development will not impact on the sun access to new public foreshore plaza. Some early morning and late afternoon overshadowing of the new small pocket parks will create sheltered spaces.
- In winter, the new small pocket parks will receive full sun between 9 am and 12 noon, while the terrain of the site reduces the opportunity for sun access to the new public foreshore plaza.

95.2 Natural Ventilation

The assessment of natural ventilation contained in the Solar Access and Natural Ventilation Report at **Annexure 12** concludes that in larger developments, the proportion of apartments that achieve cross ventilation by openings to two or more facades is limited by the typical double loaded planning.

However, the site planning and exposure to prevailing summer cooling breezes in the Concept Plan site are such as to favour consideration of suitably designed single sided apartments as satisfying the performance objectives of the Residential Flat Design Code. The consultant demonstrated in a number of previous projects, by reference to suitable wind engineering studies, that single aspect apartments with highly articulated facades and multiple openings can achieve ventilation rates comparable to cross ventilated apartments. Based on this they concluded that up to 76% of the apartments within the concept Plan site will be capable of achieving 'deemed to comply' satisfactory natural ventilation.

95.3 Acoustic Privacy

The site has frontages to Constitution Road and Church Street. Development along these frontages will be designed to ameliorate acoustic impacts. Consideration has been also been given by Roberston Marks to acoustic impacts on adjacent residential development and within the development itself.

In addition, a Noise Impact Assessment, prepared by Acoustic Logic Consultancy is included as **Annexure 28**. That report assesses potential traffic noise, railway noise and vibration impacts on the proposed Concept Plan development against the requirements of the Department of Planning Development near Rail Corridors and Busy Roads Interim Guideline and the DECCW Interim Construction Noise Guidelines and DEC NSW Assessing Vibration: A Technical Guideline. The assessment sets out recommendations to reduce the impact of noise and comply with the guideline requirements. Such recommendations include glazing of windows. The report concludes the impacts are satisfactory. Refer to the Noise Assessment, **Annexure 28.** Individual buildings will be required to meet all relevant BCA standards for acoustics as evidenced in BCA report for the Stage 1 Project.

95.4 Visual Privacy

Visual privacy between neighbours within the proposed development as well as with adjacent existing and approved residential development will be maintained by commitments to comply with SEPP 65, Residential Flat Design Code setbacks, building separations, orientations, locations of balconies, appropriate privacy screening and landscaping. See Stage 1 Project design for application of these principles.

95.5 Accessibility

The Concept Plan has been formulated to maximise accessibility to and between areas of the site, between private and public domain areas. An Accessibility Report, prepared by Morris Goding Accessibility Consulting is attached as **Annexure 27**. That report addresses the Concept Plan the residential, commercial/retail, car parking, roads, pedestrian ways and other public domain areas against the requirements of relevant legislation for residents, workers and visitors with varying degrees of disabilities between all floors of all buildings and around and through the site.

That assessment concludes:

"A review of the concept plan documentation reveals that the proposed building envelopes are capable of complying with the Standards and Regulations cited within Section 2.2 of this report.

Confirmed demonstration of compliance will occur during the detailed application stage for each building, including consideration of public domain areas for each stage.

Recommendations to be provided within DA stage for each building (where relevant):

- *Provide 10% adaptable units in accordance with Council DCP,*
- *Provide 1 adaptable unit car bay for each adaptable unit in accordance with Council DCP,*
- *Provide accessible toilet with every bank of male and female toilets. The accessible toilet to have internal dimensions in accordance with AS1428.1-2009,*
- *Retail accessible car bays will be 2% of total retail car bays."*

95.6 Adaptable Housing

Approximately 10% of apartments will be designed to be accessible. Pathways from the development to the communal area and car parking are also to be designed to be accessible.

95.7 SEPP 65 Assessment

An assessment of the proposed development under State Environmental Planning Policy 65 – Design Quality of Residential Flat Development and the Residential Flat Design Code (RFDC) was undertaken by Robertson + Marks Architects and PLACE Design Group. The assessment addressed the principles contained in these policies, namely: context; scale; built form; density; resource, energy and water efficiency; landscape; amenity; safety and security; social dimensions and housing affordability; and aesthetics. The assessment concludes that the development is of a high-quality design. However, the Design Verification Statement indicates that whilst the Stage 1 development is of a good design, offers high amenity benefits and is generally compliant, it does seek variation to controls for deep soil zones. This is not considered a significant departure because the landscape design facilitates planting in key locations and numerous useable green spaces. The site also adjoins a foreshore park.

96. PUBLIC DOMAIN

DGR 8: PUBLIC DOMAIN
The EA shall provide details on the interface between the proposed uses and public domain, and the relationship to and impact upon the existing public domain.
The EA shall address the following:

- potential improvements to the existing public domain including provision of foreshore access, local streets, footpaths and shared – zones and identify any proposed road closures, openings and re-alignments;
- interface of proposed development and public domain;
- an assessment of the quality and quantity of public open space in context with forecasts of demographic mix/population of the overall Meadowbank Employment Area;
- relationship to and impact upon existing public domain; and
- provision of a strategy to activate and enhance the presentation and amenity of the site and the existing/proposed public domain including consideration of a public art plan.

Street activation will occur through sympathetic building design, ground level retail development and attractive open spaces catering for a variety of uses. This will be a significant improvement from the existing industrial development which generally consists of large buildings that discourage private/ public interaction and pedestrian activity. Some of the buildings are also currently vacant and the topography of the site currently makes connections and interaction at street level difficult.

The Concept Plan building footprints have been designed to ensure that all buildings address public domain areas including the foreshore, parks and streets. The orientation of balconies and living areas towards the public domain will provide attractive outlooks and casual surveillance. At the ground level there will be opportunities for small scale retail development (e.g. cafes) in key areas adjoining the public domain to activate the public spaces. Units on the ground floor will contain terraces and private open space which will be screened by fencing and landscaping. Refer to the Stage 1 Project design for example of the application of these principles.

97. ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)

DGR 9: ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)
The EA shall detail how the development will incorporated ESD principles in the design, construction and ongoing operation phases of the development.

The EA must demonstrate that the development has been assessed against a suitably accredited rating scheme to meet industry best practice.

The urban form of new development envisioned in the Concept Plan is designed to minimise reliance on motorised transport and maximise the efficiency of land supply supporting the concept of compact cities. The area is currently in transition and the proposal will improve land use compatibility. The density of the proposed development reflects its location close to employment areas and public transport hubs (bus, rail and ferry). The development contains a mix of apartment sizes to cater for a range of demographics. The consolidation of the development into taller, smaller building footprints also results in approximately 10,000 sqm of the site being available for public domain, including 4,125 sqm of newly dedicated public open spaces.

The location of the proposed development close to public transport hubs will promote the use of public transport. Improved pedestrian access to the three different modes of public transport in the vicinity should assist in encouraging a shift to a more sustainable modal split public/ private transport.

An Ecologically Sustainable Development (ESD) guidelines and report has been prepared by Ecospecifier (September 2010) and is attached as **Annexure 18.** This report provides a range of guidelines for the project moving forward, based on compliance with the EnviroDevelopment Targets.

It provides guidelines for ESD targets for the following categories:

Community - consideration of impacts on broader community, consultation, public transport access, non-motorised transport facilities, minimising private car parking, flexible live-work developments, housing mix, affordability, safety, community communication, community facilities, general public benefit as well as residential amenity for future residents.
Water – water saving initiatives, rainwater harvesting, recycling.
Energy –energy saving initiatives, reduction in greenhouse gas emissions, energy efficient appliances.
Materials –maximise recycled, low water or energy using or renewable materials.
Waste – maximise recycling, composting of organic matter.
Ecosystems – protect flora and fauna habitats including aquatic habitats- survey, riparian buffers, water quality, water sensitive urban design, control sediment and erosion, decontaminate, reduce flooding, species selection natives where possible.
Management - Green Star Accredited Professional on design team, adopt a formal environmental management system, minimise construction waste, install building water and energy smart meter monitoring systems.
Emissions – minimise ozone depleting ratings for refrigerants and insulation, reduce effluent in sewerage systems, minimise lighting pollution, design to eliminate risk of legionnaires disease.
Innovation - substantially contribute to the broader market transformation towards sustainable development in Australia or in the world.

It is intended that the individual developments meet at a minimum the base ESD targets in these guidelines, however some, for example, reduction in car parking rates are dependent on approval of consent authorities. Refer to the Stage 1 Development for Application of some of these principles.

98. UTILITIES

DGR 15: UTILITIES
In consultation with relevant agencies, address the existing capacity and requirements of the development for the provision of utilities including staging of infrastructure works for Stage 1 and the remaining stages in the Concept Plan.

Consultation has been undertaken with utility companies to identify works required for the provision of utilities for the development. A Services Infrastructure Report has been prepared by Floth Sustainable Building Consultants, September 2010 and is attached as **Annexure 20.**

Preliminary investigations show that the site can be

provided with utility services from existing infrastructure with system augmentation as described in this report.

Preliminary advice from Energy Australia indicates that new high voltage feeders will be required to serve the development. Energy Australia will conduct a feasibility study to determine the most suitable solution.

Telecommunications services can be provided form the nearby Ryde Telephone exchange located within a 1.8 km cable pathway route.

The precinct can be served from existing high pressure gas mains located in the roads bounding the development. Extensions and augmentations will be further investigated by Jemena as specific sites are developed.

Water and sewerage will require amplifications within and external to the development precinct as detailed in Sydney Water's advice. A Section 73 Certificate is required and this can only be applied for after development consent is granted.

99. TOPOGRAPHY AND EXCAVATION

The current landform in many areas across the Concept Plan site has been substantially modified through benching to provide for the existing large footprint industrial buildings and at-grade car parking and loading areas. In many cases, natural ground levels cannot be determined.

In support of Council's LEP 2010 objective to "recognize topography, landscape setting and unique location in design and land-use" the Concept Plan requires the reshaping of the already significantly 'unnatural' topography in parts of the site, including the Stage 1 site to maximise accessibility to buildings, streets and parkland consistent with the LEP and DCP layouts to achieve a better planning outcome. Refer to **Section 16.**

100. GROUNDWATER MANAGEMENT

DGR 14: GROUNDWATER MANAGEMENT
The EA is to identify groundwater issues and potential degradation to the groundwater source and shall address any impacts upon groundwater resources, and when impacts are identified, provide contingency measures to remediate, reduce or manage potential impacts.

If the proposal is likely to intercept groundwater, the need for a water licence under Part 5 of the Water Act 1912 should be addressed in the EA.

The EA shall address the impact of the proposal on groundwater dependant ecosystems.

The Stage 1 Project Application shall provide details of any basement levels and associated tanking. The EA shall consider how basement voids will be isolated from the surrounding environment.

A Preliminary Screening Contamination Assessment was prepared by Douglas Partners in July 2010 and is attached at **Annexure 21.** The assessment found that groundwater was encountered intermittently on the site. In some locations it may be perched above the bedrock, especially where deeper filling is encountered. In other locations it may be present in the fracture and bedding zones of the sandstone bedrock and in such cases groundwater flow would be expected to be minor flows. Groundwater near the shoreline of the bay may be expected to be saline or brackish.

They concluded that groundwater contamination, if present would likely be limited in extent and localised to the location of the contamination source (i.e. localised to an underground tank).

101. RIPARIAN LAND AND THREATENED SPECIES

DGR 13: RIPARIAN LAND AND THREATENED SPECIES
The EA is to provide details of the protection and rehabilitation of riparian land along the Parramatta River, including consideration of wider riparian setbacks in key locations to enhance the local foreshore connectivity value, and public access.

The EA shall address impacts on the wetland protection area including threatened species, populations and endangered ecological communities and their habitats and steps taken to mitigate any identified impacts to protect the environment, in accordance with DECCW 'Threatened Species Assessment Guidelines 2007'.

The Commonwealth Department of Environment, Water, Heritage and the Arts should be consulted to ascertain whether the proposed development triggers the need for an assessment and approval under the commonwealth Environment Protection and Biodiversity Conservation Act 1999.

An Ecological Assessment was undertaken by LesryK Environmental Consultants in August 2010 and is attached at **Annexure 18.** The assessment of the Concept Plan against all relevant environmental legislation concludes that the results of the flora and fauna surveys, and the review of known literature and database sources, show no ecological constraints to the redevelopment of the landward portions of the subject site. The development of this area, which is highly disturbed and modified due to its land use history, would not notably affect any populations of any native flora or fauna such that they are threatened. Similarly the development of the site would not remove, isolate, fragment or considerably affect any habitats of local, regional, state or national conservation concern.

This report contains recommendations for Ecological Management, some of which pertain to Council property and cannot be auctioned by the Proponent including:

- Filtering of stormwater runoff from the redevelopment site prior to its discharge into Shepherds Bay. Consider filtering stormwater runoff through natural landscaped ponds vegetated by native aquatic plants.
- Include native plantings where possible, particularly those shrubs and trees that are pollen, nectar and fruit bearing.
- Treat Infestations of those noxious weeds.
- Prepare a Vegetation Management Plan should be developed.
- Clean up and protect mangrove area community.

102. CONTAMINATION AND GEOTECHNICAL ISSUES

DGR 17: CONTAMINATION AND GEOTECHNICAL ISSUES
The EA is to demonstrate that the site is suitable for the proposed uses in accordance with SEPP 55, and identify how future remediation will be managed to accommodate staging and occupation of residential buildings. This assessment should also include an analysis of any risks/hazards associated with urban salinity/acid sulphate soils.

The Concept Plan will involve the construction of a new road, renovation of existing roads, upgrade of stormwater drainage, foreshore landscaping. The works will require:

- Excavation of basement car parking with associated excavation support,
- construction of retaining walls and excavation of building platforms,
- localised excavation for services and stormwater upgrades,
- construction of foundations for buildings, retaining structures, offshore piles for the proposed jetty and raised walkway construction and renovation of roads.

A Preliminary Geotechnical and Groundwater Assessment has been prepared by Douglas Partners July 2010. This is attached as **Annexure 19.**

They recommended that the existing and previous use of the site for industrial purposes be adequately addressed as part of the detailed design of each development stage and development sites be progressively made suitable for the proposed residential uses in accordance with SEPP 55.

Remediation of the Stage 1 site has been addressed as part of a previous DA consent.

103. DRAINAGE, STORMWATER AND FLOODING

DGR 12: DRAINAGE, STORMWATER MANAGEMENT AND FLOODING
The EA shall include a stormwater inundation impact assessment/flood study addressing: drainage/groundwater/flooding issues associated with the development/site, including infrastructure upgrades, stormwater, overland flows, management strategies/mitigation measures for development in flood affected areas; proximity to the Parramatta River foreshore; drainage infrastructure; and incorporation of water sensitive urban design measure, including an assessment of the potential effects of climate change, sea level rise and an increase in rainfall intensity.

The EA shall include an integrated water management plan including any proposed alternative water supply, proposed end uses of potable and non-potable water, demonstration of water sensitive urban design and any water conservation measures.

A Flooding and Stormwater reports and plans prepared by Cardno Willing at **Annexures 16 and 17**, address the above issues.

The site is located in the Ann Thorn Park Catchment. Investigations of overland flooding problems within the Ann Thorn Park catchment have been undertaken by Ryde City Council since 2001. In January 2002 a Meadowbank River Catchment Drainage Masterplan was prepared for the Bowden Street, Ann Thorn Park and Well Street catchments by the Rose Consulting Group. This and subsequent studies by Council resulted in their decision to upgrade the area-wide stormwater pipes running through the Concept Plan site from Ann Thorn Park to the waterfront.

It is our understanding that the timing of the construction of the upgraded pipeline and overland flow path is unknown and will be subject to redevelopment of affected properties between Constitution Road and 146 Bowden Street.
The consequence of the immediate lowering of Constitution Road prior to upgrading of the trunk drainage line will be to increase the frequency of overland flooding downstream of Constitution Road in events up to a 100 yr ARI event. While the risk to persons occupying or working in downstream properties that is posed by a sudden failure of Constitution Road in a 100 yr ARI event or greater is eliminated. This lowering of risk in major events is partially offset by the increased risk to persons occupying or working in downstream properties that is posed by more frequent overland flooding downstream of Constitution Road.

An Integrated Stormwater Management Plan has been prepared for the Stage 1 Project as detailed below.

104. NOISE ASSESSMENT

DGR 16: NOISE ASSESSMENT
The EA should address the issue of noise impacts and provide details of how these will be managed and ameliorated through the design of the buildings, in compliance with relevant Australian Standards and the Department's Interim Guidelines for development near rail corridors and busy roads.

The EA shall address noise impacts during the construction phase of the development and address how these will be managed and mitigated in accordance with the "Interim Construction Noise Guideline" (DECCW, 2009).

Noise impacts have been addressed and will be ameliorated through the design of the buildings. Refer to the Noise Assessment at **Annexure 28** for details of requirements for development parcels in close proximity to Church Street or Constitution Road discussed above.

105. HERITAGE

As discussed in **Section 20** there is one locally listed heritage building on the site. In accordance with Council's resolution, the factory complex at No.33-37 Nancarrow Avenue is to be removed to allow for necessary stormwater works and reconstruction of Constitution Road. . As Council have resolved that this building is required to be demolished to enable the area wide stormwater upgrade, Rappoport Interpretation Strategy at **Annexure 24** provides methods and ideas for interpretation of the historical provenance of the site based on its research of the historical evolution of the site.

The Shepherds Bay Heritage Assessment and Interpretation Strategy prepared by Rappoport is attached as **Annexure 24**. The report traces the history of the site through several disparate uses to its present industrial and emerging residential status. This research informed themes adopted in the Concept Plan Landscape Master Plan and provides cues for interpretive plantings and sculptural elements, such as the proposed orchard and sculptures reflective of the early Totaliser Factory and the boating and fishing pursuits along the waterfront.

106. AFFORDABLE HOUSING

A mix of apartment sizes will be provided including one bedroom units. The increased housing supply in the area and proposed apartment mix will increase housing choice and ease affordable housing issues in the area.

107. DRAFT STATEMENT OF COMMITMENTS

DGR 18: STATMENT OF COMMITMENTS
The EA must include a Draft Statement of Commitments detailing measures for the environmental management, mitigation measoures and monitoring for the project.

A Draft Statement of Commitments details the Proponents commitment to put in place measures for environmental management, public transport initiatives, risk mitigation measures and monitoring for the project. It is acknowledged that this document is in draft form and will be the subject of further discussion with Department of Planning. Refer to **Annexure 29**.

H. ENVIRONMENTAL IMPACT ASSESSMENT - STAGE 1

SHEPHERDS BAY URBAN RENEWAL

108. DIRECTOR GENERAL'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

Director General's Environmental Assessment Requirements (DGR)

1. Relevant EPI's Policies and Guidelines
2. Built Form Urban Design/Public Domain
3. Isolated Sites
4. Staging
5. Land Use
6. Transport & Accessibility Impacts (Construction And Operational)
7. Environmental and Residential Amenity
8. Public Domain
9. Ecologically Sustainable Development
10. Contributions
11. Consultation
12. Drainage, Stormwater Management And Flooding
13. Riparian Land and Threatened Species
14. Groundwater Management
15. Utilities
16. Noise Assessment
17. Contamination and Geotechnical Issues
18. Statement of Commitments

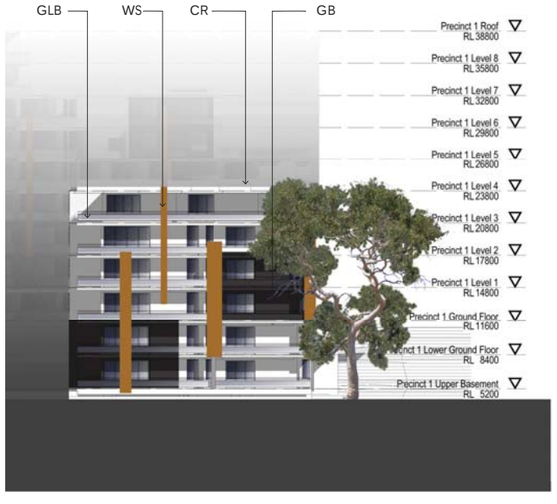

FIGURE 73. MATERIALS AND COLOURS

109. BUILT FORM URBAN DESIGN/ PUBLIC DOMAIN

DGR 2: BUILT FORM URBAN DESIGN/PUBLIC DOMAIN

The EA shall address the height, bulk and scale of the proposed development within the context of the locality. In particular, detailed envelope/ height and contextual studies should be undertaken to ensure the proposal addresses the surrounding environment and the desired future character for the locality.

The EA shall address the design quality with specific consideration of the scale, massing, setbacks, building articulation, landscaping, safety by design and public domain, including an assessment against the CPTED principles.

The EA shall provide the following:

- *comparable height study to demonstrate how the proposed height relates to the height of the existing/approved developments surrounding the subject site, within the subject site and the locality;*
- *visual and view analysis to and from the site from key vantage points, including from the water and from the opposite side of the Parramatta River. this analysis should also include a consideration of views from existing and approved buildings within the Meadowbank Employment Area and surrounding areas; and,*
- *Options for siting, scale, massing and orientation of building envelopes; and*
- *Options for the provision of/and enhancement of public open space, and, location of roads, footpaths and vegetative reserves,*

The EA shall demonstrate how the Stage 1 Project Application development will integrated with the overall concept plan proposal.

The EA shall provide a summary of community benefits, eg. the provision of public open space, provision of pedestrian and cycle links, rejuvenation of the foreshore area/riparian area, and infrastructure upgrades.

Extensive technical background investigation and assessment of the environmental, topographic and existing built form features of Shepherds Bay by specialist professional consultants informed the design of the Concept Plan and Stage 1 Project. Technical sessions were used to integrate, analyse and evaluate the slope, vegetation, geotechnical conditions, environmental resources, setback lines, character, building heights and other site features to determine the appropriate bulk, scale and height for the development.

The Stage 1 development is founded on and is consistent with the Concept Plan submitted with this Environmental Assessment. The site was selected for development first because of it has access to services, infrastructure and open space. Additionally the development of the site will form a reasonable extension to the recent residential development adjacent to the site.

In summary, the following design measures have been incoporated into the Stage 1 development to ensure high quality urban design, visual and residential amenity:

- Adequate setbacks (5m) to Rothesay Avenue and Belmore Street
- Lower street wall heights (5-7 storeys) at Rothesay Avenue and Belmore Street
- Significant internal communal open space (637sqm)
- Street tree planting
- Retention of several mature trees along Rothesay Avenue
- Creation of a new pocket park (500sqm)
- Establishment of a new pedestrian linkage to the foreshore
- Building layout and height responsive to views
- High quality architectural design with horizontal and vertical elements and articulation
- Appropriate materials and colours in context with recent development

109.1 Context, Setting and Streetscape

The Stage 1 Projects responds to the character established in the Concept Plan. The Stage 1 site adjoins the Bay One residential development and Anderson Park. The current industrial building on the site is uninviting and has large unbroken walls creating a hard edge to the streetscape. The new development is a well designed building that integrates with the adjoining residential development contributing to an active and vibrant street. The development connects to the parkland and foreshore through new public pathways, through site linkages, attractive streetscape treatment and landscaping.

The public open space proposed to the west of the site will create a new view corridor and enable pedestrian access to the water. The riparian vegetation lining the foreshore and figs in Anderson Park have created an attractive natural setting which will be linked in to the landscaping for the communal space and public domain areas.

109.2 Heights, Setbacks and Massing

The built form, building heights and setbacks for the Stage 1 Project comply with the controls established in the Concept Plan. The Stage 1 development is 5 to 9 storeys in height. At Belmore Street the development presents as 5 storeys and then begins to step back with the tallest part located on the north-west portion of the site.

The existing industrial building on the Stage 1 site has a building height of 7 storeys (residential height equivalent). Development Consent for 'Sae-Soon Church' on the Stage 1 site (DA 1244/2002) indicates there is approval on the site for a 5-6 Storey residential development. Additionally, there are a number of recently constructed residential developments in the locality. The new Bay One development is directly opposite the Stage 1 site on Belmore Street and has a building height of 4-7 storeys. The Stage 1 project is responsive to the topography of the site and comparable building heights. Height diagrams have been prepared to illustrate how the development relates to the existing and approved development on the site.

The stepped design of the Stage 1 development is responsive to the perimeter edge of the Concept Plan site and the foreshore edge along Rothesay Avenue. The lower building height on these frontages and layered façade breaks down the overall height

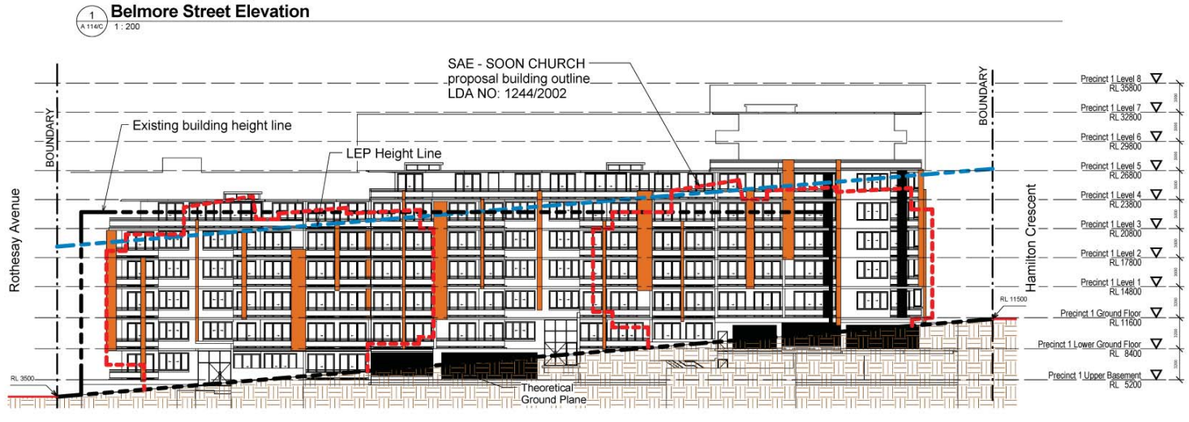

FIGURE 74. BELMORE STREET ELEVATION ILLUSTRATING EXISTING, APPROVED, LEP AND PROPOSED BUILDING HEIGHT

of the building to establish a human scale between public spaces and the building. The building envelope ensures reasonable views are maintained from the adjacent Bay One development. It also accommodates views for future development to the rear of the site. The 'u-shape' design of the building results in most apartments enjoying water views. The articulation of the building facades will create an interesting silhouette and attractive appearance.

109.3 Views

A Visual Impact Assessment was prepared by Richard Lamb and Associates and is attached as **Annexure 8**. The potential visual effects of the proposal were analysed and it was found that the proposal will have a moderate and a positive effect on the character of the site and the surroundings.

The assessment concludes in regard to the potential visual impacts, the proposed Stage 1 Project is acceptable and it does not result in any significant negative visual effects and impacts on its visual catchment. The proposed development will cause a positive change to the existing character of the site and the surroundings and will be compatible with the existing, emerging and desired future character of the site and the surroundings as envisaged by the Master Plan in Ryde DCP 2010.

The Stage 1 Project involves the creation of a new north-south view corridor and a new public park which will result in improved visual linkages and foreshore access, higher pedestrian physical and visual permeability, legibility and residential amenity, with potentially greater casual surveillance and security.

In summary, the View Analysis concludes the following:

The Stage One Project built forms that are consistent with the DCP RL height limits have been designed to protect views from the adjacent Bay One Building to the waterfront and will not increase view loss from the existing residential areas to the north which are already blocked by the existing building on the site. The proposed development, including the Stage 1 DA Application is responsive to the existing view access from the public and private domains.

Lower building heights are proposed along the Rothesay Avenue frontage in the Stage 1 proposal that will assist in maintaining views to the foreshore from residences in Bay One and Shepherds Bay. The proposed heights along the Belmore Street interface are also appropriate with regard to the Bay One residential development which is under construction both from an urban design and amenity/view sharing point of view. The building heights proposed along Rothesay Avenue are also responsive to the foreshore and Anderson Park adjacent to the Street. The proposed heights are similar to the heights of the existing industrial buildings on the development site along these streets.

The vegetation within Anderson Park, road reserves and within the development site provides significant screening effects and softening of the appearance to parts of the development site.

The visual compatibility of the proposed development, including the Stage 1 DA Application with regard to the existing, emerging and desired future character of the site is considered to be high as:

1. The proposed development is of similar nature to recently constructed and approved developments in the locality such as Faraday Park, Shepherds Bay and Bay One residential developments.
2. The proposed development is responsive to the adjacent developments on Bowden Street, Belmore Street and Constitution Road, with regard to building heights.
3. It is responsive to the foreshore edge along Rothesay Avenue.
4. The proposed development is in line with the desired future character of the locality as stipulated by Council's Planning Instruments and the evidence of emerging character for similarly located land both in the immediate vicinity and also in Rhodes and Homebush Bay.

109.4 Overshadowing

As previously discussed, the southern orientation of the site places constraints on solar access. The shadow diagrams at **Annexure 2** illustrate that the layout and design of the building envelope for the Stage 1 Project has sought to maximise sunlight access to private and public spaces while also providing the sought after waterviews to future residents.

In addition to the usual Summer, Equinox and Winter 9am, noon and 3pm shadow studies, a detailed plan and elevational study was undertaken by Roberston Marks of the shadow impacts of the Stage 1 Project on the adjacent Bay One development at the winter solstice (21 June) at 30 minute intervals between 12noon and 3pm. These studies are includes in Annexure 2. These studies revealed:

Summer Solstice (Dec 21):
At 9am shadows are cast onto the pedestrian link which forms part of the Stage 1 site and into the central courtyard. By noon shadows have significantly shortened and fall into the courtyard and front courtyards off Belmore Street with the majority now in full sun. The pedestrian link is now in full sun. By 3pm the shadows just reach the road reserve in Belmore and approximately ¾ of the central courtyard is in shade.

Equinox (Sept 21)
At 9am shadows are cast onto the pedestrian link and onto the new section of Rothesay Avenue with approximately two thirds of the central courtyard in shade. By noon the shadows are generally contained within the residential development site with a small area of shade on portions of the Rothesay Avenue and Belmore Street road verges. Again approximately two thirds of the courtyard is in shade. By 3pm the shadows have swung eastward with the central courtyard and Belmore Street are in shade.

Winter Solstice (June 21)
At 9am shadows fall directly south across a portion of Rothesay Avenue, the foreshore reserve and the central courtyard with the pedestrian spine and Belmore Street remaining in full sun. By noon shadows would swing eastwards with the central courtyard and parts of Belmore Street and Rothesay Avenue in shade.

By 12.30pm shadows lengthen slightly across Belmore Street with shorter shadow over Rothesay Avenue and the reserve with the pedestrian spine basically in full sun and central courtyard in shade.

By 1.00pm the shadow across Rothesay Avenue and the reserve continues to shorten and shadow reaches the road verge on opposite side of Belmore Street and the courtyard is shaded.

By 1.30pm the shadowing leaves the foreshore reserve and is contained across a small portion Rothesay Avenue, reaches the base of the Bay One buildings and the central courtyard is shaded. Again, the new pedestrian link is in full sun.

By 2pm shadows are cast to small areas of the ground and first floors of the Bay One development and the foreshore reserve is in full sun. The central courtyard is shaded and the new pedestrian link is in full sun.

By 2.30pm the shadows retreat further away from the foreshore reserve and are cast across small areas of the ground, first and second floors of the Bay One development. The central courtyard is shaded and the new pedestrian link is in full sun.

By 3pm only a small portion of Rothesay Avenue is in shade with shadows reaching a small portion of the ground, first, second and third floors of the Bay One development. Once again, the central courtyard is shaded and the new pedestrian link is in full sun.

FIGURE 75. STAGE 1 COMMUNAL SPACE

In summary:

- the proposed Stage 1 residential building is not anticipated to significantly reduce the sun access to the adjoining Belmore Street 'Bay One' development to any greater extent than the existing industrial building on the site;
- the proposed Stage 1 residential building will not cast any shadow onto the lower levels of the adjoining Belmore Street 'Bay One' development until after 4pm in the March and September Equinox; and
- the proposed Stage 1 residential building will not begin to cast any significant shadows until 2pm on 21 June. After 3pm on 21 June the shadowing of the adjoining Belmore Street 'Bay One' development is not anticipated to be appreciably different to the shadows cast by the existing industrial building.
- In summer, the existing foreshore parkland will not be impacted upon, with no overshadowing or loss of direct sunlight by the proposed bulk and height of the Concept Plan development.
- In winter, between 9 am and 12 noon the existing foreshore parkland will experience articulated shadows cast over the area. After 12 noon the foreshore parkland shall receive full sun exposure.

109.5 Public Domain

Section 89 discusses the public domain. The Stage 1 development includes the upgrade of the existing streetscape and creation of part of a new pocket park and pedestrian link on the western boundary of the site, consistent with the Concept Plan. Subdivision to enable the dedicated of these spaces and land to facilitate the future extension of Nancarrow Avenue to Belmore Street is also proposed in the Stage 1 Application.

109.6 Private Open Spaces

Apartments will be provided with individual private open spaces in accordance with SEPP 65. These spaces will be of appropriate size (minimum 2m wide) to ensure usability and will have direct access from living areas. Ground floor apartments will be provided with terraces/ courtyards while upper floor apartments will be provided with balconies. Solar access to private

FIGURE 76. STAGE 1 PUBLIC PARK

open spaces is provided where possible and privacy will be addressed through screening.

109.7 Safety and Security

A Crime Through Environmental Design (CPTED) Assessment has been prepared by PLACE Design Group. The development has incorporated CPTED principles and strategies to minimise risk, a description of these is provided below:

Surveillance (Passive and Active)

Passive Surveillance

The public spaces will be well supervised through natural surveillance created by building layout, orientation and location. The development has a number of streets that will run along the site boundaries and through the site. These streets will increase passive surveillance of the development from the public domain, as well as the surveillance of the public domain from within the development.

The safety and security of each street is enhanced by increased activity and surveillance provided by on-street visitor parking, living rooms and balconies overlooking the street, and multiple building entries that maximise the number of entries along the street frontage.

The perimeter style development has balconies and living areas overlooking central communal spaces, and also overlooking the streets and adjoining foreshore, which maximises opportunities for passive surveillance by residents of the development. The proposed development incorporates clear sight lines between the public and private open spaces. All public and communal areas will be well-lit to improve security. The proposed landscaping does not have potential 'dead ends' or spaces where offenders can hide. The central private communal open spaces maximises opportunities for passive surveillance by residents.

Active Surveillance

The development will have the benefit of a 24-hour manned estate management as part of the strata agreement. Their role would be to manage such things as the security systems and the general security of the development. Use of the communal open space shall be actively encouraged which will provide for increased security of the development.

Lobbies/ shared entrances shall have buzzers and intercoms made of strong, vandal-proof materials. Stairwells, lobbies and shared entrances shall be permanently lit from a control device located away from these areas.

Access Control

All building entries in the development will be clearly marked. A security system will be installed in the development which consists of security cameras and swipe card access to buildings. Transition between the public and private domains shall be controlled. For example, private car parking areas and private and communal open space areas will be separated from the public domain by back-to-base security controlled gates with intercoms.

The legibility of pathways and cycleways ensures that access is direct and efficient. The foreshore is a natural edge which guides pedestrian and cycle movements. Within the site landscaping, fencing and gardens will be used to define pedestrian routes.

All proposed access ways will be clear and well defined. The central communal space and other public domain areas have been designed to be open and inviting, well lit, with direct access to all apartments in order to encourage pedestrian activity.

Territorial Re-enforcement

Boundaries between private and public spaces will be clearly defined. Transitions between the public and private domains shall be controlled. Private car parking areas and private and communal open space areas will be separated from the public domain and controlled by gates with back-to-base security and intercoms.

The communal spaces in the middle of the development is proposed to have a high quality landscaped open space which will ensure its constant use, and in turn, enforces the principle of 'territorial reinforcement'. The public spaces within the development will have a sense of community ownership. They will relate to the proposed development and locality so that residents connect to it and feel a sense of responsibility towards it. They will be high quality well maintained spaces that will be used, enjoyed and revisited by residents and the community. Well used spaces are less likely to be targets for crime.

The development will have a 24-hour monitored estate management as part of the strata agreement, which would add to the level of security in the development.

Space Management

The development will have 24-hour estate management as part of the strata agreement. Their role would be to manage such things as the security systems, waste removal, cleaning, maintenance and regular upgrading of all common property and spaces. A security system will be installed in the development which will consist of security cameras and swipe card access to buildings. Communal spaces will be built and maintained to a high quality so that they remain attractive spaces for the use of residents. Refer to the Crime Risk Assessment Report prepared by PLACE Design Group at **Annexure 7** for further details.

110.8 Materials and Finishes

Materials, colours and finishes for the Stage 1 Project are of a very high standard and integrate with the emerging character of development in the area.

The composition and articulation of the proposed building facades are of high quality and will contribute positively to the streetscapes. Elements such as balconies, sun shading louvers and balustrades add interest to the overall massing of the building. A sample board of materials and finishes for Stage 1 has been submitted with this Environmental Assessment.

110. TRANSPORT AND ACCESSIBILITY IMPACTS

DGR 6: TRANSPORT AND ACCESSIBILITY IMPACTS (CONSTRUCTION AND OPERATIONAL)

The EA shall address the following matters:

- provide a transport and accessibility study prepared with reference to the metropolitan transport plan – connecting the city of cities, the updated state plan, NSW planning guidelines for walking and cycling, the integrated land use and transport policy package the RTA's guide to traffic generating developments, and the Meadowbank Employment Area – masterplan transport assessment July 2007, considering traffic generation (including daily and peak traffic movements), an estimate of the trips generated by the proposed development, any required road/intersection upgrades, access, loading dock(s) & service vehicle movements, car parking arrangements, measures to promote public transport usage and pedestrian and bicycle linkages;
- the transport and accessibility study should model the key intersections listed in the RTA's letter dated 22 April 2010;
- provide and assessment of the implications of the proposed development for non-car travel modes (including public transport, walking and cycling); the potential for implementing a location-specific sustainable travel plan, the provision of facilities to increase the non-car mode share for travel to and from the site, including an assessment of existing and proposed pedestrian and cycle movements through, and within the vicinity of the subject site, taking into account Council's Ryde Bicycle Strategy and Masterplan 2007;
- demonstrate that a minimalist approach to carparking provision is taken based on the accessibility of the site to public transport;
- demonstrate how users of the development will be able to make travel choices that support the achievement of relevant state plan targets;
- aim to enhance east-west and north-south access through the site, including improvements to pedestrian access from/through the site to Meadowbank rail station to the west and Church Street bus services to the east,
- the provision of sufficient on-site car parking for the proposal having regard to local planning controls and RTA guidelines. (note: the department supports reduced car parking rates in areas well-served by public transport); and,
- preparation of a traffic management and accessibility plan (TMAP).

A Transport and Accessibility Study (TMAP) has been prepared by Varga Traffic Planning and is attached as **Annexure 11**. The assessment concludes that the redevelopment envisaged in the Concept Plan will not generate additional traffic when compared to the existing industrial uses, this was based on the industrial sites currently operating at a 40% vacancy rate. The report also concludes that no upgrading to the existing road network is required for Stage 1.

Stage 1 comprises 386 parking spaces (210 basement, 119 upper basement and 57 lower ground floor). There are 26 disabled spaces and 59 visitor spaces. The parking provisions for Stage 1 comply with Council's DCP requirements and will adequately service the proposed development. In addition bicycle storage for 22 bikes is provided.

As Stage 1 does not contain any commercial uses loading and unloading to the residential uses is proposed to be from the adjacent kerbsides in Rothesay Avenue and Belmore Street. In this regard, the Proponent is prepared to enter discussions with Ryde Council to provide a time shared loading/parking space in front of the development in Rothesay Avenue.

The Stage 1 Project will enhance north-south access through the site via a new public park/ pedestrian linkage, significantly improving the permeability of the neighbourhood. Future development of the Concept Plan site involves the extension of Nancarrow Avenue through to Belmore Street, adjacent to the Stage 1 Site.

111. ENVIRONMENTAL AND RESIDENTIAL AMENITY

DGR 7: ENVIRONMENTAL AND RESIDENTIAL AMENITY

The EA must address solar access, acoustic privacy, visual privacy, and view loss and demonstrate that the concept plan development and Stage 1 Project Application achieve a high level of environmental and residential amenity. The concept plan overall, and the Stage 1 Project Application will need to address SEPP 65 and the Residential Flat Design Code (RFDC).

An assessment of the proposed development under State Environmental Planning Policy 65 – Design Quality of Residential Flat Development and the Residential Flat Design Code (RFDC) was undertaken by Robertson + Marks Architects and PLACE Design Group, refer to Annexure 9. The assessment addressed the principles contained in these policies, namely: context; scale; built form; density; resource, energy and water efficiency; landscape; amenity; safety and security; social dimensions and housing affordability; and aesthetics. The assessment concludes that the development is of a high-quality design. However, the Design Verification Statement indicates that whilst the Stage 1 development is of a good design, offers high amenity benefits and is generally compliant, it does seek variation to controls for deep soil zones. This is not considered a significant departure because the landscape design facilitates planting in key locations

and numerous useable green spaces. The site also adjoins a foreshore park.

111.1 Solar Access

A Solar and Natural Ventilation Assessment was prepared by Steve King to assess the amenity of the development, refer to **Annexure 12**. In summary, the assessment concludes the following:

"The total proportion of apartments that may then be characterized as complying with the performance requirements of the RFDC is 59.9%. The recommended minimum percentage in the Rule of Thumb is 70%, but I note that the RFDC makes explicit provision for the consideration of contextual and other factors that may justify a lower proportion. In my considered opinion, the proportion achieved here is a very reasonable standard, given the nature of the siting constraints, and should not be and impediment to approval"

111.2 Acoustic Privacy

The Stage 1 site does not adjoin any major roads. The proposed residential development has been designed to comply with relevant Australian Standards and BCA for acoustic performance. The development has been designed with regard to the location of high use areas such as public open spaces and communal spaces. Internally apartment layouts provide separation of bedroom and living areas and have regard to adjoining uses. Refer to Noise Assessment at **Annexure 28** and BCA Report at **Annexure 25.**

111.3 Visual Privacy

The Stage 1 Project has been designed to comply with the SEPP 65, Residential Flat Design Code separations which ensure visual privacy is maximised. Each apartment will be provided with a private open space screened from public areas. The position of these spaces has been designed to maximise solar access where possible, maximise views to the water whilst maintaining privacy. The design of the building layout minimises direct overlooking of bedrooms and private open spaces adjacent to apartments by:

- inclusion of built and vegetated screening between apartments where necessary;
- use of balconies to limit overlooking of lower apartments;
- fencing and screen landscaping of ground floor apartment courtyards; and
- substantial landscaped street setbacks to protect visual privacy of neighbouring properties.

111.4 Wind Impacts

The orientation of the site and location adjacent to the waterway will result in exposure to winds. Winds from the south-west and north-west have been considered in the planning of the development.

111.5 Adaptable Housing

Approximately 10% of apartments will be accessible (i.e. 24 apartments). Pathways from the development to the central communal area and car parking and adjacent street and pedestrian link have also been designed to be accessible.

112. PUBLIC DOMAIN

DGR 8: PUBLIC DOMAIN
The EA shall provide details on the interface between the proposed uses and public domain, and the relationship to and impact upon the existing public domain.

The EA shall address the following:
- potential improvements to the existing public domain including provision of foreshore access, local streets, footpaths and shared – zones and identify any proposed road closures, openings and re-alignments;
- interface of proposed development and public domain;
- an assessment of the quality and quantity of public open space in context with forecasts of demographic mix/population of the overall Meadowbank Employment Area;
- relationship to and impact upon existing public domain; and,
- provision of a strategy to activate and enhance the presentation and amenity of the site and the existing/proposed public domain including consideration of a public art plan.

The Stage 1 Project is consistent with the Concept Plan open space and public domain plans and objectives.

The interface between the proposed development and the public domain has been designed to activate and address the streetscape, communal spaces and public open spaces.

112.1 Streets

The Stage 1 Project is consistent with the Concept Plan, street layout. There is one vehicular access point from Belmore Street, proposed for the Stage 1 development. The access point was located in a central and accessible position and will maximise safety of pedestrians and cyclists. Ground floor apartments comprise front courtyards. Landscaping, fencing and building elements will be used to create an attractive streetscape.

112.2 Parks and Plazas

The Stage 1 Project comprises a new public open space (500sq.m) and communal open space (560 sq.m upper + 700sq.m lower). These areas have been integrated with the adjoining foreshore reserve. The open spaces are useable and will be clearly identified and defined. Setbacks stipulated in Council's policies have been complied with and the proposed building footprint has been designed to maximize views to the water whilst respecting existing views and opening up view corridors to the water and surrounding locality.

The new public park incorporates a landscaped public pedestrian link to the waterfront. The central communal open space and landscaped area in Stage 1 provides passive recreation option for residents, privacy relative to the foreshore area, pleasant outlook from the apartments overlooking the open space and enhanced the building's appearance when viewed from the Parramatta River. Design intent has been to provide visually interesting and diverse range of planning providing links appropriate to the historical context of the area and materials to enhance the natural character inherent in the parkland context.

112.3 Pedestrian and Cycle Ways

Continuous accessible paths will be provided to building entries, the communal open space and adjacent public areas to facilitate disabled access. Adjoining streetscapes will be enhanced and connections strengthened to the foreshore and improve access to public transport nodes. Bicycle parking will be provided in the basement carpark of the Stage 1 building and the adjoining public park.

113. ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)

DGR 9: ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)
The EA shall detail how the development will incorporated ESD principles in the design, construction and ongoing operation phases of the development.

The EA must demonstrate that the development has been assessed against a suitably accredited rating scheme to meet industry best practice.

Section 93 above discusses how ESD has been incorporated into the Concept Plan. The ESD, BASIX and Thermal Comfort Report prepared by Eco Specifier summarises the sustainability initiatives proposed for Stage 1. Such initiatives include solar panels (for solar boosted gas hot water systems), 50kL water tank, low water planting and energy and water efficient appliances. A Solar and Natural Ventilation Assessment was also prepared by Steve King to assess the amenity of the development, refer to **Annexure 12**. The information below details how the Stage 1 development meets ESD requirements.

113.1 BASIX

BASIX Certificate No. 331309M_02 dated 17 November 2010 confirms that the proposed development meets the NSW Government's requirements for sustainability and addresses water, thermal comfort and energy commitment for the Stage 1 Project, refer to **Annexure 15**.

113.2 Energy Efficiency

An assessment of the Stage 1 Project Application acknowledges the site and other constraints limiting solar access to the development as well as specific design strategies to maximise the proportion of apartments which achieve effective midwinter sun access. The Solar and Natural Ventilation Assessment prepared by Steve King concludes that the Concept Plan and Stage 1 Project application deal with the constraints, and therefore satisfy the applicable solar performance requirements of SEPP 65.

Additionally, building materials, appliances and fittings have been selected to improve energy efficiency and utilise natural heating and cooling through sensitive environmental design. Gas instantaneous (solar boosted) hot water systems will be provided to all apartments.

113.3 Natural Ventilation

The Solar and Natural Ventilation Assessment prepared by Steve King concludes that in larger developments, the proportion of apartments that achieve cross ventilation by openings to two or more facades is limited by the typical double loaded planning. Notwithstanding the provision of multiple vertical circulation cause, that constraint applies to the Stage 1 Project Application. However, the site planning and exposure to prevailing summer cooling breezes are such as to favour consideration of suitably designed single sided apartments as satisfying the performance objectives of the Residential Flat Design Code. The consultant demonstrated in a number of previous projects, by reference to suitable wind engineering studies, that single aspect apartments with highly articulated facades and multiple openings can achieve ventilation rates comparable to cross ventilated apartments and that based on this up to 76% of the apartments may be deemed for complying for satisfactory natural ventilation.

113.4 Water Conservation

The proposed development will be provided with rainwater tanks for capture and reuse for irrigation of landscaped areas, laundries, toilets and car wash bays. AAA (or higher) rated water efficient appliances and fixtures will be installed in all apartments. Landscaping will predominantly consist of native species (70%).

113.5 Flora and Fauna

The riparian vegetation along the foreshore is a critical component of the development and has informed the landscape design. Planting in Stage 1 will be predominantly native species (70%) compatible with existing vegetation.

114. GROUNDWATER MANAGEMENT

DGR 14: GROUNDWATER MANAGEMENT
The EA is to identify groundwater issues and potential degradation to the groundwater source and shall address any impacts upon groundwater resources, and when impacts are identified, provide contingency measures to remediate, reduce or manage potential impacts.

If the proposal is likely to intercept groundwater, the need for a water licence under Part 5 of the Water Act 1912 should be addressed in the EA.

The EA shall address the impact of the proposal on groundwater dependant ecosystems.

The Stage 1 Project Application shall provide details of any basement levels and associated tanking. the ea shall consider how basement voids will be isolated from the surrounding environment.

The Preliminary Geotechnical and Groundwater Assessment undertaken by Douglas Partners dated July 2010, at **Annexure 19**, indicated that there is potential for groundwater to become contaminated through the migration of mobile contaminants and the desorption of chemicals in the soil. The migration of groundwater could also result in sites being impacted by contaminated groundwater from a hydraulically up-gradient source.

They conclude that groundwater contamination, if present would likely be limited in extent and localised to the location of the contamination source (i.e. localised to an underground tank).

The Proponent commits to protection of groundwater in and around the site during redevelopment and operation of the Stage 1 Project.

115. DRAINAGE, STORMWATER MANAGEMENT AND FLOODING

DGR 12: DRAINAGE, STORMWATER MANAGEMENT AND FLOODING
The EA shall include a stormwater inundation impact assessment/flood study addressing: drainage/groundwater/flooding issues associated with the development/site, including infrastructure upgrades, stormwater, overland flows, management strategies/mitigation measures for development in flood affected areas; proximity to the Parramatta River foreshore; drainage infrastructure; and incorporation of water sensitive urban design measure, including an assessment of the potential effects of climate change, sea level rise and an increase in rainfall intensity.

The EA shall include an integrated water management plan including any proposed alternative water supply, proposed end uses of potable and non-potable water, demonstration of water sensitive urban design and any water conservation measures.

The assessment of flood depths and velocity in relation to the proposed development illustrates that the areas surrounding the Stage 1 development to the north, east and south have a low flood hazard risk in a 5yr and 100yr ARI flood event. A full copy of the Existing Conditions Assessment prepared by Cardno is provided in **Annexure 16**.

A Stormwater Integrated Management Report was also prepared by Cardno and is attached at **Annexure 17**. The report concludes that the Concept Plan will enable rejuvenation of what is presently a poorly controlled urban catchment into one that meets current best practice standards with respect to flood management, sustainable water management, Water Sensitive Urban Design and water quality management.

The Integrated Water Management Plan for the Concept Plan will result in improvements to public safety during flood events, improvements to runoff quality to Parramatta River, more sustainable use of water to and compliance with current urban catchment management standards.

These objectives can be met by the measures proposed for Stage 1 described in the report. Subsequent stages of the Shepherds Bay urban renewal project will be developed to an equivalent standard and which will evolve with improvements in water management technology and practices over the extended timeframe for the wider development.

116. RIPARIAN LAND AND THREATENED SPECIES

DGR 13: RIPARIAN LAND AND THREATENED SPECIES
The EA is to provide details of the protection and rehabilitation of riparian land along the Parramatta River, including consideration of wider riparian setbacks in key locations to enhance the local foreshore connectivity value, and public access.

The EA shall address impacts on the wetland protection area including threatened species, populations and endangered ecological communities and their habitats and steps taken to mitigate any identified impacts to protect the environment, in accordance with DECCW 'Threatened Species Assessment Guidelines 2007'.

The Commonwealth Department of Environment, Water, Heritage and the Arts should be consulted to ascertain whether the proposed development triggers the need for an assessment and approval under the commonwealth Environment Protection and Biodiversity Conservation Act 1999.

The landscaping foreshore parkland adjoining Stage 1 is complete. The proposed Stage 1 works do not involve any work that will impact the riparian vegetation. Additionally, construction work and stormwater upgrades required for the development including excavation will implement appropriate mitigation measures to ensure the development does not detrimentally impact the riparian land or any threatened or endangered species.

117. CONTAMINATION AND GEOTECHNICAL ISSUES

DGR 17: CONTAMINATION AND GEOTECHNICAL ISSUES
The EA is to demonstrate that the site is suitable for the proposed uses in accordance with SEPP 55, and identify how future remediation will be managed to accommodate staging and occupation of residential buildings. This assessment should also include an analysis of any risks/hazards associated with urban salinity/acid sulphate soils.

A Preliminary Contamination Assessment was prepared by Douglas Partners (July 2010) at **Annexure 21**. A Contamination Assessment was also prepared for the Stage 1 site by Egis Consulting Australia in May 2000. The purpose of the investigation was to determine the sites suitability for residential use.

The investigations indicate that the site does not appear to be subject to any gross, widespread soil contamination. Some localised areas of relatively minor contamination were identified and require remediation and/ or management to allow for residential use.

The Stage 1 site may also contain contaminated groundwater. Care will be taken during the initial site preparation works and if signs of contamination are within individual sites/areas then a more targeted and detailed assessment of groundwater can be conducted within those areas once the existing buildings are demolished.

The Proponent commits that the land will be remediated to the extent necessary for the proposed use. Remediation works will be carried out in accordance with SEPP 55 Remediation of Land. If necessary, a Remedial Action Plan (RAP) will be prepared as a guide to the remediation of land. On completion of the remediation work the developer will obtain a Site validation Report and a Site Audit Statement (issued under the Contaminated Land Management Act 1997) for the land.

118. UTILITIES

DGR 15: UTILITIES
In consultation with relevant agencies, address the existing capacity and requirements of the development for the provision of utilities including staging of infrastructure works for Stage 1 and the remaining stages in the Concept Plan.

A Services Infrastructure Report has been prepared by Floth Sustainable Building Consultants and is attached as **Annexure 20**.

The report indicates that preliminary investigations show that the site can be provided with utility services form existing infrastructure with system augmentation.

Preliminary advice from Energy Australia indicates that new high voltage feeders will be required to serve the development.

Telecommunications services can be provided form the nearby Ryde Telephone exchange located within a 1.8 km cable pathway route.

The precinct can be served from existing high pressure gas mains located in the roads bounding the development.

Water and sewerage will require amplifications within and external to the development precinct as detailed in Sydney Water's advice.

119. SUBDIVISION

The Draft Subdivison for Stage 1 Project facilitates the provision of the pedestrian links, pocket park and Nancarrow Avenue extension consistent with the Concept Plan.

120. TOPOGRAPHY AND EXCAVATION

The development of the Stage 1 site will involve excavation. The proposed earthworks have been reviewed by a geotechnical consultant and mitigation measures will be implemented to minimise any potential adverse impacts, particularly downstream impacts on the riparian vegetation. Excavations will be executed safely and in accordance with professional standards.

The Draft Statement of Commitment for Stage 1 includes commitment to the preparation of an Erosion and Sediment Control Plan by a suitably qualified consultant. Refer to **Annexure 29**.

The site will be modified to provide building platforms for the development. Where possible at street level the development will respond to the natural landform of the site.

121. NOISE ASSESSMENT

DGR 16: NOISE ASSESSMENT
The EA should address the issue of noise impacts and provide details of how these will be managed and ameliorated through the design of the buildings, in compliance with relevant Australian Standards and the Department's Interim Guidelines for development near rail corridors and busy roads.

The EA shall address noise impacts during the construction phase of the development and address how these will be managed and mitigated in accordance with the "Interim Construction Noise Guideline" (DECCW, 2009).

A Noise Impact Assessment was prepared by Acoustic Logic Consultancy and is attached at **Annexure 28**. The report assesses potential traffic noise, railway noise and vibration impacts on the proposed residential development. The assessment identifies appropriate noise/ vibration impact criteria, presents an acoustic assessment of external noise and vibration impacts on the site and provides indicative acoustic treatments and identifies appropriate criteria for construction noise generation and present noise emission goals.

The likely impact of traffic noise and rail noise and vibrations were assessed against the requirements of the Department of Planning Development near Rail Corridors and Busy Roads Interim Guideline and the DECCW Interim Construction Noise Guidelines and DEC NSW Assessing Vibration: A Technical Guideline. The assessment sets out recommendations to reduce the impact of noise and comply with the guideline requirements. Such recommendations have been incorporated into the design of the Stage 1 development.

122. BCA COMPLIANCE

A BCA Report for Stage 1 has been prepared by Michael Wyn Jones and is included as **Annexure 25**. The Report provides an assessment of the proposed development with the relevant provisions of the Building Code of Australia 2009 (BCA). The BCA did not identify any issues pertaining to the Stage 1 development that need to be resolved prior to construction certificate, and concludes that the proposed Stage 1 development meets the relevant requirements and does not require any modifications.

123. AFFORDABLE HOUSING

A mix of apartment sizes will be provided including one bedroom apartments. The increased housing supply in the area and proposed apartment mix will increase housing choice and ease affordable housing issues in the area.

124. ACCESSIBILITY

An Accessibility Masterplan Report and Stage 1 Access Review were prepared by Morris Goding Accessibility Consulting, refer to **Annexure 26**. The Access Review Report for Stage 1 development indicates that ingress and egress, paths of travel, circulation areas, passenger lifts, car parking, common facilities and adaptable units comply with relevant statutory guidelines.

The main recommendations that have arisen from the Stage 1 Access Review include:

1. All adaptable units will require modification in order to comply with AS4299.
2. Relocate the correct number of adaptable parking bays so that they are adjacent the lifts that access the adaptable units.
3. All adaptable units require access into the courtyard. These access doors require clear widths of 850mm with latch side clearances of 510mm.

125. DRAFT STATEMENT OF COMMITMENTS & CONTRIBUTIONS

DGR 10: CONTRIBUTIONS
The EA shall address the provision of public benefit, services and infrastructure having regard to Council's Section 94 Contribution Plan, and provide details of any planning agreement or other legally binding instrument proposed to facilitate this development.

Existing social and community infrastructure should be identified and consideration be given to the need to enhance existing infrastructure and provide new infrastructure to meet the likely future demands rising from the redevelopment of the subject land and the Meadowbank Employment Area generally.

DGR 18: STATMENT OF COMMITMENTS
The EA must include a Draft Statement of Commitments detailing measures for the environmental management, mitigation measoures and monitoring for the project.

The proposed development will comprise significant public benefits, services and infrastructure. A Voluntary Planning Agreement (VPA) between the planning authority and developer will be developed which secures the development and ensures the timely provision of community benefits.

A Draft Statement of Commitments for the Stage 1 Project is submitted as Annexure 29. It details the Proponents commitment to put in place measures for environmental management, public transport initiatives, risk mitigation measures and monitoring for the project. It is acknowledged that this document is in draft form and will be the subject of further discussion with Department of Planning. Refer to **Annexure 29**.

FIGURE 77. STAGE 1 PERSPECTIVE

CONCLUSION

SHEPHERDS BAY URBAN RENEWAL

The proposed Concept Plan application seeks approval for the redevelopment of the subject lands for residential, open space and stormwater purposes. The Stage 1 project application seeks approval for construction of the first of the proposed buildings and associated infrastructure works and public domain elements.

The proposal is in the public interest and serves to create a vibrant residential development which contributes positively to Shepherds Bay as a whole.

This Environmental Assessment demonstrates that the matters for which approval is sought are generally consistent with applicable environmental planning instruments and address the Director General's Environmental Assessment Requirements. The redevelopment of the Shepherds Bay area is of a high quality design and will create a wide range of benefits for the existing and new community.

The Project represents a positive improvement to the urban fabric of Shepherds Bay. The development envisaged in the Concept Plan and Stage 1 Project:

- are consistent with the objectives of the Environmental Planning and Assessment Act 1979 of encouraging the orderly and economic development of land;
- are consistent with the principle of more compact cities, which is a major element of the State Government's Metropolitan Plan for Sydney 2036 and assists in meeting the residential targets contained in the Inner North Regional Strategy and reduced environmental impacts from urban expansion by increasing housing in the inner and middle ring areas;
- are appropriately located, recognised by the land use provisions within Council's LEP 2010 as being a desirable site for the land uses proposed. The subject site is located in an established urban area with a network of urban infrastructure services including utilities, recreation, and community services;
- are well served by three modes of public transport, will improve the viability of these services and has been designed to encourage a modal shift away from private vehicles;
- involve equitable reuse of surplus industrial land, ensuring that more accessible 'inner ring' areas of land are available for residential use. The subject site provides the opportunity for additional housing in an existing and evolving residential area by making use of surplus industrial land and building on established communities and transport links;
- are of high quality, supporting the objectives and controls contained in the relevant environmental planning instruments and policies;
- will improve supply and diversity in housing choice and hence improved affordability within a highly accessible, sought after area of the Sydney region;
- has been designed to be environmentally sustainable through building siting, design, choice of materials, water and energy conservation and environmental protection and interpretation;
- will be dynamic development, creating new high quality elements in the urban form of the locality in this prime location, linking existing residential areas to the waterfront via a high quality system of new pedestrian links, parklands and roads;
- are environmentally sensitive and liveable, being designed with much care to minimise any environmental impacts on adjoining properties, public domain areas or the locality in general, while celebrating the historic uses of the site;
- offer significant benefits for the wider community of Shepherds Bay and Meadowbank;
- offer economic benefits to the local community by increasing employment opportunities both during construction and by subsequent occupation of the proposed Stage 1 Project and subsequent stages of the Concept Plan; and
- are complementary to the recent and planned future urban form of the Shepherds Bay.

The Concept Plan and Stage 1 Project respond appropriately to the unique characteristics of the site and its context within the locality. Development of the site as proposed is meritorious and will make a positive contribution to the urban fabric of the area.

Accordingly, it is recommended that the Minister support this proposal by approving the subject applications.

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LIST OF ANNEXURES

SHEPHERDS BAY URBAN RENEWAL

SHEPHERDS BAY URBAN RENEWAL

Annexure 1	Director General's Requirements
Annexure 2	Architectural Drawings
Annexure 3	Consultation Strategy
Annexure 4	Quantity Surveyor's Report - Capital Investment Value
Annexure 5	Summary of MEA Masterplan Compliance
Annexure 6	Summary of Ryde DCP Compliance
Annexure 7	Crime Risk Assessment Report
Annexure 8	Visual Impact Assessment
Annexure 9	SEPP 65 Assessment
Annexure 10	Market Assessment
Annexure 11	Traffic and Transport Assessment Report
Annexure 12	Solar Assessment
Annexure 13	Landscape Report
Annexure 14	ESD Guidelines and Report
Annexure 15	BASIX Certificates
Annexure 16	Stormwater, Existing Conditions Assessment
Annexure 17	Stormwater, Integrated Water Management Plan
Annexure 18	Flora and Fauna Assessment
Annexure 19	Preliminary Geotechnical and Groundwater Assessment
Annexure 20	Utility Services Report
Annexure 21	Preliminary Screening Contamination Assessment
Annexure 22	Land Use Survey
Annexure 23	Arborist Report
Annexure 24	Interpretation Strategy
Annexure 25	BCA Report
Annexure 26	Accessibility Report
Annexure 27	Waste Management Plan
Annexure 28	Noise Assessment
Annexure 29	Draft Statements of Commitment