Stockland

ENVIRONMENTAL ASSESSMENT REPORT

in response to the Director-General's Requirements for the Project Application (MP06_0289) for the Development of Part Lot 1009 in DP 1066557 of the

FORMER NAVAL STORES SITE,

ERMINGTON

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Preamble

This report has been prepared by Helen Mulcahy Urban Planning on behalf of Stockland Development Pty Ltd and constitutes an Environmental Assessment prepared in respect of Major Project Application 06_0289 – Former Naval Stores Site at Ermington – Phases 6 and 8. The information contained in this report is based on the Environmental Assessment Requirements under Part 3A of the Environmental Planning and Assessment Act 1979 issued by the Director General on 5 February 2007.

This document should be read in conjunction with the Architectural Package prepared by Turner + Associates and the Landscape Design prepared by Context which have been included at **Appendix 1** and **Appendix 11** respectively. This Environmental Assessment has been prepared with the assistance of a number of other specialist consultants, whose reports and other plans and materials are also appended to this submission, as set out below:

Architectural Packages	Turner + Associates	**Appendix 1**
Certificate of Cost	WT Partnership	**Appendix 2**
Phasing Plan	Stockland	**Appendix 3**
Land to which the application applies	Stockland	**Appendix 4**
Site Audit Statement	Coffey Geosciences	**Appendix 5**
Archaeological Report (April 2002)	Mary Dallas	**Appendix 6**
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Draft Subdivision Plans	Lockley Land Title Solutions	**Appendix 8**
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Director General's Requirements	Department of Planning	**Appendix 23**

This Environmental Assessment Report has been prepared with the assistance of the specialist consultants listed above and the information contained herein is based on the content of the specialist reports.

On this basis I hereby certify that the information contained in this Environmental Assessment is intended to be neither false nor misleading.

……..

Helen Mulcahy

Executive Summary

This document constitutes an Environmental Assessment for Major Project 06_289 which seeks approval for the development of part of the former Naval Stores at Ermington currently owned by Stockland and known as Phases 6 and 8 of the Riverwalk development.

In correspondence dated 22 November 2006, the Department of Planning (the Department) confirmed that its Director General, as a delegate of the Minister, had formed the opinion that the proposal constitutes a Project and that Part 3A of the Environmental Planning and Assessment Act 1979 applies.

Stockland subsequently prepared a Preliminary Assessment of the Project which was submitted to the Department on 18 December 2006 and requested the Director General's Requirements for the project which would be addressed in the Environmental Assessment.

On 5 February 2007, the Director General issued his Requirements for the Environmental Assessment for the Project, based on the information provided in the aforementioned Preliminary Assessment.

This submission constitutes the Environmental Assessment for the Project and the information contained herein is based on the Director General's Requirements set out in the Schedule that accompanied the aforementioned correspondence from the Department.

The Proposal

The proposed development on Phases 6 and 8 is broadly described as follows:

Phase 6 5 x 3/4 bedroom Townhouses, Torrens Title subdivision
Phase 8 Residential Flat Building comprising 22 apartments

The Architectural Package prepared by Turner + Associates, which is included at **Appendix 1,** illustrates the proposed development.

The capital investment value of the development to which this application applies is $10.2 million. A Quantity Surveyor's Certificate of Cost prepared by WT Partnership has been included at **Appendix 2**.

The proposed development has been designed to the highest standards to reflect the Proponent's commitment to design quality and the community's expectations for future development at Ermington.

Building form, landscape treatment and public spaces have been designed as integrated elements to create a consistency and cohesion throughout the development.

The built form has been directly generated from basic passive solar design and planning principles interwoven with form articulation to create a diverse yet cohesive streetscape.

The dwellings have been designed in a contemporary architectural style with a high standard of materials and finishes. This will result in a development that is attractive in aesthetic terms and one which will make a positive contribution to the overall quality of development in the locality.

Internal layouts have been planned to achieve maximum efficiency. The townhouses (Phase 6) seek to maximise the size of the useable living spaces and the extent of natural light penetration. All the primary living spaces open out to generous private outdoor spaces that take advantage of their orientation and aspect to optimise sunlight access.

The form of the waterfront apartment building (Phase 8) has been derived from the development controls set out in the Master Plan / Deemed DCP for the Ermington site. There

are 22 apartments comprising a mix of one and two storey units, providing 100% cross ventilation and dual aspect, resulting in good solar access and expansive views.

The apartment building embraces a range of ESD principles. Massing, internal layouts and orientation have been arranged to provide good natural daylight and solar access into primary living spaces, external living areas and gardens. Balconies and window canopies provide summer shading to windows with the addition of sliding shutters on the eastern and western facades for additional solar protection.

Environmental Assessment

This report demonstrates that the proposed development:

- is consistent with the character of both existing development in the vicinity of the site and the expected future development in subsequent stages of the former Naval Stores site;
- will make a positive contribution to the streetscape and that the quality of the architecture will set a benchmark for future development in the locality;
- satisfies Council's general expectations for development in the Parramatta local government area;
- is comparable in terms of bulk, height and scale to existing development in the locality and residential buildings approved as part of the Project Application for Phases 1-5 and 7;
- reinforces the existing public domain and also establishes a strong public domain within the development site;
- has been designed in cognisance of the need to conserve resources and be both energy and water efficient;
- adopts the principles of passive surveillance of the public domain in terms of dwelling design and landscape treatment;
- has been designed in an integrated manner, in cognisance of its relationship to existing development external to the site and the manner in which it will relate to housing types within the site on adjoining superlots;
- is consistent with the adopted Master Plan / Deemed DCP in terms of land use, density, built form and building envelopes, road pattern, subdivision pattern, relationship to open space and the incorporation of ESD principles into the design;
- complies with Council's requirements for parking and the Australian Standards for vehicular access;
- will not result in any shadow impact on adjoining residential properties external to the site or to public open spaces; and
- complies with Council's DCP controls for overshadowing within the development.

Conclusion

The high quality design, function and form that have been adopted for this project will help to create a new benchmark for future integrated residential development in the Parramatta LGA. The proposal represents a responsive design relating to adjoining development and establishes human scale through sound urban design principles whilst ensuring that ESD principles are incorporated.

The proposal is a suitable development on this site and in this locality, particularly having regard to its context and the desired future character of the area as set out in the Master Plan / Deemed DCP for the site.

The development will have positive social and economic benefits in terms of creating additional resident population to support local businesses and services. Furthermore, it will provide greater housing choice within the City of Parramatta.

Cross Reference to Director General's Requirements

	Details	X Reference
General Requirements		
	The EA for the Project Application must include: • an executive summary; • a description of the proposal and description of adjoining sites; • a summary of relevant site works including but not limited to remediation, construction of roads, stormwater drainage, landscaping etc relating to the subject lots and the land to the north (Phases 1, 2, 3, 4, 5 & 7) and likely timing of completion of these site works and the impact on this project; • consideration of any relevant statutory provisions; • overview of other environmental issues and any relevant provisions arising from environmental planning instruments; • an environmental risk analysis of the project; • a detailed assessment of the key issues; • a Draft Statement of Commitments, outlining environmental management, mitigation and monitoring measures; • a conclusion justifying the project, taking into consideration the environmental impacts of the proposal, the suitability of the site, and whether or not the project is in the public interest; • a signed statement from the author of the Environmental Assessment certifying that the information contained in the report is neither false nor misleading.	 Exec Summary Chapter 1 Chapter 2 Section 4.7 Chapter 3 Chapter 4 Chapter 4 Chapter 2 & 4 Chapter 5 Chapter 7 Preamble
Key Issues		
Part A Heads of Consideration	• Suitability of the Site; • Likely environmental, social and economic impacts; • The public interest; • The referral of the proposed residential flat buildings to the Parramatta Design Review Panel (DRP) by the proponent, details of comments made by the DRP and how they have been addressed.	Section 4.11 Section 4.12 Section 4.13 Section 6.1
Part B Environmental Assessment	The Environmental Assessment must include: • Consideration of relevant environmental planning instruments (EPIs) and guidelines including: - SREP (Sydney Harbour Catchment) 2005 - SEPP 65 (Design Quality of Residential Flat Development); - SEPP (Building Sustainability Index : BASIX) 2004; - Parramatta City Council LEP 2001 and Development Control Plan 2005; and - Ermington Master Plan 2002. • Nature and extent of any non-compliances in particular relating to Ermington Master Plan and how they are justified; • Detailed breakdown of the GFA for the townhouses (each level) and apartments for the residential flat building; • The provision of Section 94 Contributions in accordance with Parramatta Section 94 Contributions Plan dated 20 September 2004; • Timing of construction (stages), subdivision and occupation of the development; • A Quantity Surveyors' Certificate of Cost to verify the capital investment value of the project in accordance with the definition contained within the SEPP Major Projects (2005).	 Section 3.7 Section 3.6 S 3.4 / App 12 S 3.8 / S 3.9 App 14 / App 17 Section 3.10 Section 3.10 Appendix 1 (Area Schedule) Section 4.4 Section 4.7 Appendix 2

	Details	X Reference
Part C Key Issues		
1. Built Form, Bulk and Urban Design	• The EA must provide details of the built form addressing the appearance of the proposed development from Parramatta River and from land surrounding the site. • In particular, matters the EA must address include, but are not limited to the design quality of the proposal with specific consideration given to: - height; - FSR and GFA (including site coverage of each building); - Bulk, scale and density; - View corridors and a view analysis (these requirements are to be presented as photomontages from Parramatta River and other main points); - Vehicular access, car parking and pedestrian linkages; - Impact of overshadowing of Phases 6 and 8 on the foreshore, public spaces and on the approved development for Phases 1, 2, 3, 4, 5 and 7 parts of the site; - Safety and security; - Materials and colours; - Façade treatment.	Section 4.1.3, Section 4.5, Appendix 19 Ss 3.9, 3.10, 4.1 Ss 3.10 & 4.1 Section 4.1.4 Section 4.1.3, Section 4.5, Appendix 19 Ss 2.5 & 4.2 Section 4.10 Section 4.6 Section 2.4 Sections 2.3 & 4.1.3
2. Landscaping	• A Landscape Management Plan detailing proposed landscaping within the site including: • Location of planting including existing, proposed or, as part of previous consents granted for the site and surrounding area, and examine how the proposed landscaping subject to this application complements surrounding landscaping; • Species proposed are to complement the foreshore planting by utilising predominantly indigenous species and to be drought resistant to reduce water consumption by the plants; • Height and size at the time of planting and when mature.	Section 2.7 Appendix 10 Appendix 10 Appendix 10 Appendix 10
3. Access and Parking	Vehicular and pedestrian access to the site and through the site to the foreshore.	Sections 1.4, 2.5 and 4.5
4. Subdivision	Provision of draft Torrens and Strata Title subdivision plans.	Appendix 8
5. Hazard Management and Mitigation	An Acid Sulphate Soil Management Plan prepared by a suitably qualified and experienced professional in accordance with the *Acid Sulphate Soil Assessment Guidelines* (Acid Sulphate Soil Management Advisory Committee, 1998).	
6. Ecologically Sustainable Development	• BASIX Certificates – to be provided for all residential development subject to this project application. • Detail how the development will incorporate ESD principles in the design, construction and during occupation.	Appendix 21
Part D Statement of Commitments		
	The EA for the project application must include the following: • A draft Statement of Commitments detailing measures for environmental management and mitigation measures and monitoring for the project. Issues are to include stormwater management, construction impacts, waste generation and collection, staging of development and occupation, and mitigation of amenity impacts from construction activities etc.	Chapter 5

	Details	X Reference
Specialist Advice	Specialist advice, prepared by a suitably qualified person, will be requested to support your EA including, but not limited to, the following: • Basement parking, access, garbage storage / collection and servicing provisions; • BCA compliance – accessibility assessment; • Hydrogeological for excavation impacts; • Acid Sulphate Soil Risk level and where applicable, Acid Sulphate Soil Management Plan demonstrating compliance with ASSMAC Guidelines; • Stormwater / drainage; • A Site Audit Statement to verify that the land is suitable for residential buildings.	 Appendix 20 Appendix 9 Appendix 21 Appendix 11 Appendix 5

1 The Site & Environs

1.1 Site Description & Background

1.1.1 Former Naval Stores Site

The total former Defence site has an area of 19.62ha and is located on the northern shores of the Parramatta River at Ermington, within the local government area of Parramatta. It is situated approximately 18km to the west of the Sydney CBD and roughly 5km from the Parramatta City Centre.

The eastern boundary of the former Naval Stores site is delineated by Spurway Street beyond which is located a large tract of public open space (George Kendall Riverside Park) which includes a number of recreational facilities such as sporting fields, tennis courts, bicycle paths, public art and passive open space. Beyond the open space and further to the east is low density residential development in the suburb of Melrose Park, another Primary School and the Meadowbank Ferry Wharf. Meadowbank Railway Station is located approximately 3km to the east of the site.

The western extent of the Defence land is defined by Silverwater Road. Development to the west of Silverwater Road includes Eric Primrose Park which comprises sporting fields, picnic facilities and a shared bicycle/pedestrian path providing connections to the Rydalmere Ferry Wharf. Rydalmere Railway Station is situated approximately 3km to the west of the site.

A narrow strip of land abuts the southern property boundary of the wider Defence site, which has direct frontage to the seawall and the Parramatta River. The Department of Defence has undertaken comprehensive landscape treatment and other enhancement works in this area and it is understood that this area is to be dedicated to Council as open space.

Existing development on the southern side of the River includes the historic armaments precinct in the Parklands at Sydney Olympic Park, Wilson Park and the Silverwater Prison Complex.

The Department of Defence prepared a Master Plan in accordance with State Environmental Planning Policy No. 56 guidelines, which was adopted by the Minister in April 2002, subject to a number of variations which were subsequently made by the applicant and accepted by (then) PlanningNSW on 27 May 2003.

1.1.2 Stage 1 Site (Phases 1 – 5 and 7)

Stockland purchased the first stage release (4ha) of the former Naval Stores site at Ermington in June 2004 following a public tender process conducted by the Department of Defence.

The land owned by Stockland is situated at the eastern end of the former Naval Stores site and is being developed in eight (8) phases as illustrated on the Phasing Plan included as **Appendix 3**.

On 21 November 2006 the Minister granted consent to Major Project Application No. MP05_0084 for the development of Phases 1, 1A, 2, 3, 4, 4A, 5 and 7 of the land owned by Stockland at Ermington, as follows:

> *Torrens title subdivision of part Lot 1001 in DP 1040571 and Lot 1009 in DP 1066557 into 78 lots, and residential development incorporating studio, freestanding, courtyard and townhouse dwellings, and stratum subdivision of the second storey dwellings above the garages on Lots 2 and 25.*

1.1.3 The Current Application – Phases 6 and 8

In correspondence dated 22 November 2006, the Department of Planning confirmed that its Director General, as a delegate of the Minister, had formed the opinion that Stockland's proposal for the construction of a 5 x townhouses (known as Phase 6) and a residential flat building (known as Phase 8) in a Torrens and Strata title subdivision respectively, constitutes a Project and that Part 3A of the Environmental Planning and Assessment Act 1979 applies.

This document has been prepared to accompany the Project Application for the remaining development sites (Phases 6 and 8) of the Riverwalk development on the former Defence site at Ermington.

1.2 Real Property Description

The land to which this Environmental Assessment applies is described as Lot 1009 in DP 1066557.

1.3 Ownership Details

The registered proprietor of the subject land is Stockland Development Pty Ltd.

1.4 Topography & Physical Characteristics

Phases 6 and 8 are located on the western portion of the Stage 1 site. Phase 6 (also known as proposed Lot 35) is roughly rectangular in shape and has an area of 1,149 sqm, with frontage to Allura Crescent along the western and southern boundaries of the site.

Phase 8 (known as proposed Lot 33) also has two street frontages – to Allura Crescent to the north and Nordica Drive to the east. It is rectangular in shape with a total site area of 2,150 sqm.

The plan included at **Appendix 4** illustrates the location and physical configuration of the sites.

1.4.1 Views and Vistas

The view corridors across the site have been pre-determined by the Master Plan / Deemed DCP and previous consents (DA 112-4-2002 and DA 113-4-2002) which set the street pattern and dictate the subsequent layout of superlots.

The Phase 8 site has direct interface with River Park and enjoys uninterrupted views up and down the River. The Phase 6 site is located one block back from the River and enjoys views across the open space (Creek Park) to the west, some of which include oblique views of the River.

1.4.2 Access

Primary vehicular access to the subject site is via Spurway Street, which is a 7m wide carriageway, providing a single traffic lane in each direction. Spurway Street provides direct access to Victoria Road via a signalised intersection, some 750 metres to the north of the site.

Boronia Street also provides access to the east via Hope Street to Wharf Road and its intersection with Victoria Road which is also signalised. Access to the Ryde Bridge is available through Meadowbank via Andrew Street/Constitution Road.

Previous investigations undertaken by Colston Budd Hunt and Kafes for both the Master Plan and subsequent applications, reveal that all intersections in the area are currently operating at a good level of service. The intersections along Victoria Road have adequate capacity to accommodate existing flows, particularly since the completion of the Silverwater Road overpass. However, it is noted that downstream constraints (notably the intersections west of

Silverwater Road) can result in queues and congestion in the section of Victoria Road around Spurway Street.

In relation to vehicular access, it should be noted that the proposed subdivision and development:

(i) retains the road layout as set out in the Ermington Master Plan; and
(ii) adopts the required road widths nominated in the Master Plan and the previous development consents (DA 112-4-2002 and DA 113-4-2002) issued by the Minister.

1.4.3 Utility Services

Major infrastructure works have been completed by the Department of Defence including road construction, installation of trunk drainage and other utility services within the road reservations on this part of the former Defence site. Connections to individual lots/dwellings will be completed by Stockland in consultation with supply authorities.

Roadworks will be completed in accordance with existing consents.

1.4.4 Flora and Fauna

Previous human activity on the site (including the recent remediation and filling works) has rendered the site largely devoid of vegetation, with none of the original vegetation communities in evidence.

No threatened flora species (NSW *Threatened Species Conservation Act 1995*; Commonwealth *Environmental Protection and Diversity Conservation Act 1999*) and no rare or threatened Australian plant species have been found on the site.

On this basis it is considered that the proposed development of Phases 6 and 8 will not result in any adverse impacts in terms of flora or fauna. Furthermore Stockland has committed to comprehensively landscaping the Riverwalk development using a mixture of native and introduced plant species appropriate to the site conditions, which could reasonably be expected to provide food sources for some native birds and animals.

1.4.5 Contamination

Detailed contamination investigations were undertaken for the whole Defence site at Ermington as part of the Master Plan exercise. Furthermore, the land has been remediated in accordance with the relevant standards for residential development contained in the Contaminated Land Management Act 1997.

A Site Audit Report and Site Audit Statement have been prepared by Coffey Geosciences Pty Ltd (refer **Appendix 5**). The report concludes that the site is suitable for use as residential with accessible soil, including garden areas.

1.4.6 Heritage and Archaeology

Mary Dallas, Archaeologist was engaged to undertake an investigation of aboriginal archaeology as part of the Master Plan in April 2002. A copy of the report is included at **Appendix 6**. The report concluded that no Aboriginal stone artefacts, scarred trees or other evidence of Aboriginal usage of the area were located, probably as a result of the low surface visibility and the disturbance caused by the construction and usage of the site as well as a predicted low incidence of archaeological remains. However part of the area was identified as containing some potential to contain intact soil profiles which may contain intact or disturbed archaeological deposits and it was recommended that a limited program of archaeological test excavations should occur.

A subsequent report (dated July 2002) on the Archaeological Test Excavations was prepared on behalf of Defence by Mary Dallas & Paul Irish (refer **Appendix 7**). The report considered

the findings of 11 evenly spaced borehole trenches across two transects and concluded that the investigated area was not considered to be archaeologically sensitive. The report contained a letter from the Metropolitan Local Aboriginal Land Council indicating that it sees no Aboriginal heritage constraints to the development proceeding.

In view of the above, it is unlikely that the proposed development on Phases 6 and 8 will have any impact in terms of heritage or archaeology.

1.5 Relationship to Adjoining Development

The former Defence site at Ermington is located in an established urban area with excellent access to a range of facilities, services and employment opportunities.

Development (existing and approved) in the vicinity of the Phase 6 site is described as follows:

- Phase 4A to the north and east, comprising a total of 8 x 2 storey dwellings;
- Proposed Phase 8 development site to the south. Approval is sought (as part of this application) for the erection of a 2/3 storey residential flat building with 4th storey "pop up", containing 22 dwellings; and
- Creek Park to the west.

Development adjoining the Phase 8 site includes:

- The Phase 6 site to the north, comprising 5 townhouses;
- River Park to the south;
- Phase 7 apartment building to the east which contains 24 units; and
- Creek Park to the west.

The Master Plan provides for future residential development to the west of Creek Park (on the remainder of the former Defence site) which will comprise a mixture of townhouses, apartment buildings and detached dwellings. It is understood that the next stage land release by the Department of Defence will occur some time in the 2008 / 2009 financial year.

2 Description of Proposed Development

2.1 Project Objectives

The guiding principles for the Project are:

(i) to create a new community with an established sense of place within close proximity to amenities;
(ii) to provide a diversity of architectural character and a range of dwelling types, representing a continuation of the quality of development approved under MP05_0084; and
(iii) to develop a sense of community underpinned by social cohesion and facilitated by interaction and ownership of the public domain at Ermington.

The vision for this project is to provide diversity in the architectural detail for the different building typologies. The aim is to provide an 'established' suburban ambience with houses that can be identified as individual whilst creating a commonality or unity between the different expressions and dwelling types.

The townhouses (Phase 6) adopt a predominantly two storey built form, whilst the apartment building (Phase 8) achieves three storeys + loft, stepping down to two storeys on the river frontage.

2.2 General Description

This section of the report should be read in conjunction with the Architectural Packages at **Appendix 1**. The proposed development on Phases 6 and 8 is broadly described as follows:

Phase 6 5 x 3/4 bedroom Townhouses, Torrens Title subdivision
Phase 8 Residential Flat Building comprising 22 apartments

A draft plan of subdivision for the Phase 6 site has been prepared by Lockley Land Title Solutions, a copy of which is included at **Appendix 8**. It should be noted that consent is not sought at this stage for the strata subdivision of the Phase 8 residential flat building and that this will be the subject of a separate application.

2.3 Architectural Statement

2.3.1 Phase 6

The townhouses have been carefully designed in a familial language that reflects the residential product approved in the earlier Phases (under MP05_0084), yet they express their individuality through a street portal device that varies in height and width between houses. The townhouses are a contemporary version of the tested row house typology, but present a rhythm of glazed and screened portals providing identity and address to the street.

The dwelling at the corner of Allura Crescent celebrates a pivotal street condition at the junction of Creek Park and the start of the waterside apartments, by increasing its height with the use of a dormer set flush on the corner as a small turret. This is in keeping with the dormer windows in the Phase 5 townhouses that assist in the transition in the scale of the houses to the larger scale of the waterside apartment buildings.

2.3.2 Phase 8

The design for the Phase 8 waterside apartment building picks up the forms and the principles employed in the previously approved Phase 7 building (MP05_0084) so that

together, they present cohesively to the waterfront. However, the Phase 8 building employs a series of subtle distinctions, as follows:

- variation in the type of materials;
- differences in the external colour palette; and
- varying proportions and roofscape.

The proposal for the Phase 8 building is designed to anchor the transition in scale and density from individual dwellings at the rear of the site to medium density housing at the rivers edge. The mirrored plan forms focuses access to sunshine and views and the building height steps down with the site topography to the River.

Room planning and façade elements focus on the riparian outlook and are arranged around twin lobbies. A shifting pattern of glazed and sliding screen elements animates the waterfront façade while masonry elements provide privacy and comfort to the east and west.

The combined result is a refined and unique solution with a clear address and identity. Principles of sustainability and synergy with its environment are embodied in the design of the building, promoting a positive lifestyle impact for future residents and their neighbourhood.

2.4 Materials and Finishes

The following tables summarise the range of materials and finishes proposed to be used in the Phase 6 and Phase 8 developments, which should be read in conjunction with the sample board which accompanies this Project Application.

2.4.1 Phase 6 Townhouses

Roof Materials		Custom Orb roofing
Wall Materials	Masonry	Face brickwork and cement render and textured paint
	Glazing	Proprietary powder coated aluminium framed glazing system
Feature Panels	Timber	Stained weatherboard
Street Portals	Brick	Dry pressed face brickwork
Balconies	Floors	Ceramic tile
	Solid Balustrades	Cement render, face brick and textured paint
	Glazed Balustrades	Proprietary semi-frameless balustrade system
Windows		Proprietary powder coated aluminium framed glazing system

2.4.2 Phase 8 Apartments

Roof Materials	Flat Roofs	Concrete Contrasting coloured aggregate
	Metal Roofs	Trapezoidal metal deck roofing
Wall Materials	Masonry Brick	Dry pressed brickwork
	Render	Cement render and textured paint
	Glazed	Proprietary powder coated aluminium framed glazing system
Feature Panels	Timber	High pressure laminate panels
	Metal	Trapezoidal metal cladding
Balconies	Floors	Ceramic tile
	Solid Balustrades	Cement render and textured paint
	Glazed Balustrades	Proprietary semi-frameless balustrade system
Windows		Proprietary powder coated aluminium framed glazing system
Sunshading	Vertical	Perforated high pressure timber laminate sliding panels
	Horizontal	Projecting concrete slabs – cement render and textured paint finish

2.5 Access and Parking

Each of the four townhouses that address Allura Crescent (west) provide two (2) on site parking spaces - single car garages plus one space within the front setback. The townhouse on the corner of Allura Crescent also provides two (2) parking spaces which are provided within a double garage accessed from Allura Crescent (south).

A total of thirty (30) parking spaces will be provided in the basement car park of the proposed residential flat building (Phase 8). This includes 2 accessible spaces. The Master Plan stipulates that visitor parking will be provided in the adjoining streets and as a consequence, no provision is made for visitor's vehicles in the basement.

Vehicular access to the basement car park is achieved via a 5.5m wide driveway at the eastern end of the site, off Nordica Drive.

Colston Budd Hunt and Kafes has reviewed the access, traffic and parking aspects of the proposed development. A copy of the report is included at **Appendix 20**.

2.6 Accessibility

Morris-Goding Accessibility Consulting has reviewed the design in respect of the AS1428 series, the Building Code of Australia and ultimately the Commonwealth Disability Discrimination Act, and has provided advice and strategies to maximise reasonable provisions of access for people with disabilities.

The report concludes that in general, the building design has accessible paths of travel that are continuous across all floors. The proposed development demonstrates a reasonable degree of accessibility and adaptability. There is general compliance with statutory requirements pertaining to site access and common access areas to residential areas and accessible parking.

The provision of access illustrated within the architectural drawings has been found to be reasonable and compliant with disability regulations relevant to the Project Application stage of the proposed development. The recommendations contained in the report relate to the level of detail associated with building fit-out design and should be carried out during the design development stage.

A copy of the Access Review Report is included at **Appendix 9**.

2.7 Landscape Treatment

The general landscape treatment across the Stockland site was approved by the Minister as part of MP05_0084.

The landscape vision for the site is to create a high quality residential landscape with a distinctive sense of place, memorable aesthetic qualities, community identity and a strong focus on shared community and ownership by residents.

The intention is to create an integrated framework of streetscape, semi private and private garden settings which complement the open space network across the wider site.

A copy of the Landscape Plans and Specifications are included at **Appendix 10**.

2.7.1 Streetscape

The streetscape treatment reinforces the grid form of the road network and will therefore focus on formality of path layouts, precision in detailing, homogeneity of colour and boldness and simplicity of scale. Spatial continuity is a key aim in the streetscape treatment, with distinctiveness allowing residents and visitors an instantly recognisable address.

The unifying element for all streets within the development is the avenue planting of native trees as prescribed by the Master Plan. These are spaced at regular intervals, nominally 10 metre centres, set within compacted gravel surrounds with galvanised steel edge. Dryland turf is located between the back of kerb and concrete path with low shrubs and ground covers set between the path and property boundary. The interface between the public and private domain is delineated by either a palisade, masonry (or combination of both) type fence, constructed to a maximum height of 900 mm.

All streets are treated with a bold mix of native and exotic grassy groundcovers and flowering broad leaf low shrubs in the zone between pathway and lot boundary.

Townhouses (Phase 6)

2.7.2 Front Gardens

Planting in the front gardens of the proposed townhouses will include low maintenance, drought tolerant groundcovers, shrubs and trees to complement the character of the surrounding streetscape. These garden areas have a number of functions including:

- defining the front setback;
- forming an attractive interface between the built form and streetscape;
- the creation of seasonal highlights through the use of flowering scented plants;
- creating cohesion between the individual lots and the streetscape as a whole; and
- provide texture and colour contrasts.

Proposed plant species are nominated on the landscape drawings included at **Appendix 10** in the form of plant schedules, which also includes planted and mature heights of each species.

Letterboxes will be incorporated into front fences. Pre-cast concrete paving will be provided to front door from the public footpath on the street. Driveways will be charcoal coloured concrete. Hardstand garbage bin storage will be provided to the side of the house on accessible paths and screened from view from the street.

The planting palette (refer **Appendix 10**) includes a range of long lasting, hardy, drought tolerant native and exotic planting with small to medium sized native trees, creating an upper canopy for shade.

2.7.3 Rear Yards

The rear gardens of each of the townhouses will have a range of planting types which reflect the range of functions that those spaces will be required to perform. Planting will comprise:

- upper canopy trees for boundary definition and to reinforce privacy;
- deciduous tree cultivars to provide winter sun/summer shade;
- compactness and limited spread to reduce overhanging to neighbouring properties;
- dense green and textured shrubs to screen fences;
- shrubs and groundcovers to give life to areas in perpetual shade;
- flowering and scented plants to give seasonal seasonal highlights; and
- turf areas for breakout and play space.

Proposed plant species are nominated on the landscape drawings included at **Appendix 10** in the form of plant schedules, which also includes planted and mature heights of each species.

The fencing between properties will be 1800mm timber shiplap paling with capping.

Pre-cast paving areas on slab will be provided to create outdoor dining and entertainment areas adjacent to the primary internal living spaces.

A clothes line with paving under will be provided in each yard.

The extent of soft landscaping (including deep soil garden beds, lawns, gravel areas and stepping stones) complies with nominated percentages of site cover as set out in the approved Ermington Master Plan / Deemed DCP.

Waterfront Apartment Building (Phase 8)

2.7.4 Entry Court Gardens

The split level entry gardens from Allura Crescent will create an inviting green ambience to the apartments and will have a minimalist planting theme. Plants used are of predominantly drought resistant native species and complement the character of the surrounding streetscape. The upper canopy will include mature Euaclypts and Norfolk Island Pines on deep soil garden beds between the ground floor of the apartments and the street to soften the building streetscape.

The lower eye level plantings will consist of hedging shrubs, native grasses and groundcovers in deep soil and raised planters with distinctive foliage and texture and include Lillypillys, Lomandra and Dianella. The planting will create interest and define the entry threshold. Low level retaining walls suitable for seating will be located on the lower street edge, providing a place for waiting and greeting.

2.7.5 The Street Frontage Gardens

The landscape to the street edges will form a dramatic green plinth to the built form. It is proposed that the landscape zone will from a titling plane sloping towards the street edge giving the appearance of a building gently meeting ground. The use of a hardy, drought tolerant native ground cover species planted with copses of Eucalypts on the batters, and hedging to the car park driveway creates a landscape gesture capable of corresponding to the scale of the built form and simultaneously complementing the character of the streetscape.

A small plinth wall will create a “toe” or framing element to the batter with low planting between the wall and the footpath to form a soft transition to the streetscape edge.

2.7.6 The Rear Gardens

The landscape to the rear courtyard will act as a visual mosaic of planting and mounding on slab to soften the void between built forms and provide a green plane as observed from overlooking apartments and adjacent the waterfront park.

The area will create a visually green ambience using a rainforest gully theme to respond to the south facing aspect of this area. The upper canopy will have mature Bangalow Palms and other rainforest species growing on grade (deep soil) and in planters on slab. The lower eye level planting will feature shrubs, ferns and groundcovers with distinctive foliage and texture and include Birds Nest Ferns, Bromeliads and Liriopes.

The rear garden area will incorporate a range of planting types that reflect the range of functions that this space will be required to perform. Planting will comprise:

- deciduous tree cultivars to provide winter sun/summer shade;
- compactness and limited spread to reduce overhanging to neighbouring properties;
- dense green and textured shrubs to define the courtyard space and give a green backcloth to views from living spaces ;
- flowering and scented plants to give seasonal highlights; and

- turf areas for informal play and relaxing

Proposed plant species are nominated in the Landscape package at **Appendix 10** (Drawings LWD 180 & LWD 181) in the form of plant schedules, which also includes planted and mature heights of each species.

The extent of soft landscaping (including deep soil garden beds, lawns, gravel areas and stepping stones) complies with nominated percentages of site cover as set out in the approved Ermington Master Plan.

2.8 Sustainability / ESD

A range of design initiatives and elements have been employed to ensure the proposed development optimises its sustainability. These features are summarised as follows:

- all practical water saving measures will be adopted, including monitoring and education;
- installation of water efficient fixtures and fittings to all dwellings;
- water efficient design;
- the design utilises balcony overhangs, canopy hoods and external shading devices;
- cross ventilation has been achieved in all apartments and the basement car park;
- CO_2 monitoring will be installed in the car park of the Phase 8 residential flat building;
- common lobby areas in the residential flat building will be naturally lit and cross ventilated;
- all common area lighting will be provided with compact fluorescent lamps and the car park will be provided with high efficiency fluorescent lamps;
- time clock/PE Cell and movement sensor control of lighting; and
- the apartments will be supplied by instantaneous gas hot water heaters.

Education is an integral part of Stockland's Sustainability Strategy. A homeowner's information kit will be prepared including user friendly information about the environmental features of the housing product. There will also be basic information about the transport options for the site including bus connections, timetables, cycle paths/routes, distances to shops and facilities etc.

2.9 Utilities

The site is located within an established urban area with access to essential utility services.

The Department of Defence and Stockland have completed the provision of all physical infrastructure and services on the site, pursuant to development consent nos. 112-4-2002 and 113-4-2002. A Consolidated Services Diagram is included at **Appendix 11**.

The applicant will co-ordinate the further installation of electricity, gas, water and sewerage and telecommunications to the individual housing lots with the respective supply authorities.

3 Relevant Planning Provisions

The Environmental Planning Instruments, policies and other documents that are relevant to the proposed development are as follows:

(i) SEPP 56
(ii) SEPP 55
(iii) SEPP 32
(iv) SEPP 65
(v) SEPP – BASIX 2004
(vi) SEPP – State Significant Development 2005
(vii) SREP – Sydney Harbour Catchment 2005
(viii) Parramatta LEP 2001
(ix) Parramatta DCP 2005
(x) Draft SEPP 66
(xi) Ermington Master Plan

An assessment of the proposal against the provisions of each of the aforementioned policies and instruments is provided in the following sections of this report.

3.1 SEPP 56 – Sydney Harbour Foreshores and Tributaries

As previously mentioned in this report, the former Defence land at Ermington is listed in Schedule 1 of the SEPP as a site of State or Regional Significance.

The following table demonstrates the manner in which the proposed development addresses the guiding principles of SEPP 56 which are of specific relevance to the subject site.

Principle	**Response**
(a) Increasing public access to and use of land on the foreshore.	The design and layout of the public domain (road network, open space links) is being executed by Defence and has been specifically designed to increase access to and public use of the foreshore.
(b) The fundamental importance of the need for land made available for public access, or use on the foreshore to be in public ownership wherever possible, particularly land that is within the foreshore area as defined in the Sydney Harbour Foreshore Authority Act 1998.	The Department of Defence is responsible for the provision and landscape augmentation of the strip of land immediately adjacent to the River, which will be dedicated to Council as public open space.
(b1) if public ownership of foreshore land is not possible, the use of appropriate tenure mechanisms to safeguard public access to, and public use of, that land and to ensure the rights of public authorities to determine the design of, use of, and amenities on, the land over time.	River Park is to be dedicated to Council as public open space.
(c) The retention and enhancement of public access links between existing foreshore open space links.	Stockland is not directly responsible for the creation and/or enhancement of public access. The open space network approved under the Master Plan will provide almost continuous public access to the foreshore extending from George Kendall Riverside Park in the east, to Eric Primrose Reserve in the west. Creek Park will provide a north-south access corridor between Hilder Reserve and the Parramatta River.

Principle	Response
(d) the conservation of significant bushland and other natural features along the foreshore, where consistent with conservation principles, and their availability for public use and enjoyment.	There is no significant vegetation of the part of the former Defence site that is the subject of this application.
(e) The suitability of the site or part of the site for significant open space that will enhance the open space network existing along the harbour foreshores.	The strip of land adjacent to the foreshore has been landscaped and enhanced by the Department of Defence and is to be dedicated as public open space, however this land is not part of this application.
(f) the protection of significant natural and cultural values, including marine ecological values.	The proposed development is not expected to have any significant impact on either natural or cultural heritage values.
(g) The protection and improvement of unique visual qualities of the harbour, its foreshores and tributaries.	The redevelopment of this former Defence industrial site for a mixture of residential and public open space purposes will improve the unique visual qualities of the river.
(h) The relationship between use of the water and foreshore activities.	The future foreshore park will encourage and substantially increase access to and use of the water and the adjacent open space for recreational activities. The Stockland development does not directly relate to the use of the water and foreshore activities.
(i) the conservation of items of heritage significance identified in an environmental planning instrument or subject to an order under the Heritage Act 1977.	The site does not contain any items of heritage significance.
(j) The scale and character of development, derived from an analysis of the context of the site.	The proposed development is generally consistent with the scale and character of development contemplated in the Master Plan / Deemed DCP, which in turn, was derived from a detailed site analysis and visual analysis.
(k) The character of any development as viewed from the water and its compatibility and sympathy with the character of the surrounding foreshores.	Development is set well back from the river and complements the extensive parkland character of the surrounding foreshore areas – Henry Kendall Riverside Park, Eric Primrose Reserve, Millennium Parklands etc.
(l) The application of ecologically sustainable development principles.	The proposed development includes a number of ESD initiatives as detailed elsewhere in this submission.
(m) The maintenance of a working-harbour character and functions by the retention of key waterfront industrial sites or, at a minimum, the integration of facilities for maritime activities into development and, wherever possible, the provision of public access through these sites to the foreshore.	The redevelopment of this former Defence industrial site for residential purposes has been accepted by the Government in the adoption of the Master Plan in 2002. The foreshore park retains the Navigation Beacon which will continue to serve an important maritime function in the river.
(n) the feasibility and compatibility of uses and if necessary, appropriate measures to ensure coexistence of different land uses.	The Master Plan and development approved to date (MP05_0084) facilitates residential development that is interspersed with large tracts of open space.
(o) increasing opportunities for water-based public transport.	Street network provides for access to the foreshore, however the master plan requires that the site as a whole addresses the potential for a public ferry wharf. Notwithstanding, the new permanent residential population on the site will contribute to the critical mass required for the efficient and cost effective provision of public transport services, including ferries.

The proposed development is therefore considered to be consistent with the guiding principles of SEPP 56.

3.2 SEPP 55 – Remediation of Land

Detailed contamination investigations were undertaken for the whole Defence site at Ermington as part of the Master Plan exercise. Furthermore, the land has been remediated in

accordance with the relevant standards for residential development contained in the Contaminated Land Management Act 1997.

A Site Audit Report and Site Audit Statement have been prepared by Coffey Geosciences Pty Ltd (refer **Appendix 5**). The report concludes that the site is suitable for use as residential with accessible soil, including garden areas.

3.3 SEPP 32 – Urban Consolidation

The proposed redevelopment of the former Defence site is consistent with the provisions of SEPP 32 as it makes economic use of existing infrastructure and facilities and increases opportunities for people to live in close proximity to employment and leisure opportunities.

3.4 SEPP – Building Sustainability Index BASIX 2004

Regulations under the Environmental Planning and Assessment Act 1979 have established the BASIX scheme to encourage sustainable residential development which requires:

(a) development applications for certain kinds of residential development to be accompanied by a list of commitments by the applicant as to the manner in which the development will be carried out, and
(b) the carrying out of residential development pursuant to the resulting development consent, complying development certificate or construction certificate will be subject to a condition requiring such commitments to be fulfilled.

The aim of the Policy is to ensure consistency in the implementation of the BASIX scheme throughout the State. BASIX Certificates for all the proposed dwellings are included at **Appendix 12**.

3.5 SEPP – State Significant Development (Major Projects) 2005

Pursuant to section 76A(9) of the Environmental Planning and Assessment Act 1979, the Minister is the consent authority for State significant development, where that development requires development consent.

The site is identified in Schedule 2 of the Policy as a site of State significance. Clause 10(3) provides that subdivision of land (excluding strata subdivision and boundary adjustments) or development that has a capital investment value in excess of $5 million requires the consent of the Minister.

As described in this report, this application seeks approval for the erection of 5 townhouses (Phase 6) and a residential building comprising 22 apartments (Phase 8), with a capital investment value of $10.2 million.

3.6 SEPP 65 – Design Quality of Residential Flat Development

The aims and objectives of SEPP 65 are to improve the design quality of residential flat development in NSW. A summary assessment of the Phase 8 proposal in terms of the ten design quality principles contained in Part 2 of SEPP 65 is set out below.

Principle 1. Context

Good design responds to its context which is defined by key natural and built features of an area and involves identification of desirable elements of the location's current character or the desired future character specified in planning and design policies in precincts undergoing change.

New buildings will therefore contribute to the quality and identity of the area.

The Waterfront apartment site (proposed Lot 33) is bounded by Allura Crescent to the north, Nordica Drive to the east, Creek Park to the west and River Park to the south.

The site is located on the south west corner of the Stockland site, adjacent to Creek Park and with unobstructed views over and along the Parramatta River.

This is the second proposed Waterfront apartment development after the approved Phase 7 apartments. This proposal is developed as a familial building to the previous one, adopting similar principles of scale and built form, however, materiality and details vary to give its own character and individuality.

Principle 2. Scale

Good design provides an appropriate scale in terms of bulk and height that suits the scale of the street and surrounding buildings and involves the establishment of an appropriate scale relative to the scale of existing development or the proposed bulk and height to achieve the scale identified for the desired future character of an area undergoing change.

The Master plan defines the overall building height. This allows a 3 storey building stepping down to 2 storeys towards the River with a mezzanine roof addition.

The scale of the detached 2 storey dwellings at the northern end of Lot 1009 (adjacent to Central Avenue) gradually rises to 3 storeys at the waterfront apartment building. An additional "mezzanine roof level (4th storey) is proposed set back from each street elevation to maintain a 3 storey façade on the east and west and a two storey façade opposite the river.

Principle 3. Built Form

Good design achieves an appropriate built form for a site and the buildings purpose in terms of building alignments, proportions, building type and the manipulation of building elements which:

- *define the public domain;*
- *contribute to the character of streetscapes and parks, including their views and vistas; and*
- *provide internal amenity and outlook.*

The overall form has been derived mainly from the Master Plan's controls on height, setbacks, solar amenity, views, privacy and mix. As a result, the form reflects a highly modelled building. To ensure visual cohesion with such a varied form, the 'base' building envelope has been treated as a pair of brick boxes with horizontal slot windows for most openings. The external corners of the building are celebrated by a folding white balcony and wall 'blades'. These blade forms open corner balconies which enjoy water views, while the blade walls serve a dual purpose of privacy screens and wind buffers.

The plan is symmetrical about the central axis, mirroring two 'T' forms that allow for all but two of the apartments to enjoy water views. Both of the 'T' form buildings have their own central stair and lift core. The narrow ends of each wing point towards the waterfront, giving the impression of two separate buildings from oblique views, reducing the perceived visual bulk and impact on this important public frontage.

The element that physically joins the two wings is expressed as a separate metal box that sits higher than the main body of the building. This bridging device varies the north elevations height and façade depth, clearly articulating the two separate wings.

Each wing has its own entrance from the street on the north elevation. Projecting canopies and signage marks these entrances. Ground floor apartments also activate the street elevations by having entrance gates through each front garden.

The finished ground floor level is raised from the surrounding footpath to allow the basement car park to be built above the water table level. Raking planes of landscape, that appear to allow the building to hover above 'green plinths', reduces the impact of this height variation.

Colour and more tactile materials are used as highlights within window openings or balcony reveals.

Principle 4. Density

Good design has a density appropriate for the site and its context in terms of floor space yield and densities are to be sustainable and consistent with existing density or stated desirable future density in an area undergoing change.

Sustainable densities respond to:

- *regional context;*
- *availability of infrastructure;*
- *public transport;*
- *community facilities; and*
- *environmental quality*

There are 22 apartments with a mix of one and two storey units, providing 100% cross-ventilation and dual aspect orientation offering good solar access and views. The differing typologies provide a variety for prospective residents. The site is close to local facilities such as retail, offices, schools and services within short walking distances. The site also benefits from all the recreational facilities the adjacent parklands offer.

Principle 5. Resource, Energy & Water Efficiency

Good design makes efficient use of natural resources, energy and water throughout its full life cycle, including construction, and involves consideration of recycling and selection or appropriate materials, passive solar design, energy efficient appliances, soil zones for vegetation and reuse of water.

The building has been designed to embrace ESD principles. The use of appropriate built form generates 100% cross-ventilated apartments that result in potential for reduced energy consumption.

The massing, internal layouts and orientation have been organised so as to provide good natural daylight and solar access into the primary living spaces, external living areas and gardens.

Balconies and window canopies provide summer shading to windows with the addition of sliding shutters on the east and west façade for additional solar protection.

Each common lobby is naturally lit and ventilated by a high level glass louvre clerestory window. The generous space within the lobbies allow for a wide and open staircase encouraging residents to bypass the lift. The basement car park protrudes from the surrounding landscape in parts allowing for natural cross ventilation.

AAA rated bathroom and kitchen fittings will be specified to minimise water consumption. A rainwater tank will be installed in the basement for the retention of rainwater, which will be re-used for landscape irrigation.

BASIX compliance will be achieved.

Principle 6. Landscape

Good design recognises that landscape and buildings operate as an integrated and sustainable system resulting in greater aesthetic quality & amenity for both occupants & the adjoining public domain.
Landscape:

- *builds on the site's existing features;*
- *enhances natural environmental performance in terms of water and soil management, solar access, micro-climate, tree canopy and habitat values;*
- *contributes to a positive image and contextual fit of development;*
- *optimizes useability, privacy and social opportunity and equitable access;*
- *respects neighbours' amenity;*
- *provides for practical establishment and long term management.*

The landscape design for the site enhances the site arrangement, providing external common space, natural screening, and outlook spaces for apartments. The landscape design also optimises solar access, and provides areas of deep soil soft landscape planting around the site perimeter to capture impermeable surface stormwater runoff. Flora species have been chosen for their hardiness, to minimise water consumption and maintenance, and provide a natural habitat for native fauna.

Principle 7. Amenity

Good design provides amenity through the physical, spatial and environmental quality of a development with appropriate room dimensions and shapes, access to sunlight, natural ventilation, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas, outlook and ease of access.

100% of the apartments are naturally cross-ventilated and enjoy river views.

77% of apartment's living spaces receive a minimum of 3 hours direct sunlight between 9am and 3pm on 21st June whilst maintaining water views.

Privacy is maintained between apartments through orientation of apartments, internal layouts, appropriate screening and exceeded minimum separation distances between apartments. The privacy of the ground floor apartments is maintained by their elevation above the footpath around the site.

Principle 8. Safety & Security

Good design optimises safety and security, both internal to the development and for the public domain and can be achieved by maximising overlooking of public and communal spaces, avoiding dark and non-visible areas, maximising activity on the streets, providing clear safe access points, providing quality public spaces that cater for desired recreational uses, providing lighting appropriate to the location and desired activities, and clear definition between public and private spaces.

The site organization of the building provides visual permeability into and out of the site as well as access into the entrance courtyard for residents. The surrounding streets and entrance courtyard are well surveyed by apartments.

A clearly legible entry to the main residential foyers at ground level provides access into all apartments. Lighting of the communal areas and the public domain will be designed to enhance the safety and security of the spaces without creating light spill outside of the development.

Principle 9. Social Dimensions

Good design responds to social context and needs of the local community in terms of lifestyles, affordability and access to social facilities.

New development should optimize housing to suit the social mix and needs in a neighbourhood or the desired future community in precincts undergoing change.

The proposed development yields a total of 22 apartments:

14 x 2 bed apartments (av. 95 sqm)
8 x 3 bed apartments (av. 130 sqm)

This responds to the needs of the local community by providing for diversity in the type and affordability of the units.

Within each type of apartment there is also a range of sizes, orientations, and balcony or courtyard sizes. This provides a range of housing choice to suit diverse age groups including the provision of 5% adaptable units, also providing housing choice for less able occupants.

Principle 10. Aesthetics

Quality aesthetics require appropriate composition of building elements, textures, materials and colours and reflect the use, internal design and structure of development and should respond to the environment and context, particularly to desirable elements of the existing streetscape or the desired future community in precincts undergoing change.

All elements of the building have been developed with a familial language that allows each to express their own particular identity through variance in form and materiality. Their articulated forms develop a residential scale that provides a unique and recognisable identity for the development. These elements recur to create a legible and cohesive building, relating them in scale material and expression. The composition articulates the internal organisation of the building, creating a building expression that is clearly residential.

In conclusion, the proposed design represents an appropriate design response to the opportunities and constraints offered by the site and its setting and is consistent with the design quality principles outlined in Part 2 of SEPP 65.

A copy of the SEPP 65 Design Verification Statement prepared by Turner & Associates is included at **Appendix 13**.

3.7 SREP Sydney Harbour Catchment 2005

The REP seeks to ensure that the catchment, foreshores, waterways and islands of Sydney Harbour are recognised, protected and maintained. It includes a zoning system specifically designed to reflect the various characters of the waterways of the Harbour and its tributaries.

The Ermington site falls within the land to which the Plan applies and is included in Schedule 1 as a strategic foreshore site. The proposed development is consistent with the planning principles for land within the Sydney Harbour Catchment.

3.8 Parramatta LEP 2001

It should be noted that townhouses proposed in Phase 6 fall broadly within the LEP definition of "Terrace Housing".

The proposed development, comprising 5 townhouses and a residential flat building is permissible with consent in the 2C zone and is generally consistent with the aims and objectives of the LEP and Council's aspirations for the wider local government area. The Table at **Appendix 14** provides an assessment of the proposed development against the relevant provisions of the LEP.

There are however, a small number of non-compliances, as detailed in the paragraphs below.

Clause 39 Height

Clause 39(1)(a) restricts terrace housing to a maximum of two storeys above ground level.

The townhouses in Phase 6 are all two storeys. The corner townhouse does however include a dormer window servicing an attic level bedroom. The LEP definition of "attic room" is:

> ***attic room*** *means a room within the main roof space of a one or two storey building, no greater than 25 square metres in area, having a roof slope of not more than 35 degrees pitched from the ceiling level of the uppermost floor and may include dormer windows that:*
>
> *(a) are not higher than the height of the main roof of the building, and*
> *(b) are not more than 1.5 metres in width, and*
> *(c) do not incorporate or access a balcony.*

The proposed attic room in the corner townhouse has a floor space area of 17sqm, which complies with this definition.

Clause 39(1)(b) sets a maximum 3 storey height limit for residential flat buildings. The proposed residential flat building in Phase 8 is 3 storeys plus "pop up" mezzanine levels.

There is also a technical non compliance stemming from the definitions of "storey" and "height" as detailed below.

The definition of height in Council's LEP refers to "natural ground level" which does not exist on this site because it has been extensively filled to overcome the flooding issue.

The definition of "storey" allows for basement level parking to project 1.2m above natural ground level before it is classified as a "storey". The subject site has a high water table which constrains the depth of excavation.

Following detailed site analysis and design development on the Phase 7 site it became apparent that the basement car park would exceed the 1.5m maximum because the water table level at RL1.0 sets the basement level at RL1.6 as a minimum 0.6m clearance is required. The shallowest height for a basement to ground floor to floor is 2.8m, which in turn

sets the finished internal ground slab of the apartments at RL 4.4.

The diagram at **Appendix 15** sets out the minimum heights possible on the Phase 8 site.

This means the basement of the Phase 8 building projects no more 1.8m above the finished ground level (existing pavement levels) around the site. This exceeds the Master Plan's control limit of 1.5 metres by 0.3 metres.

The apartment floor to floor heights need to be a minimum of 3.0m. This means that the overall building height complies with the Master Plan from the finished ground level.

Clause 40 Floor Space Ratio – Terrace Housing 0.6:1; Residential Flat Building 0.8:1

The LEP defines floor space area of a building as follows:

> ***floor space area of a building*** *means the sum of the gross horizontal areas of each floor of the building contained within the inner faces of the outer walls measured at a height of 1.5 metres above the floor, including the space occupied by internal walls, staircases, lobbies, corridors and toilets, but not including:*
>
> *(a) the horizontal cross section of lift shafts and vertical service ducts measured between the wall faces internal to the lift shaft or duct, or*
> *(b) any space permanently set aside within the building for basement parking, other than spaces used for public car parking, and for the unloading or loading of vehicles, including ramps or other means of access to it, or*
> *(c) any space for the accommodation of mechanical or electrical plant or equipment servicing the building, or*
> *(d) any terraces and balconies with walls less than 1.5 metres high, or*
> *(e) attic rooms, or*
> *(f) in the case of single dwellings, one single car space with the dimensions of 3.0 metres in width and 5.5 metres in length, or*
> *(g) any space permanently set aside within basement car parking areas for storage, garbage rooms and the like.*

There are a total of 5 townhouses, three (3) of which exceed the maximum permissible FSR of 0.6:1, as follows:

Phase	Proposed Lot No.	Site Area sqm	GFA sqm	FSR
6	1	302.3	161.2	0.53:1
	2	195.7	156.9	0.80:1
	3	195.7	156.9	0.80:1
	4	195.7	156.9	0.80:1
	5	259.6	156.9	0.60:1

The average FSR calculated over the entire Phase 6 superlot is 0.69:1.

The residential flat building in Phase 8 achieves an FSR of 1.27:1, which exceeds the 0.8:1 permissible under the provisions of the LEP but is compliant with the adopted Master Plan for the site.

The Area Schedules for each Phase are included as part of the Architectural Packages (**Appendix 1**). It should be noted that the Gross Floor Area (GFA) has been calculated in accordance with the LEP definition of Floor Space Area.

It should be noted that Section 9.6 of the Master Plan sets an overall density for the site of 0.6:1, calculated over the entire (gross) site area of 21.3ha (ie. including the area of all internal roads and open space). The explanatory comment in Section 9.6.1 states that:

The total gross floor space is an FSR of 0.6:1 over the site area of 21.3 ha. This is consistent with the Parramatta LEP 2001. The FSR of individual building types may be greater or lesser than 0.6:1

The table at **Appendix 16** sets out the gross site area for the land owned by Stockland (which in this case only includes the area of the roads – the open space has been excluded from the calculation) which demonstrates that the FSR achieved by the overall Riverwalk development (including Phases 1-5 and 7 approved as part of MP05_0084) is 0.48:1.

3.9 Parramatta DCP 2005

The DCP came into effect on 14 December 2005.

A DCP Compliance Table for the proposed development is included at **Appendix 17**. There are a number of minor inconsistencies with the building envelope controls set out in the DCP (as described in the following paragraphs), however these departures from the DCP controls are considered to be reasonable in view of the fact that the former "brownfields" Defence site has been the subject of a detailed master plan, which established a set of detailed development controls appropriate for the creation of a new residential community.

3.9.1 Setbacks

Residential flat buildings are required to observe front setbacks of between 5m and 9m. The proposed Phase 8 building observes a minimum setback of 6m from River Park (which aligns with the apartment building approved as part of Phase 7 immediately to the east and complies with the Master Plan). However this arrangement results in setbacks from the primary street frontage (Allura Crescent) of between 3 and 4 metres.

The DCP requires a minimum side setback of 4.5m. The proposed building observes a side setback of between 3.5m and 5.5m from the western property boundary (where it interfaces with Creek Park) and between 3m and 4 metres from the Nordica Drive frontage.

3.9.2 Height

Residential flat buildings are limited to a maximum height of 3 storeys. The proposed building is predominantly 2/3 storeys in height with loft level "pop ups" over 30% of the building in accordance with the Master Plan provisions.

3.9.3 Parking

The DCP requires the provision of on-site parking at the following rates:

Villas / Townhouses / Terraces

1 space / 1 or 2 bedroom dwelling
1.5 spaces / 3 bedroom dwelling
2 spaces / 4 bedroom dwelling
Plus 0.25 spaces / dwelling for visitors

Residential Flat Buildings

1 space / 1 bedroom unit
1.25 spaces / 2 bedroom unit
1.5 spaces / 3 + bedroom unit
Plus 0.25 spaces / unit for visitors

The Phase 6 development attracts a total resident parking requirement of 8 spaces. As previously mentioned in this report 2 parking spaces are provided for each dwelling (total 10 spaces).

Application of these rates to the Phase 8 building requires the provision of 30 spaces for residents and 6 visitor spaces. The proposed development provides 30 spaces over a single basement level for residents.

No visitor parking is provided on site for either the Phase 6 or Phase 8 developments as it is not required under Master Plan / Deemed DCP – all visitor parking is accommodated on local streets.

3.10 Ermington Master Plan / Deemed DCP

The Master Plan provides an indicative road layout and land use distribution and nominates built form controls to accommodate a variety of housing types. The built form controls incorporate a range of floor space ratios which respond to the housing types proposed.

The road and superlot layout incorporates a variety of open space areas within the wider site to provide opportunities for active and passive recreation.

The Master Plan sets the parameters for future development on the Ermington site and under amendments to the Environmental Planning and Assessment Act 1979 gazetted in June 2005, it now constitutes a Deemed Development Control Plan. The extent to which each Phase of the proposed development complies with the provisions of the Master Plan is detailed in the Compliance Table at **Appendix 18** to this report.

The proposed development is consistent with the approved Master Plan in terms of land use, respect for the scale and siting of existing residential development in the vicinity, road pattern, subdivision pattern, relationship to open space, yield and the incorporation of ESD principles into the design. However, there are a number of minor departures from the Master Plan provisions, as detailed in the following paragraphs.

3.10.1 FSR

With an FSR of 1.27:1, the waterfront apartment building (Phase 8) is within the 1.3:1 maximum set for residential flat buildings on the site.

However three (3) of the townhouses exceed the FSR nominated in the Master Plan for this building typology. Full details of the extent of non-compliance on each of the proposed Lots is described in the Area Schedules at **Appendix 1**.

The Master Plan facilitates residential development of the site in a variety of density and housing forms, and includes controls to ensure that such development does not adversely affect the amenity and function of surrounding areas

The Master Plan does not specify particular objectives for the FSR controls specified for each building typology however it is generally accepted that FSR controls are designed to:

- control the bulk and scale of development;
- ensure building bulk is compatible with the surrounding built form and minimises the impact of building bulk on existing buildings in the locality, open spaces and streetscape;
- set appropriate density controls that reflect the desired future character of the area; and
- encourage a mix of dwelling sizes and types.

Existing residential development external to the former Defence site comprises a mixture of single and two storey detached dwellings. The proposed development is sufficiently removed from existing development that it will have no impact in terms of overshadowing, overlooking or loss of privacy.

The majority of the proposed townhouses comply with the maximum permissible height and as a result, will ensure that there is no substantive overshadowing of the adjoining open space areas. Shadow diagrams prepared as part of the Architectural Package (**Appendix 1**) illustrate that the likely shadows generated by the proposed development at 9am, 12noon and 3pm in midwinter is largely confined to the surrounding roads.

This aspect is discussed in detail in Section 4.10 of this report.

In terms of the proposed development's relationship to existing buildings, open space and the streetscape, it:

- is in keeping with the scale and bulk of existing and approved residential development in the vicinity;
- will create attractive streetscapes; and
- the quality of the architecture will set a benchmark for future development in the locality.

Desired Future Character

The community's expectations for development on the wider site, as reflected in the Master Plan, are that it will be low-rise in scale, in keeping with the surrounding established residential areas, and will be characterised by a mix of detached, zero-lot-line and row housing forms, interspersed with a limited number of residential flat buildings at appropriate locations.

The proposed development is generally comparable in terms of bulk height and scale to existing residential buildings in the vicinity of the site.

In light of the preceding discussion, the minor departures from the nominated FSR's for the proposed townhouses are considered to be within acceptable limits.

3.10.2 Height

Phase 8 Apartments

The Master Plan expresses building heights as a maximum eaves height and maximum ridge height (10 and 13 metres respectively for apartment buildings), as well as in terms of the number of storeys (part 2 and part 3 storeys on buildings with frontage to the River).

The Master Plan adopts two mechanisms to accommodate the particular constraints imposed by the high water table and the amount of fill required to be provided to ensure the land is above the 1 in 100 flood level. These are:

- a definition of "storey" which allows basement parking to project 1500mm above finished ground level (rather than the generally accepted 1200mm); and
- reference in the definitions of "height" and "storey" to "finished ground level" (rather than the usual natural ground level).

During the course of detailed design an Internal Finished Ground Level has been established, which is the lowest point at which the habitable ground floor can be set, taking into account the high water table level and semi submerged basement. The master plan allowance for 1.5m basement protrusion above finished ground floor level would set our revised finished ground level at RL2.9, as our IFGL needs to be at RL4.4 to clear the water table.

As a consequence, the design of the waterfront apartment buildings measures height from "internal finished ground level" rather than the "finished ground level" referred to in the Master Plan.

Phase 6 Townhouses

Phase 6 comprises 5 townhouses, one of which incorporates an attic room.
A
The Master Plan (Figure 37) provides for a number of different housing options in this location – townhouses, "combination building" or apartments. The combination building concept is designed to provide a transition between the two storey development elsewhere on the site and the 2/3/4 storey apartments adjacent to the waterfront.

Whilst the three storey townhouse is not strictly in accordance with the indicative building designs included in the Master Plan (section 14.5) for "combination buildings", its form and nature fulfils the same objectives – namely to provide an appropriate transition between lower scale development and the higher densities achieved adjacent to the river.

The third storey in the proposed townhouse on the corner of Allura Crescent is contained within the roofline and reads as a loft or attic space.

3.10.3 Setbacks

Residential flat buildings are required to observe front setbacks of between 4m and 6m, with an average of 5m. The proposed Phase 8 building observes a minimum setback of 6m from River Park (which aligns with the apartment building approved as part of Phase 7 immediately to the east and complies with the Master Plan). However this arrangement results in setbacks from the primary street frontage (Allura Crescent) of between 3 and 4 metres.

The proposed development complies with all other setbacks nominated in the Master Plan.

3.10.4 Driveway Crossing Width – Phase 8

The width of the driveway to service the residential flat building is 5.5m for the full length. The Master Plan allows a maximum 3m wide crossing. The 5.5m is considered to be desirable as it will ensure that cars are able to pass where the driveway meets the road to avoid possible traffic congestion.

Furthermore, the provision of a single combined entry/exit driveway to service this development will minimise the number of vehicular crossings in the development as a whole, thereby minimising the risk of conflict with pedestrians.

3.11 Draft SEPP No 66 – Integration of Land Use and Transport

The State Government has developed a policy to encourage the integration of land use and transport planning to encourage development that will increase access to public transport, walking and cycling; encourages people to travel shorter distances and make fewer trips and to reduce car dependency. Part of the policy package has been the formulation of draft SEPP 66.

The draft policy provides guidelines for the preparation of master plans and development control plans and the consideration of Development Applications. Clause 9 of the draft policy requires the consent authority, in its consideration of a development application to consider the following:

Matter for Consideration	Response
(a) whether carrying out the development will further the aims and the planning objectives of the Policy;	Complies. The proposed development is part of the first stage of redevelopment of the former Defence site at Ermington for residential purposes. The site is located in an established urban area with excellent access to a range of public transport options. Furthermore, the increase in residential density will make a positive contribution to supporting the efficient and viable operation of public transport services in the area.

Matter for Consideration	Response
(b) whether the development is consistent with the policy on location of specific land uses and general policies in the Integrated Land Use and Transport Policy Package;	Complies. The Integrated Land Use and Transport Policy Package indicates that new residential areas should adjoin or be within the existing urban footprint and be within 5km of an existing mass transit node served at least every 15 minutes in the peak hour to conform to the requisite accessibility criteria. The Department of Defence is responsible for negotiations with existing service providers to extend bus routes through the site.
(c) whether adequate consultation with the Director General of Transport NSW and any appropriate planning agency, transport agency and transport provider takes place in accordance with Clause 11;	Not applicable.
(d) whether the transport implications are considered in accordance with clause 12;	Complies. The traffic and transport implications of the wider redevelopment of the former Defence site have been considered during the course of the Master Plan assessment.
(e) whether the development incorporates travel demand management mechanisms and features that will minimise the demand for travel and the use of cars including the following:	Complies.
(i) an urban form and structure that encourage walking, cycling and public transport use,	• provision has been made within the Master Plan for a street network which makes adequate provision for pedestrians, bicycles and public transport (buses);
(ii) parking requirements designed to discourage car use in areas with good public transport access,	• parking complies with the requirements of Council's Parking DCP and the adopted master plan;
(iii) provision of adequate trip-end facilities for cyclists such as bicycle storage,	• bicycle storage is available in the garages to all dwellings;
(iv) residential densities that will help achieve a passenger threshold for viable public transport services especially in accordance with clause 13 for new residential release areas,	• the proposed development achieves a gross residential density in excess of the 15 dwellings/ha required by the Policy
(v) employment or floor space densities in commercial or employment areas that reflect the accessibility of the area by suitable public transport services and facilities,	• not applicable
(vi) suitable provision for taxis.	• no specific provision for taxis is required.

4 Environmental, Social and Economic Impacts

4.1 Building Design

4.1.1 Height

In relation to height, the following points should be noted:

- fundamentally different methods of height measurement are employed by the Master Plan / Deemed DCP and the Parramatta LEP 2001;
- the building height datum in the Master Plan / Deemed DCP is "finished ground level" which was adopted to acknowledge the amount of fill required across the site, as opposed to "natural ground level" used in the LEP (which is called up in the
- definition of "storeys" and is pertinent to the maximum projection (1.2m) of basement parking levels above ground level);
- the LEP provides for all buildings of 4 storeys or more to be classified as "high density housing". Using the LEP definitions, the waterfront apartment building would be classified as a four storey building, which is not permissible in the 2C zone.

The heights of the various housing products are consistent with those permitted under the Master Plan / Deemed DCP, as follows:

- the majority of the proposed townhouses are two storeys; and
- the proposed waterfront apartment building is 3 storeys building, stepping down to 2 storeys towards the River with a mezzanine roof addition (loft).

The breach of the height control only becomes an issue with the apartment buildings (which require excavation for basement parking). The Phase 8 building will project 1.5m above finished ground level to accommodate the physical peculiarities of the site (which equates to 1.8m above "natural ground level").

4.1.2 Floor Space Ratio & GFA

The floor space ratios adopted for each of the dwelling typologies is generally in accordance with those set out in the Master Plan / Deemed DCP, with minor discrepancies as described in Section 3.8 of this report.

Full details of the FSR's for each dwelling are set out in the Area Schedules which form part of the Architectural Package at **Appendix 1**.

4.1.3 Façade Presentation

Photomontages which illustrate various views in and around the site, including views from the Parramatta River frontage are included at **Appendix 19**.

The waterfront elevation is stepped to reduce height impact from the river. The two river front wings of the building are 2 storey. There overall height is reduced further by stepping the plan of the ground level apartments. The waterside elevation is broken into two distinct wings arranged around a central landscaped outlook court. This articulation reduces the length of elevation and therefore dramatically reduces bulk from river view points. The roof attic addition is set furthest away from the river elevation and is also pulled in from the flanking side elevations, so it reads as a large roof dormer addition.

4.1.4 Bulk, Scale and Density

The former Defence site at Ermington is located in an established urban area with excellent access to a range of facilities, services and employment opportunities.

The site has been remediated and re-shaped, and new infrastructure is currently being installed by the Department of Defence. Furthermore, it is physically separated from the existing residential community at Ermington by swathes of public open space and the oil supply pipeline. Accordingly the site has no immediate context.

The adopted Master Plan / Deemed DCP provides a context for the site and describes the arrangement of new residential development varying typologies and the architectural vision located within a landscaped setting of open spaces.

The proposed development is considered to be appropriate within this context and setting.

The proposed development comprises:

- 5 x 3 / 4 bedroom townhouses; and
- 1 x 2 / 3 storey residential flat building with "pop up" lofts over 30% of the building, comprising 22 apartments.

The proposal for the waterfront apartment building (Phase 8) anchors the transition in scale and density from individual dwellings to medium density housing at the rivers edge. The mirrored plan forms focuses access to sunshine and views and the building height steps down with the site topography to the river. Room planning and façade elements are focused towards the riparian outlook and are arranged around twin lobbies. A shifting pattern of glazed and sliding screen elements animates the waterfront façade while masonry elements provide privacy and comfort to the east and west.

The result is a refined and unique solution with a clear address and identity. Principles of sustainability and synergy with its environment are embodied in the design, promoting a positive lifestyle impact on future residents and their neighbourhood.

The form of the proposed development is considered to be comparable to the bulk, height and scale of existing housing stock in the vicinity of the site.

4.2 Traffic, Access and Parking

Primary vehicular access to the Riverwalk development is via Spurway Street, which is a 7m wide carriageway, providing a single traffic lane in each direction. Spurway Street provides direct access to Victoria Road via a signalised intersection, some 750 metres to the north of the site.

Boronia Street also provides access to the east via Hope Street to Wharf Road and its intersection with Victoria Road which is also signalised. Access to the Ryde Bridge is available through Meadowbank via Andrew Street/Constitution Road.

Previous investigations undertaken by Colston Budd Hunt and Kafes for both the Master Plan and subsequent subdivision applications and Major Project Application No. 05_0084 (Phases 1 – 5 and 7), reveal that all intersections in the area are currently operating at a good level of service. The intersections along Victoria Road have adequate capacity to accommodate existing flows, particularly since the completion of the Silverwater Road overpass. However, it is noted that downstream constraints (notably the intersections west of Silverwater Road) can result in queues and congestion in the section of Victoria Road around Spurway Street.

In relation to vehicular access, it should be noted that the proposed development:

(iii) retains the road layout as set out in the Ermington Master Plan; and
(iv) adopts the required road widths nominated in the Master Plan and the previous development consents (DA 112-4-2002 and DA 113-4-2002).

The proposed developments for Phases 6 and 8 have been examined by Colston Budd Hunt and Kafes in terms of its access, traffic and transport implications (refer copy of report included at **Appendix 20**). In this regard it is noted that:

- the proposed development has been designed in accordance with the approved Master Plan for the site;
- access arrangements as proposed are considered to be appropriate and will be provided in accordance with the relevant Australian Standards; and
- the road network will be able to cater for the traffic generated by the proposed development.

A total of thirty (30) parking spaces will be provided in the basement car park of the proposed residential flat building. This includes 2 spaces which are accessible. The Master Plan stipulates that visitor parking will be provided in the adjoining streets and as a consequence, no provision is made for visitor's vehicles in the basement.

4.3 Sustainability

As discussed in Section 2.8 of this report, a range of design initiatives and elements have been employed to ensure the proposed development optimises its sustainability.

BASIX compliance has been achieved for both the townhouses in Phase 6 and the apartment building on the Phase 8 site.

In summary, the Phase 6 Townhouses contain:

- 3000L rainwater tanks to be used for garden irrigation and connected to laundries
- AAA rated tapware and toilets
- Instantaneous Gas Hot Water Systems
- Gas Cooktops and electric ovens
- Minimum of 80% compact fluorescent lighting
- Outdoor clothes drying areas

The Phase 8 Apartments contain:

- 10,000L rainwater tank for garden irrigation
- Gas instantaneous central hot water system
- Compact Fluorescent lighting to common areas
- Minimum of 80% compact fluorescent lighting to apartments
- Gas Cooktops and electric ovens
- 2.5 star rated clothes dryers
- Indoor drying line

BASIX Certificates have been prepared for all the dwellings, copies of which are included at **Appendix 12.**

4.4 Section 94 Contributions

The previous Section 94 payment made by the Department of Defence under the terms of DA 113-4-2002 (Precinct B) was for 37 lots. The cumulative yield in Precinct B (under the terms of the Master Plan) arising from the addition of the Phase 6 and Phase 8 developments results in 36 lots. As a consequence, Stockland does not envisage a requirement for any additional S94 Contributions arising from the current proposals.

It is noted that Section 94 Contributions may be required at some time in the future, specifically when application is made for the strata subdivision of the apartment buildings on Phases 7 and 8.

4.5 View Corridors and Pedestrian Linkages

The view corridors and pedestrian linkages have been pre-determined by the Master Plan / Deemed DCP and previous consents (DA 112-4-2002 and DA 114-4-2002) which set the street pattern and dictate the subsequent layout of superlots.

The open space / overland flow contained within Creek Park to the west of the Stockland site creates an important primary north-south view corridor, affording views of the River from the existing residential areas and Hilder Reserve to the north of the site. The Department of Defence has completed the construction and embellishment works in this area.

Similarly, the extension of the southern end of Spurway Street has been completed by the Department of Defence and now provides a physical connection to the River and the open space in this area for both vehicles and pedestrians.

Stockland is responsible for the construction of Nordica Drive, Allura Crescent and Arista Way. These works are being undertaken in accordance with the specifications and requirements of the existing development consents (DA 112-4-2002 and DA 113-4-2002) and the terms of the consent issued in respect of Major Project MP05_0084.

4.6 Safety and Security

In 2002, Planning NSW released guidelines under Section 79C of the Environmental Planning and Assessment Act 1979 which have been prepared to assist councils in identifying crime risk and minimise opportunities for crime through appropriate assessment of development proposals.

The Guidelines set out four principles to be used in the assessment of development applications to minimise the opportunity for crime, as follows:

Surveillance

Landscape treatment on private property adjacent to the public domain has been designed in cognisance of the need to maintain surveillance and allow safe movement of pedestrians around the site.

All dwellings are oriented towards the street, with windows to ground floor living areas providing opportunities for casual surveillance of footpaths and driveway areas.

The main entries to all dwellings and the residential flat building will be visible from the street.

Street lighting has been installed by the Department of Defence and Stockland in accordance with the relevant Australian Standards.

On-street visitor parking also increases activity in the streets and is another form of passive surveillance.

In the residential flat building, more active forms of surveillance will be incorporated including:

- intercom access to lobbies;
- electronically controlled (swipe-card or similar) security roller shutter to basement car park; and
- stairwells, lobbies and shared entrances will be permanently lit from a control device located remote from these areas.

Access Control

All building entries will be clearly identifiable / marked.

Fences will be installed around the private yard areas of each dwelling to preserve the privacy of residents and to clearly delineate these spaces as private. A fence will be installed between the common open space associated with the residential flat building on Phase 8 and River Park to control access to this area and ensure the privacy of residents.

Gates will be installed to any side access pathways and a security roller shutter will be installed at the entry to the basement car park servicing the residential flat building in Phase 8.

Territorial Reinforcement

Whilst the Guidelines specifically refer to public spaces, the principles can be applied to the proposed development. In this regard, the demarcation between the public domain and private property is clearly defined using a variety of design mechanisms, which include front fences and landscaping beds that adjoin the footpath, separating private areas from the public domain.

Space Management

Again, the Guidelines specifically refer to public spaces. In this regard, Council will ultimately be responsible for the management and maintenance of the public domain – streets, open spaces etc.

4.7 Construction Management

Stockland requires each builder to prepare a Construction Management Plan to manage the environmental impacts associated with noise, traffic, waste, erosion and sedimentation control.

As the Department is aware, the consent issued in respect of MP05_0084 has been activated and construction has commenced. The following dot points provide a snapshot of progress to date and outline the construction program for completion of remaining Phases:

- all civil and infrastructure works have been completed;
- the dwellings in Phases 1, 1A & 2 are under construction (first dwellings are due for completion in June 2007);
- Phase 5 townhouses will commence construction in April 2007 (scheduled for completion in Oct 2007);
- the dwellings in Phases 3 & 4 are programmed to commence construction in August 2007;
- Phase 4A house construction programmed to start in February 2008; and
- the construction of the Phase 7 residential flat building is scheduled to commence in January 2008 (following removal of the Sales and Information Centre).

At this stage (depending on consent) it is envisaged that construction on the Phase 6 townhouses will commence in April 2008. It should be noted that the dwellings in the adjoining Phase 4A will be under construction at the same time which will ensure that there are no residents in close proximity during the Phase 6 construction works.

Desirably construction will commence on Phase 8 (depending on project approval) in late 2007, which is slightly ahead of the already approved Phase 7 building (due to the need to remove the Sales and Information Centre). At this time, Phases 4A & 6 wouldn't have started yet so the construction works would have a degree of separation from other dwelling for a period of time. The closest residents could be in the completed Phase 5 townhomes on the other side of Eighth St which we would obviously have to be considerate of in terms of working hours, noise and dust etc.

4.8 Acid Sulphate Soils

URS prepared an Acid Sulfate Soil Management Plan for the entire site in July 2002 which addresses the approach for managing potential acid sulfate soils (PASS) which may be disturbed during the construction of infrastructure on the site, with the intention of ensuring that PASS which are disturbed during construction do not adversely impact upon the environment.

Stockland will conduct all works on site in accordance with the processes and procedures set out in the aforementioned Management Plan. A copy of the Management Plan is included at **Appendix 21**.

4.9 Landscape Treatment / Public Domain

The Department of Defence has established and is responsible for the majority of the public domain. Street tree planting will be implemented by Stockland upon completion of construction.

In addition, the Commonwealth has completed the construction and embellishment works in the section of the riverside park that adjoins the subject site, Creek Park to the west of the subject site and Hilder Reserve to the north of the site.

Within the proposed development, building form and landscape treatment are integrated to create consistency and cohesion across the site. This will significantly enhance the public domain through the general streetscape improvements arising from high quality architectural design of the dwellings and the landscape treatment to the setback areas.

The streetscape treatment will reinforce the grid form of the road network and focuses on formality of path layouts, precision in detailing and simplicity of scale. Spatial continuity is a key objective in the streetscape.

The unifying element for all streets within the development will be the avenue planting of native trees (as prescribed in the Master Plan / Deemed DCP). These will be spaced at regular intervals with dryland turf in the verge between back of kerb and the edge of the concrete footpath. Low shrubs and groundcovers will be planted between the footpath and the property boundaries. Full details of the landscape treatment in the public domain and its interface with the private domain are provided in **Section 2.X** of this report.

4.10 Overshadowing

Shadow analysis modelling for Mid Winter (21 June) has been prepared by Turner + Associates. Shadow Diagrams for each Phase are included in the Architectural Packages at **Appendix 1**.

The scale and nature of the proposed development ensures that there will be no shadow impact on adjoining residential properties external to the site or adjoining public open spaces.

As indicated previously in this report, the principle of maximising winter solar penetration within the building envelope and private open space has generated the form, siting and massing of the dwellings.

Section 4.3.4 of Council's DCP 2005 requires a minimum of 3 hours sunlight in habitable rooms and at least 50% of the private open space between 9.00am and 3.00pm on 21 June.

4.10.1 Phase 6 Townhouses

The orientation of the site and the floor plans of the townhouses ensure that all habitable rooms have direct access to either morning or afternoon sunlight, thereby satisfying the solar access requirements of the DCP.

In terms of the shadow impact generated by the proposed development, the following paragraphs describe the extent of shadows cast in midwinter at 9.00am, 12 noon and 3.00pm.

9.00am
The shadows cast by the townhouses predominantly falls on the adjacent road reservation of Allura Crescent (southern and western sections). The shadow cast by the end townhouse (proposed Lot 1) at the corner of Allura Crescent extends into Creek Park.

It is noted that the rear yards of the proposed townhouses are almost completely in shadow at this time as a result of the adjoining two storey dwellings in Phase 4A (approved as part of MP05_0084).

12 noon
Private open space in the rear yards is shadow free. Minor shadows occur in the front setback.

Part of the side yard (private open space) and the 2 windows in the northern elevation of the townhouse on proposed Lot 5 is affected by shadow cast by the 2 storey dwellings to the north (Phase 4A).

The townhouse on proposed Lot 2 overshadows approximately 40% of the rear yard of proposed Lot 1 at midday.

The Lot 1 townhouse and detached garage / studio casts a shadow over Allura Crescent (south), however this is wholly confined to the carriageway and does not extend beyond the southern kerb.

3.00pm
The front setback of all the townhouses is free of shadow. The private open space in the rear yards of all the dwellings, with the exception of approximately 30% of proposed Lot 5, are in shadow.

The shadows cast by the Phase 6 development at this time marginally impinge on the rear yards of the adjoining dwellings to the east (Phase 4A), but are primarily cast to the south over Allura Crescent, extending to the street setback area of the Phase 8 residential flat building.

On the basis of the shadow analysis, it is concluded that the shadow impact generated by the proposed Phase 6 townhouse development is within reasonable limits.

4.10.2 Phase 8 Apartments

The design of the proposed building and the orientation of the allotment ensure that 77% of apartment's living spaces receive a minimum of 3 hours direct sunlight between 9am and 3pm on 21st June whilst maintaining water views.

The following paragraphs describe the shadow impact generated by the proposed development in midwinter at 9.00am, 12 noon and 3.00pm. It should be noted that the building does not overshadow any residential properties in the vicinity of the site.

9.00am
The shadows cast extend to the south and southwest of the proposed building, across River Park.

12.00 noon
The shadows cast by the proposed development at this time are largely confined within the property boundaries.

3.00pm
The shadows extend to the south and southeast across River Park.

In light of the preceding discussion and the shadow analysis diagrams, it is concluded that the shadow impact generated by the proposed Phase 8 building is within reasonable limits.

4.11 Suitability of the Site

Having regard to the characteristics of the site and its location, the proposed residential development is considered to be appropriate in that:

- the site is zoned to accommodate this type and form of development;
- the scale, height and form of the proposed development is generally consistent with the development controls which apply to the site;
- the form and nature of the development is compatible with existing development in the locality;
- the size and dimensions of the land are suitable for the scale of the proposed development;
- the site will have access to all utility services to accommodate the demand generated by the proposed development;
- the proposed development will not result in any adverse traffic impacts;
- parking and access have been provided generally in accordance with Council's DCP and wholly in accordance with the Master Plan / Deemed DCP;
- the proposed development will not result in any unacceptable or material environmental impacts in relation to adjoining and surrounding properties, particularly in terms of overshadowing, views, privacy (aural and visual), solar access and natural ventilation.

The proposed development is not expected to result in any significant adverse environmental impacts and it is therefore considered that the site is suitable to accommodate the proposed development.

4.12 Social and Economic Impacts

The redevelopment of the former Defence site at Ermington for residential purposes will result in an entirely new community within the Parramatta LGA. The development has been designed in accordance with the aims and controls of the adopted master plan / deemed DCP for the Ermington site.

The additional population may reasonably be expected to have a number of positive social impacts, including:

- adding to the "critical mass" required for an efficient public transport service (in this case, the provision of a ferry stop);
- improved access / permeability to a section of the riverfront not previously available; and
- improved pedestrian connections.

In addition, the Department of Defence has already made significant contributions to the social fabric of the area in terms of open space enhancement works and dedication of new areas of open space.

The proposed development is not expected to result in any adverse social impacts.

The proposed development will increase the housing choice within the Parramatta LGA and will create additional housing in an established urban area with good access to major employment centres.

The additional population generated by the proposed development may reasonably be expected to improve expenditure in nearby centres, thereby making a positive contribution to the local economy.

Furthermore, the proposal will create additional short and medium term employment opportunities in this area during the construction phase and the additional dwellings will increase Parramatta City Council's rate base.

As a result, it is considered that the proposed development will have a positive economic impact.

4.13 Public Interest

The proposal provides a form of residential development that has been recognised by the Minister, in his endorsement of the Master Plan as appropriate for this locality. It will provide a form of high quality housing that takes advantage of its proximity to the full range of urban facilities and services.

The high quality design, function and form of the proposed development will help to create a new benchmark for future development in the Parramatta LGA. The proposal provides a responsive design relating to adjoining development and establishing human scale through sound urban design principles whilst ensuring that environmentally sustainable principles are incorporated.

The proposal satisfies the objectives and intent of the critical design considerations embodied in the Master Plan / Deemed DCP for the former Defence site and is generally consistent with Council's DCP.

The proposed development meets the State Government's objectives for urban consolidation and the reduction of urban sprawl.

As a consequence, the proposed development is considered to be in the wider public interest.

5 Draft Statement of Commitments

1. The development will be carried out generally in accordance with the plans and material submitted as part of this Environmental Assessment for Major Project No. 06_0289, as described in:

   (a) the Environmental Assessment Report prepared by Helen Mulcahy Urban Planning, dated April 2007;
   (b) Architectural Drawings prepared by Turner + Associates;
   (c) Landscape Plans prepared by Context; and
   (d) Subdivision layout prepared by Lockley Land Title Solutions.

2. Stockland will ensure that all contractors engaged to carry out work are aware of the conditions of any consent issued and that these contractors will comply with all relevant conditions.

3. All works on site will be carried out in accordance with the processes and procedures set out in the Acid Sulphate Soils Management Plan prepared by URS and dated 8 July 2002.

4. An Environmental Management Plan for the Construction Works will be prepared in consultation with Parramatta City Council prior to the commencement of work on the site. The Plan will comprise:

   (a) Sediment and Erosion Control Plan
   (b) Construction Traffic Management Plan
   (c) Waste Management Plan
   (d) Noise and Vibration Management Plan
   (e) Air Quality Plan
   (f) Procedures for carrying out works in areas of potential Acid Sulphate Soil
   (g) Community Consultation Plan
   (h) Employee and Subcontractor Training Plan

5. The construction sites will be fenced in accordance with WorkCover requirements and access will be restricted to authorised persons. Appropriate signage will be installed in a prominent position on the site.

6. Any damage to public roads and road works caused by construction vehicles and activities will be rectified by and at the expense of the Developer, to the satisfaction of the relevant authority.

7. Hours of operation during the construction phase will be:
   (a) 7.00am - 6.00pm Mondays to Fridays
   (b) 8.00am – 3.30pm Saturdays
   (c) No work on Sundays or Public Holidays

8. The developer will continue its consultation with the Ermington Residents Committee throughout the construction phase, in accordance with the protocols and procedures established under the existing development consents.

9. The final road seal and street landscaping will implemented in a staged process to coincide with the staged construction delivery. This ensures that Council will receive a new road surface that has not been damaged by construction traffic.

6 Consultation

6.1 Parramatta Design Review Panel

A copy of the report prepared by Stockland and presented to the Parramatta Design Review Panel meeting on 20 March 2007 is included at **Appendix 22**, together with a copy of the Minutes of the Panel meeting prepared by the Panel Co-Ordinator employed by Parramatta City Council.

The Panel is wholly supportive of the proposal in terms of its design, scale and architectural quality.

The Panel did however, raise the issues of:

- public transport provision; and
- public art.

Public Transport was addressed as part of the master planning exercise in 2002 while in accordance with the approved Master Plan for the site, public art is only required to be provided in the public open space, which is outside the scope of this application.

6.2 Other Authorities

As part of the Project Application MP05_0084, Stockland was required at various times, to consult with:

- NSW Maritime Authority and the Department of Natural Resources
- Sydney Water
- Parramatta Council's Design Review Panel
- NSW Department of Housing

NSW Maritime Authority Department / Natural Resources

The Maritime Authority advised that it has no issues with the works fronting Parramatta River (as only Fourteenth Street falls partially into the 40m zone) and that the Authority's jurisdiction effectively stops at the seawall.

Accordingly, the Department of Natural Resources has been contacted in respect of the Part 3A Permit for works within 40m of Creek Park.

Advice received from officers of the Department of Natural Resources on 24 March 2006 indicated that since a 3A Permit has already been issued for the site (in respect of infrastructure works and open space embellishments undertaken by the Department of Defence), the development proposed by Stockland will only require a minor permit with no specific conditions.

The Department of Natural Resources issued a Part 3A Permit to accommodate the infrastructure works, which expired in January 2007. Stockland will make application for a renewal of the Permit to cover the proposed works associated with Phases 6 and 8.

Sydney Water

Stockland Development Pty Limited provided information to the Sustainability Division of Sydney Water (Acting Manager, Water Smart Growth) in relation to the previous Major Project Application and received confirmation that as Stockland is providing rainwater tanks and AAA rated fittings and fixtures (as required to achieve BASIX compliance), Sydney Water has no further water conservation requirements.

The same initiatives will be employed in the proposed development on Phases 6 and 8. Accordingly, it is not considered necessary to consult further with Sydney Water in relation to this Project.

Department of Housing

Stockland was required to consult with the Department of Housing in relation to the provision of affordable housing. Under the terms of the adopted Master Plan (deemed DCP) there is no affordable housing requirement in Precinct B (within which both the Phases 6 and 8 sites are located). As a consequence it is not considered to be necessary to consult with the Department of Housing in this regard.

7 Conclusion

The proposed development represents an economic use of the land. Furthermore, it assists in meeting the State Government's objective (as stated in the Metropolitan Strategy) of containing Sydney's urban footprint by developing land in an established urban area, with excellent access to the full range of facilities and services.

The master planning process that was undertaken by the Department of Defence in 2001/2002 established the environmental capacity of the land and provided a set of controls and criteria for future development, commensurate with that capacity. The proposed development is generally consistent with those parameters and is therefore considered to be appropriate in this context.

Having regard to the characteristics of the site and its location, the proposed development is considered to be appropriate in that:

- it is permissible with the consent of the Minister under the provisions of State Environmental Planning Policy (Major Projects) 2005;
- the scale, height and form is generally consistent with the controls which apply to the site as set out in the adopted Master Plan;
- the form and nature is compatible with existing and anticipated future development in the locality;
- the size, dimensions and configuration of the land are suitable for the scale of the proposed development;
- the site will have access to all utility services to accommodate the demand generated by future tenants of the building;
- it will not result in any adverse traffic impacts;
- it will not result in any unacceptable or material environmental impacts in relation to adjoining and surrounding properties, particularly in terms of overshadowing and views.

In addition, the proposed development will contribute to the range of housing types in the Parramatta LGA.

On this basis, it is considered that the site is suitable to accommodate the proposed development.