- For Case 1, Warriewood Road would carry some 400 to 750 vehicles per hour between Foley Street and Macpherson Street which is consistent with Council's hierarchy classification of a collector or subarterial road, although this section is not specifically classified in the Master Plan.
- For Case 2, Warriewood Road would carry some 450 to 910 vehicles per hour between Foley Street and Macpherson Street, which is consistent with Council's hierarchy classification of a collector or subarterial road, although this section is not specifically classified in the Master Plan.
- For Case 3, Warriewood Road would carry some 420 to 820 vehicles per hour between Foley Street and Macpherson Street which is consistent with Council's hierarchy classification of a collector or subarterial road, although this section is not specifically classified in the Master Plan.

In general, Warriewood Road would operate as a collector road north of Brands Lane. However for each of the future cases, it would operate with subarterial volumes north of Macpherson Street. This suggests that a higher standard may need to be considered for this section if the Master Plan is reviewed.

Jacksons Road

- Existing volumes are consistent with classification as a subarterial road under the Master Plan, although its classification is not specified.
- Future volumes would remain consistent with subarterial classification during the morning peak, but exceed it during the evening peak.
- Future volumes would be similar for Cases 1, 2 and 3, with around 1,340 to 1,350 vehicles per hour west of Boondah Road during the evening peak.

It would be appropriate for Jacksons Road to be formally designated as a subarterial road in the Master Plan.

5 Intersection Operating Conditions

The operation of the intersections was analysed using Sidra Intersection, to determine what impact the additional traffic would have on their operating conditions, assuming that the infrastructure upgrades described in Council's Roads Master Plan are completed. The results are summarised in Table 5.1 and Table 5.2 for the morning and evening peak hours respectively. Level of Service D is considered acceptable in urban situations, and is based on the RTA's delay criteria set out in Table 2.4.

Table 5.1 – Morning Peak Hour Intersection Operating Conditions

Intersection	Case 1			Case 2			Case 3		
	X	AD	LOS	X	AD	LOS	X	AD	LOS
Warriewood/Pittwater*	0.68	19.9	B	0.72	22.9	B	0.70	20.9	B
Boondah/Macpherson*	0.28	10.4	A	0.35	10.6	A	0.31	10.5	A
Macpherson/Warriewood*	0.48	12.0	A	0.69	16.9	B	0.56	13.4	A
Macpherson/Ponderosa	0.54	16.4	B	0.57	17.1	B	0.55	16.7	B
Garden/Macpherson*	0.58	11.4	A	0.63	12.9	A	0.60	11.9	A
Boondah/Jacksons*	0.38	10.2	A	0.41	10.4	A	0.39	10.3	A
Jacksons/Pittwater*	0.60	15.1	B	0.60	15.0	B	0.60	15.1	B
Jubilee/Ponderosa	0.87	25.3	B	0.92	31.9	C	0.89	27.4	B
Ponderosa/Mona Vale*	0.76	41.7	C	0.82	42.2	C	0.81	41.9	C
Foley/Mona Vale	0.73	15.9	B	0.75	17.5	B	0.74	16.6	B
Jubilee/Foley/Vineyard	0.29	19.4	B	0.30	20.5	B	0.30	19.9	B
Warriewood/Brands*	0.15	10.3	A	0.16	10.5	A	0.15	10.4	A

* Intersection upgraded from existing, as identified in Roads Master Plan (see Section 2.5)

Table 5.2 – Evening Peak Hour Intersection Operating Conditions

Intersection	Case 1			Case 2			Case 3		
	X	AD	LOS	X	AD	LOS	X	AD	LOS
Warriewood/Pittwater*	0.87	26.9	B	0.97	43.7	D	0.91	31.3	C
Boondah/Macpherson*	0.27	11.4	A	0.33	11.9	A	0.29	11.6	A
Macpherson/Warriewood*	0.38	10.9	A	0.43	11.2	A	0.40	11.0	A
Macpherson/Ponderosa	0.57	12.4	A	0.60	12.4	A	0.58	12.4	A
Garden/Macpherson*	0.64	11.5	A	0.69	12.0	A	0.66	11.7	A
Boondah/Jacksons*	0.57	12.3	A	0.60	12.4	A	0.58	12.4	A
Jacksons/Pittwater*	0.81	14.5	B	0.81	14.7	B	0.81	14.5	B
Jubilee/Ponderosa	0.87	29.5	B	0.89	31.3	C	0.88	30.2	C
Ponderosa/Mona Vale*	0.82	35.0	C	0.84	35.7	C	0.83	35.4	C
Foley/Mona Vale	0.55	13.4	A	0.58	14.2	A	0.55	13.6	B
Jubilee/Foley/Vineyard	0.57	20.5	B	0.61	22.4	B	0.58	21.2	B
Warriewood/Brands*	0.24	10.2	A	0.26	10.3	A	0.24	10.2	A

* Intersection upgraded from existing, as identified in Roads Master Plan (see Section 2.5)

The results demonstrate that based on the average delays per vehicle, all intersections would operate at Level of Service C or better in Cases 1 and 3, while Case 2 would result in one intersection, being that of Warriewood Road and Pittwater Road, reaching Level of Service D. The intersection of Ponderosa Parade and Mona Vale Road would experience delays at the upper end of the range for Level of Service C during the morning peak hour under the three different traffic loads.

It is noted however that while the reported average delays per vehicle correspond to satisfactory Levels of Service based on the criteria presented in Table 2.4, the degree of saturation at some of the intersections would be close to or would exceed the practical limit of capacity. At high degrees of saturation, minor incidents, such as an unusual platoon of vehicles arriving at the intersection can have significant detrimental effect on the operation of the intersection. This is not taken into consideration by the RTA's adopted Level of Service criteria, which is based solely on the average delays.

The Sidra Intersection criteria for Levels of Service based on the degree of saturation are summarised in Table 5.3. The Degree of Saturation option for assessment of Levels of Service is useful in cases where theoretically there is sufficient capacity, but certain intersection approaches are more heavily loaded than others.

Table 5.3 – Degree of Saturation Level of Service Criteria

Level of Service	Signals	Roundabouts	Give Way and Stop Signs
A	$x < 0.60$	$x < 0.60$	$x < 0.60$
B	$0.60 < x \leq 0.70$	$0.60 < x \leq 0.70$	$0.60 < x \leq 0.70$
C	$0.70 < x \leq 0.90$	$0.70 < x \leq 0.85$	$0.70 < x \leq 0.80$
D	$0.90 < x \leq 0.95$	$0.85 < x \leq 0.95$	$0.80 < x \leq 0.90$
E	$0.95 < x \leq 1.0$	$0.95 < x \leq 1.0$	$0.90 < x \leq 1.0$
F	> 1.0	> 1.0	> 1.0

Applying these criteria, the Sidra Intersection results indicate that Levels of Service A and B would result at most intersections, as set out in Table 5.4, with some exceptions.

Table 5.4 – Levels of Service Based on Degree of Saturation

Intersection	Case 1		Case 2		Case 3	
	AM	PM	AM	PM	AM	PM
Signals						
Warriewood/Pittwater*	B	C	C	E	B	D
Jacksons/Pittwater*	A	C	A	C	A	C
Ponderosa/Mona Vale*	C	C	C	C	C	C
Foley/Mona Vale	C	A	C	A	C	A
Roundabouts						
Boondah/Macpherson*	A	A	A	A	A	A
Macpherson/Warriewood*	A	A	B	A	A	A
Macpherson/Ponderosa	A	A	A	A	A	A
Garden/Macpherson*	A	B	B	B	A	B
Boondah/Jacksons*	A	A	A	A	A	A
Jubilee/Ponderosa	D	D	D	D	D	D
Warriewood/Brands*	A	A	A	A	A	A
Priority						
Jubilee/Foley/Vineyard	A	A	A	B	A	A

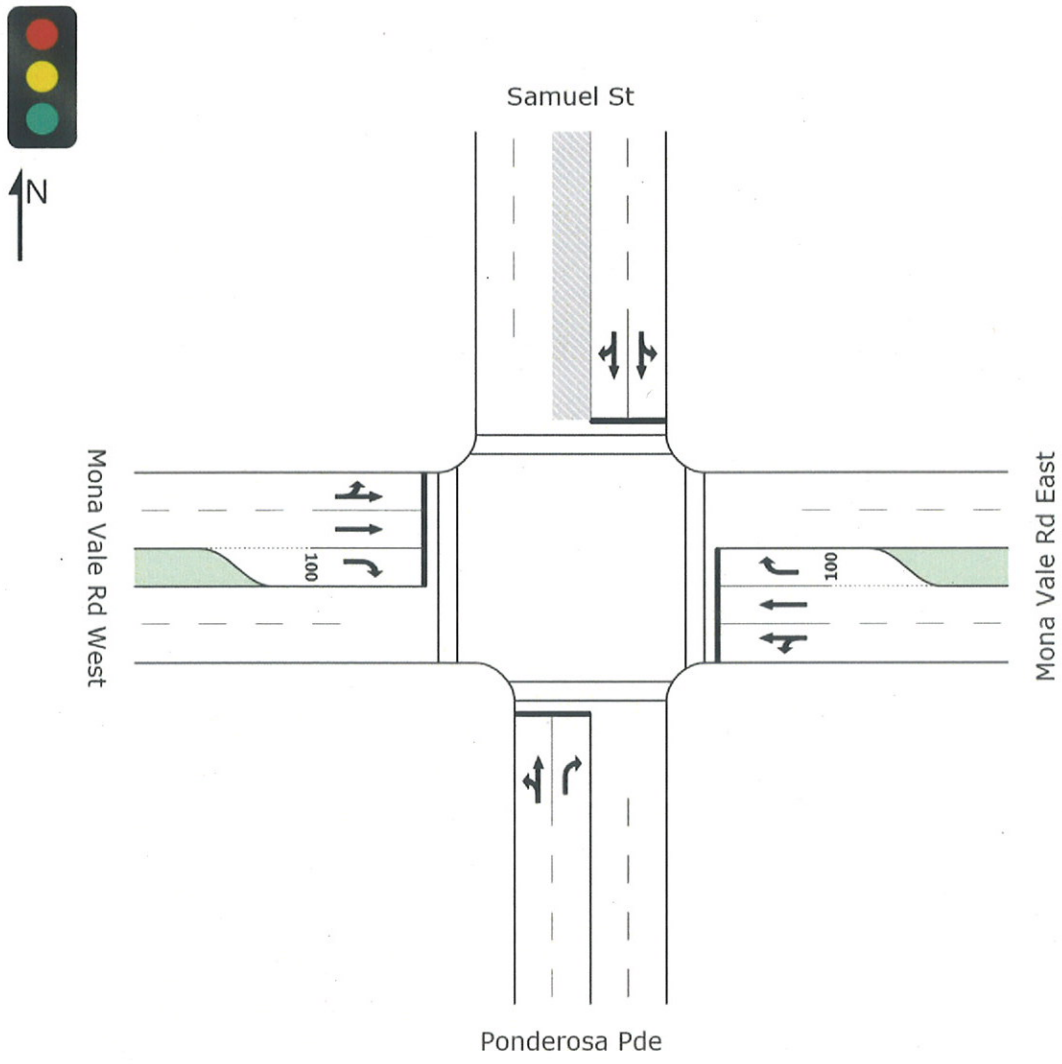
* Intersection upgraded from existing, as identified in Roads Master Plan (see Section 2.5)

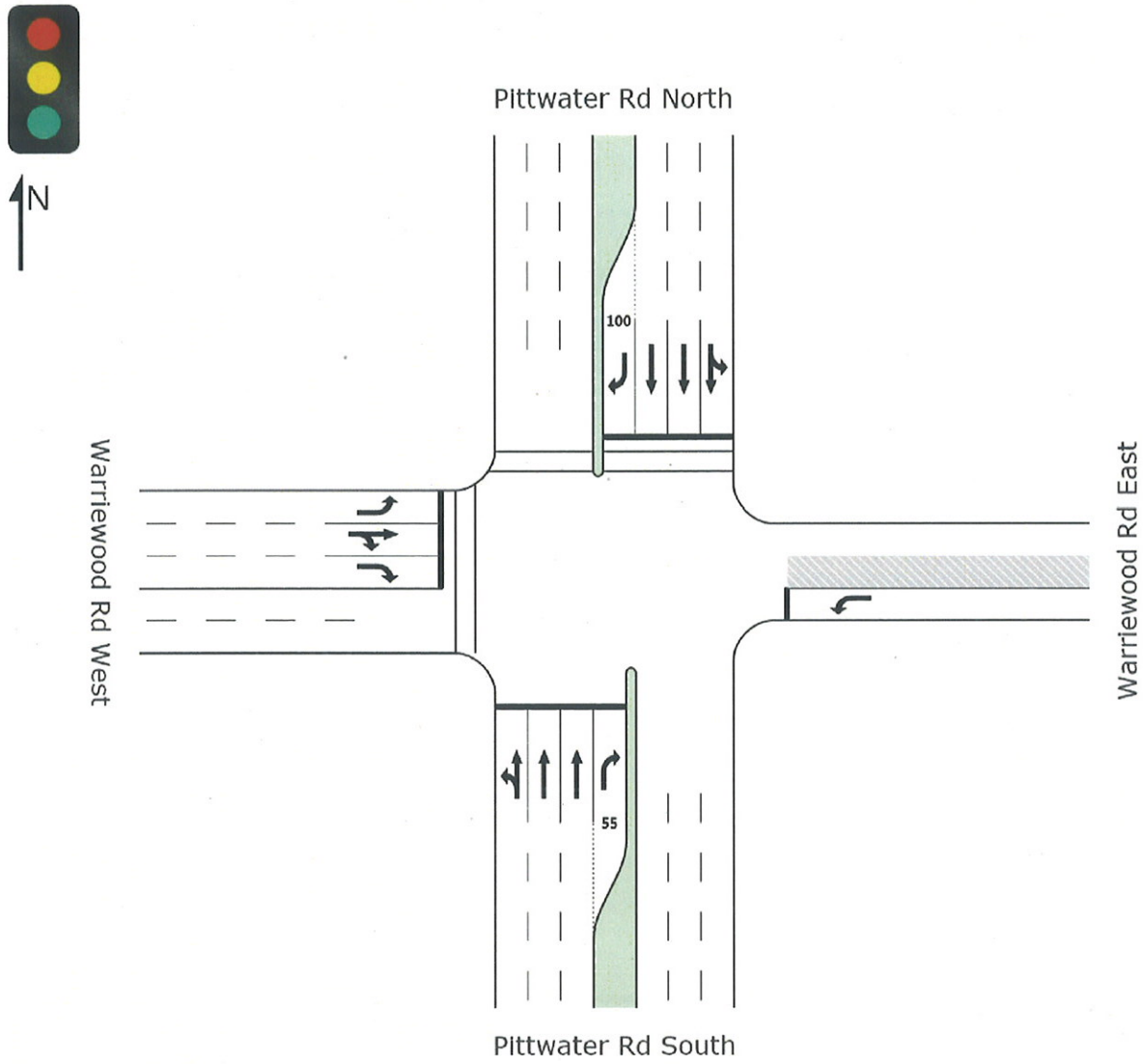
The Table 5.4 results indicate that during the evening peak, the signals at Warriewood Road and Pittwater Road would operate at an unacceptable Level of Service in Case 2. All other intersections would operate at or above the acceptable urban limit of Level of Service D, nothing that the roundabout at the intersection of Jubilee Avenue and Ponderosa Parade would operate at Level of Service D.

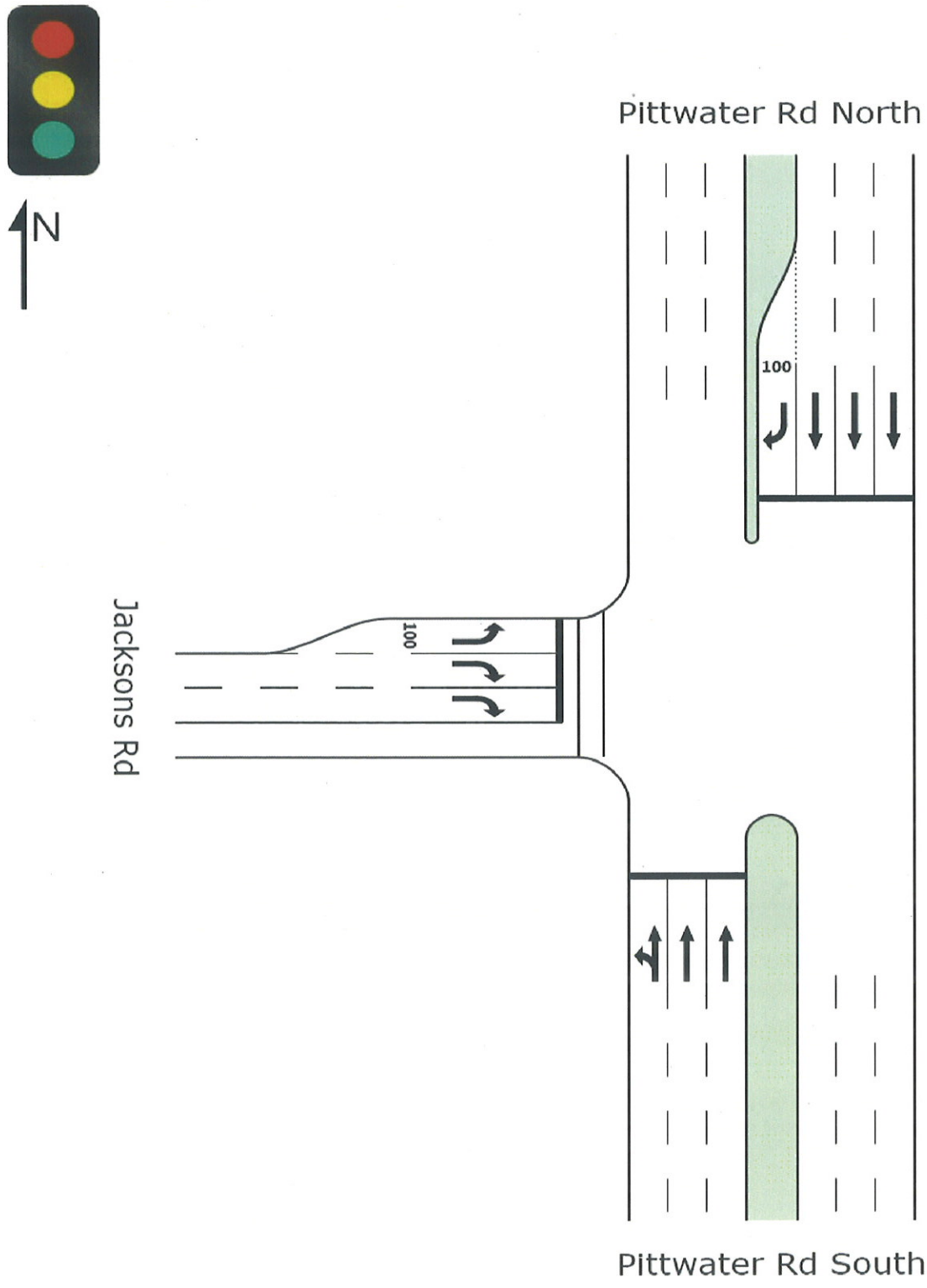
The implications of the above are that should Case 2 be pursued, additional upgrading of the Warriewood Road/Pittwater Road intersection, beyond that assumed (see Appendix A) in this assessment, would be recommended. The assumed upgrading includes an additional approach lane in Warriewood Road west, and lengthening of the right turn lane in Pittwater Road southbound to 100m. A detailed assessment to determine the extent of further upgrading would be required, taking into consideration the co-ordination of signals along Pittwater Road, and including liaison with the RTA.

Appendix A Assumed Upgraded Intersections

The following figures present the layouts of the signalised intersections assumed in this study. These are consistent with the concept sketches in the Roads Master Plan, however include assumptions regarding the length of turn bays, and on operational aspects such as phasing of signals.




N
Pittwater Rd North
100
Warriewood Rd West
Warriewood Rd East
55
Pittwater Rd South


N
Pittwater Rd North
100
Jacksons Rd
100
Pittwater Rd South

APPENDIX 6 CONSIDERATION OF STATUTORY REQUIREMENTS

Objects of the Environmental Planning and Assessment Act 1979 (EP&A Act)

Decisions made under the EP&A Act must have regard to the objects of the Act, as set out in Section 5 of the Act. The relevant objects are:

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

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

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

It is considered that on balance, with consideration of the benefits provided by the proposal such as an improved and publically accessible riparian zone, public road, pedestrian and cycle connections and a childcare centre that the applications promote the co-ordination of the orderly and economic use and development of land and a positive amenity environment.

With respect to Ecologically Sustainable Development (ESD), the EP&A Act adopts the definition in the *Protection of the Environment Administration Act 1991* including the precautionary principle, principle of inter-generational equity, principle of conservation of biological diversity and ecological integrity and the principle of improved valuation, pricing and incentive mechanisms and the matters are assessed below.

The Department has considered the Objects of the Act, including the encouragement of ESD in the assessment of the Concept Plan and Project Application. The balancing of the application in relation to the Objects is provided in **Section 6** (Assessment) of this report.

Statement of Compliance

In accordance with Section 75I of the EP&A Act and Clause 8B of the EP&A Regulations, the Department is satisfied that the Director-General's environmental assessment requirements have been complied with.

Table A

Section 75I(2) criteria	***Response***
Copy of the proponent's environmental assessment and any preferred project report;	The Proponent's EA and response to submissions (PPR) are located at **Appendix 3** and **4** of this report.
Any advice provided by public authorities on the project;	All advice provided by public authorities on the project for the Minister's consideration is set out in **Section 5** of this report.
Copy of any report of a panel constituted under Section 75G in respect of the project;	No statutory independent hearing and assessment panel was undertaken in respect of this project.
Copy of or reference to the provisions of any State Environmental Planning Policy that substantially govern the carrying out of the project;	Each relevant SEPP that substantially governs the carrying out of the project is identified, including an assessment of the impact of the SEPPs on the development proposal.

Except in the case of a critical infrastructure project – a copy of or reference to the provisions of any environmental planning instrument that would (but for this Part) substantially govern the carrying out of the project and that have been taken into consideration in the environmental assessment of the project under this Division,	An assessment of the development relative to the prevailing environmental planning instruments are provided in **Appendix 6** of this report.
Any environmental assessment undertaken by the Director General or other matter the Director General considers appropriate;	The environmental assessment of the project application is this report in its entirety.
A statement relating to compliance with the environmental assessment requirements under this Division with respect to the project.	The environmental assessment of the project application is this report in its entirety. The proposal adequately complies with the DGRs.
Clause 8B criteria	***Response***
An assessment of the environmental impact of the project	An assessment of the environmental impact of the proposal is discussed in **Sections 6 and 7** of this report.
Any aspect of the public interest that the Director-General considers relevant to the project	The public interest is discussed in **Section 8** of this report.
The suitability of the site for the project	The project represents a redevelopment of an underutilised site within an established urban area for residential development suitable for the locality.
Copies of submissions received by the Director-General in connection with public consultation under section 75H or a summary of the issues raised in those submissions.	A summary of the issues raised in the submissions is provided in **Section 5** of this report.

Ecologically Sustainable Development

The EP&A Act adopts the definition of ESD found in the *Protection of the Environment Administration Act 1991*. Section 6(2) of that Act states that ESD requires the effective integration of economic and environmental considerations in decision-making processes and that ESD can be achieved through the implementation of the following principles:

(a) *decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations (the integration principle);*

(b) *if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (the precautionary principle);*

(c) *the principle of inter-generational equity - that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations (the inter-generational principle);*

(d) *the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making (the biodiversity principle); and*

(e) *improved valuation, pricing and incentive mechanisms should be promoted (the valuation principle).*

The Department has considered the proposed development in relation to the ESD principles and has made the following conclusions:

- **Integration Principle** - The social, environmental and economic impacts of the proposal are positive and the development would provide an appropriate reuse of the site for residential purposes which are encouraged by local and state planning policies. The development also proposes ecological rehabilitation works and the provision of additional public open space on site and public access. The Department commissioned a Strategic Review of the Warriewood Valley to ensure equitable outcomes could be achieved for surrounding landowners of undeveloped lands, should an increased residential density for both the current site and surrounding locality be sustainable in terms of environmental, planning and infrastructure issues and constraints. This outcome of this review is discussed in **Section 3.4**. The environmental impacts of the development are appropriately mitigated as discussed in this report. The Department's assessment has duly considered all issues raised by the community and public authorities.

- **Precautionary Principle** – The EA is supported by technical and environmental reports which conclude that the proposal's impacts can be successfully mitigated. No irreversible or serious environmental impacts have been identified. The site has a high level of environmental sensitivity and contains endangered ecological species. Threatened fauna have also been observed on site. The proposal has assessed the impacts of the development on the environment and demonstrated that the development design and appropriate mitigation measures would be implemented to prevent any detrimental environmental impacts including replacement planting, rehabilitation of the creekline corridor and riparian zones and provision of buffer areas to the Warriewood Wetlands. Mitigation measures are outlined in the Proponent's supporting EA and PPR documents, Statement of Commitments and the Department's recommended conditions of approval. Climate change risks in relation to flooding have been considered and are accounted for in the proposed finished floor levels of the buildings and the identified developable site area. A community response plan would also be prepared to deal with evacuation procedures.
- **Inter-Generational Principle** – The site's redevelopment for a residential use incorporates ecologically sustainable design principles and the implementation of environmental management practices to be employed during construction which will ensure that the environment is protected for future generations.
- **Biodiversity Principle** – There is no threat of serious or irreversible environmental damage as a result of this proposal. The proposal does not impact upon biological diversity or ecological diversity.
- **Valuation Principle** – The Department has assessed the proposal against the valuation principle and does not consider it to be relevant in this case.

Consequently, the Department is satisfied that the proposal is consistent with the principles of ESD.

Environmental Planning Instruments (EPI's)

Under Sections 75I(2)(d) and 75I(2)(e) of the EP&A Act, the Director-General's report for a project is required to include a copy of, or reference to, the provisions of any State Environmental Planning Policy (SEPP) that substantially governs the carrying out of the project, and the provisions of any environmental planning instruments (EPI) that would (except for the application of Part 3A) substantially govern the carrying out of the project and that have been taken into consideration in the assessment of the project.

The Department's consideration of relevant SEPPs and EPIs is provided below. The primary controls guiding the assessment of the proposal are:

- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy 55 – Contaminated Land (SEPP 55);
- State Environmental Planning Policy 65 – Design Quality of Residential Flat Buildings and the Residential Flat Design Code;
- State Environmental Planning Policy Building Sustainability Index: BASIX 2004; and
- Pittwater Local Environmental Plan 1993 (PLEP).

The provisions, including development standards of local environmental plans are not required to be strictly applied in the assessment and determination of major projects under Section 75R(1) in Part 3A of the Act. Notwithstanding, these standards and provisions are relevant considerations for this application as Section 75I(2)(e) of the Act 1979 require the Proponent to address such standards and provisions and the Department to duly consider them.

Accordingly, the objectives of a number of EPIs and the development standards therein and other plans and policies that govern the carrying out of the project are appropriate for consideration in this assessment as detailed below. The relevant provisions of State Environmental Planning Policy (Major Development) 2005 is addressed in **Section 4.1** of this report.

State Environmental Planning Policy (Infrastructure) 2007 (ISEPP)

The proposal comprises more than 300 residential apartments and is therefore a traffic generating development. Clause 104 of the above mentioned ISEPP requires the Department refer the subject application to the RTA as part of the consultation process. Refer to **Section 4.2** of this report for RTA's comments and the Departments response. The Department will also notify the RTA of its determination of the subject proposal.

State Environmental Planning Policy 55 – Contaminated Land (SEPP 55)

Clause 7(1)A of SEPP 55 states that a consent authority must ascertain whether the site is contaminated and requires remediation prior to issuing consent. Environmental Audits of Australia have submitted an Environmental Site Assessment (ESA) dated November 2003 (refer to **Appendix R** of the EA) which concludes the site is suitable for residential development.

A supplementary letter from Benbow Environmental dated 23 August 2010 advises that there is no visual evidence of any activities on site that would alter the findings of the 2003 Assessment and that no further soil testing is warranted as a consequence. Benbow confirmed the proposal is suitable for the proposed child care and multi-unit housing development.

State Environmental Planning Policy 65 – Design Quality of Residential Flat Buildings (SEPP 65)

SEPP 65 seeks to improve the design quality of residential flat development through the application of a series of 10 design principles. An assessment against these principles is provided below.

The EA confirms the development has been designed having respect to the design principles of SEPP 65 and the Revised Statement of Commitments indicates future applications will demonstrate a level of detailed design consistent with SEPP 65.

Table B

Key Principles of SEPP 65	**Department Response**
Principle 1: Context	The site is located in a planned residential area within the Warriewood Valley and is appropriate for medium density development sited within the centre of the site where it would have no additional impact on adjoining properties. The proposal is located within an extensive landscaped setting compatible with the context of the locality. The proposal would provide a building form that would not adversely affect the existing or future character of the area.
Principle 2: Scale	This matter is discussed above in **Section 6.2** of the report and is considered appropriate.
Principle 3: Built Form	This matter is discussed above in **Section 6.2** of the report and is considered appropriate.
Principle 4: Density	This matter is discussed above in **Section 6.1** of the report and is considered appropriate.
Principle 5: Resource, Energy and Water Efficiency	The location and orientation of the building envelopes will provide good opportunities for units to maximise solar access and natural ventilation opportunities to reduce reliance on artificial heating and cooling and complies with BASIX requirements.
Principle 6: Landscape	The proposal includes a combination of hard and soft landscaping, including deep soil zones within the setback areas and open space areas with additional planting of native vegetation. The proposal exceeds the Council's controls in relation to the provision of soft landscaped and deep soil planting areas and proposes retention and protection of existing significant vegetation, ecological rehabilitation and replacement planting.
Principle 7: Amenity	The proposal seeks to optimise amenity in terms of solar access, ventilation, views and outlook and access to public open space. Impacts on surrounding residential amenity would be minimal subject to a condition relating to solar access for Building F. The proposal would have minimal or no impact on the amenity of adjoining properties in relation to solar access or privacy and noise. Refer to **Section 6.2** of this report for further information

Principle 8: Safety and Security	The Proponent has considered Crime Prevention Through Environmental Design Principles in the design of the project. In general, the proposal allows for good passive surveillance of the road networks, and public and private open space areas on the site. The provision of a through site links, secure residential lobby areas, well designed pedestrian friendly environments and landscaping improves the safety and security of the proposal.
Principle 9: Social Dimensions and Housing Affordability	The floor layout shows a mix of apartment types which would encourage a diverse social mix within the area and to sustain a vibrant community. Affordable housing is not proposed as part of this development however the provision of smaller studio, 1 and 2 bed units would provide more affordable housing options in the area which is dominated by 3 bed houses.
Principle 10: Aesthetics	The design is for a simple palette of materials with balconies and design features which would articulate the building and provide visual interest. Specific details for Stage 2 would be assessed as part of the future Development Application.

Residential Flat Design Code

The Residential Flat Design Code (the Code) is closely linked to the principles of SEPP 65. The Code sets out a number of "rules of thumb" which detail prescriptive standards for residential flat development that would ensure the development complies with the intent of the Code.

A detailed assessment has been undertaken of the Stage 1 residential buildings and an in-principle assessment has been undertaken of the Stage 2 building envelopes. A full assessment of the detailed design of Stage 2 of the Concept Plan will be made at future Development Application stage.

Building Envelopes
The Code states a building envelope is not a building but a three dimensional zone that limits the extent of a building in any direction. It defines the extent of the overall building zone in plan and section within which a future building can be located. The length, depth and height of building envelopes are defined in metres and should be at least 20-25% greater than their achievable floor area to allow for building articulation. The primary controls to describe and support building envelopes are:

- Building height
- Building depth
- Building separation
- Street setbacks
- Side and rear setbacks
- Floor space.

Primary Development Controls

- **Building Height**

The Code recommends height controls be tested against existing FSR controls. Heights should also be tested against the number of storeys and minimum ceiling heights required for the desired building use.

Building height has been discussed in **Section 6.2** of this report. Taking into consideration all relevant matters, the height of the proposed building envelopes is considered acceptable. Ceiling heights are discussed below and comply.

- **Building Depth**

The Code recommends building depths be no greater than 18 metres (glass line to glass line). Should building depths be more than 18 metres, satisfactory daylight and natural ventilation are to be achieved.

Building depths generally range between 13 - 21 metres. A number of units have been designed as dual aspect and the internal layout of rooms and positioning of windows and walls will ensure units will receive satisfactory daylight and natural ventilation with the exception of Building F where only 58% of units receive 3 hours direct sunlight. A condition requiring amendments to the unit layout to comply with the 70% standard is proposed.

- **Building Separation**

The Code provides the following building separation requirements in order to maximise visual privacy between residential flat buildings and adjoining residences:

Buildings up to 4 storeys

- 12 metres is required between habitable rooms and balconies;
- 9 metres between habitable rooms/balconies and non-habitable rooms; and
- 6 metres between non-habitable rooms.

Buildings 5 to 8 storeys

- 18 metres between habitable rooms and balconies;
- 13 metres between habitable rooms/balconies and non-habitable rooms; and
- 9 metres between non-habitable rooms.

The building envelopes for both Stage 1 (Buildings A-G) and the remaining Concept Plan envelopes meet the building separation distances of the Code. Visual privacy issues in this regard are considered acceptable and any conflicts are capable of being resolved by providing privacy screening to balconies.

- **Setbacks (Street, Side and Rear)**

The Code requires setbacks to relate to the area's street hierarchy and desired streetscape character. The proposed front, rear and side setbacks are consistent with the controls set within the Pittwater 21 DCP and surrounding development and provide sufficient area for landscaping.

- **Floor Space Ratio (FSR)**

The Code aims to ensure development is in keeping with the optimum capacity for the site and the local area.

The density (dwelling yield) of the scheme is assessed in detail in **Section 6.1** of this report and is considered to be the optimum capacity for the site, taking into consideration layout and solar access issues, environmental constraints and potential impacts on adjoining properties.

Site Configuration

- **Deep Soil Zones**

The Code advises that 25% of the open space area of the site should be a deep soil zone. 54% of the site is available for landscaping and capable of achieving deep soil planting and would be provided within the landscaped setback areas, along the proposed internal roads and within the public domain and riparian areas of the site. The proposed landscape areas will be appropriately landscaped and include large areas that would be accessible to the public.

- **Fences and Walls and Landscape Design**

A detailed landscape plan has been provided for Stage 1 which is considered acceptable in terms of providing additional landscaping for the site and active and passive open space areas for recreational uses on site. Details necessary for the remaining Concept Plan areas will be further addressed at the design stage.

- **Open Space (Communal and Private)**

The Code recommends 25-30% communal open space is provided for the development. Where this is unable to be achieved, the proposal must demonstrate that residential amenity is provided in the form of increased private open space and / or in a contribution to public open space. Each apartment at ground level or similar space on a structure (podium) is to be provided with 25m^2 of private open space.

The Concept Plan proposes 20,295m^2 of communal open space (25% of the site) in the form of internal courtyards, landscaped setback areas and at the rear of the site. In addition, a further 6,825m^2 of public open space would be provided as part of the scheme. The majority of ground floor units for Stage 1 have approximately 25m^2 of private open space however a number of units (primarily studio and 1 bedroom flats) have an average of 16-20m^2. The sizes of the courtyards are considered to be of a sufficient size, comparable to the size of the flat. Furthermore, residents would also have access to large areas of communal and public open space and recreational facilities provided directly on site.

Each unit in the Concept Plan/ Stage 2 would be assessed as part of a future Development Application. The proposal provides an acceptable level of open space (comprising both communal and public open space).

- **Orientation**

The Code encourages proposals to optimise solar access to residential apartments within the development and adjacent development, contribute to the desired streetscape character, support landscaping and open space, protect amenity and improve the energy efficiency of buildings.

The Proponent has submitted shadow diagrams to demonstrate the development is capable of achieving adequate solar access within the development and maintain light to adjoining properties with the exception of Building F. This matter is addressed in **Section 6.2** of this report.

- **Planting on Structures**

The Code sets standards to ensure the amenity and quality of communal open space on roof tops, podiums and internal courtyards is acceptable. Soft landscaping is proposed on podiums for Stage 1 including larger shrubs and small tress in raised planter boxes which would complement areas of deep soil planting. A detailed landscape plan for the remaining Concept Plan would be submitted with the future Development Application.

- **Stormwater Management**

The Code seeks to minimise the impact of residential flat development and associated infrastructure on the health and amenity of natural waterways, preserve existing and natural features including watercourses and wetlands by reducing the volume impact of stormwater by retaining it on site, optimising deep soil zones, protecting stormwater quality by providing sediment filters etc and considering using grey water for site irrigation.

A Stormwater Management Plan is submitted with the proposal which incorporates water sensitive urban design to be consistent with ESD design principles. An overland flow path is located along the western boundary of the site which will be planted to control runoff. Works are proposed to the creekline corridor in line with Council's policies for stormwater management and a system of bio-retention basins and reuse of roofwater are proposed.

Site Amenity

- **Safety**

The Code states a formal crime risk assessment for all residential developments of more than 20 new dwellings should be conducted as a rule of thumb.

A formal risk assessment has not been undertaken however the proposal has been designed having regard to the principles of *Crime Prevention through Environmental Design* (CPTED) to maximise opportunities for safety and security through two way casual surveillance between open space areas and private dwellings, access control, territorial reinforcement and space management. The proposal is considered capable of achieving a high level of safety and security.

- **Visual Privacy**

The Code recommends measures to maintain privacy between residents and refers to the building separation standards discussed above. The proposed separation distances meet the requirements of the Code, windows and balconies are offset and measures such as fixed privacy louvers, obscure glazed screening, planters on balconies and privacy screens can be incorporated to maintain privacy between units.

Site Access

- **Building Entry**

The Code provides guidelines for the siting and design of building entrances with the aim of creating a residential identity for the development, to orient the visitor and positively contributed to the streetscape and building design.

Separate entrances are provided for each residential building which is separated from the vehicular entries and would be clearly identifiable and provide clear lines of transition between the public street, shared private circulation spaces and apartments. Entries are of an adequate size to allow movement of furniture and provide equal access for all.

- **Parking**

Appropriate parking levels should be determined in relation to the development's proximity to public transport, shopping and recreational facilities, the density of development and the local area and the sites ability to accommodate car parking. Visitor parking should be limited and preference should be given to underground parking.

Onsite parking provisions exceed the ranges set by the RTA guidelines and would be located within the basement to minimise its visual impact. Parking provisions are discussed in detail in **Section 6.6.3** and are considered acceptable.

- **Pedestrian Access**

The Code requires at least 20% of apartments have barrier free access. All apartments will be accessible by lift through residential lobbies and basement car parking areas meaning the development is capable of meeting the 20% standard. All corridors and circulation spaces comply with Australian Standards and the Disability Discrimination Act, allowing a wheelchair to pass or turn.

- **Vehicle Access**

The Code seeks to ensure pedestrian safety is maintained by minimising potential pedestrian/vehicle conflicts by ensuring adequate separation distances between vehicular entries and street intersections, limiting the width of driveways to a maximum of 6 metres and locating vehicle entries away from pedestrian entries.

Driveway widths are 6 metres (maximum) and vehicle entries are well located away from main pedestrian entrances. The conflict of the driveway leading to Building B and the child play area is addressed via a condition of consent.

Building Configuration

- **Apartment Layout**

The Code recommends single aspect apartments be limited in depth to 8 metres from a window and that a kitchen should be no more than 8 metres from a window. Cross-over apartments over 15 metres deep should be 4 metres wide or greater to avoid deep narrow units. Minimum recommended unit sizes are:

- Studio - 38.5 m^2
- 1 bed cross through - 50m^2 / 1 bed single aspect - 63.4m^2
- 2 bed corner – 80m^2 / 2 bed cross through - 89m^2 /2 bed cross over - 90m^2 for 2 beds and
- 3 bed - 124m^2 for 3 beds

The Code also provides a guide for minimum apartment sizes that can contribute to housing affordability which are 50m^2 for 1 bed, 70m^2 for 2 beds and 95m^2 for 3 beds.

Stage 1 proposes the following minimum unit sizes:

Unit type	NSW RFDC 2002 unit size (m^2)	Stage 1 Preferred Project minimum unit size (m^2)
Studio	38.5m^2	45m^2
1 bed	50m^2	55m^2
2 bed (large)	80m^2	85m^2
2 bed (small)		78m^2
3 bed	124m^2	105m^2

Floor layouts for Stage 1 show single aspect units are generally limited to 8 metres in depth and only non-habitable areas such as laundries, bathrooms or media/study areas are more than 8 metres from the window. This design is commonplace in contemporary development and is acceptable in this

instance as these areas form a minor part of the unit as a whole and could still provide an acceptable level of amenity subject to appropriate lighting and mechanical ventilation. The back wall of all kitchens is within 8.0m of a window. Crossover apartments are less than 15 metres in depth and are generally 6 metres wide.

With the exception of the 3 bedroom units, all units comply with the Codes minimum guidelines for unit sizes. The 3 bed units do however meet the minimum guidelines for affordable 3 bed units. These units comprise less than 6% of the proposed units in Stage 1 and are considered to provide an appropriate balance between providing affordable housing in an informal manner whilst still maintaining a good level of amenity for residents.

- **Apartment Mix**

The Code advises that a mix of apartment types provides housing choice and supports equitable housing access. The proposed floor layout includes a range of apartment types (studios, 1, 2 and 3 bedroom apartments) which satisfies the Code. Adaptable housing numbers and layouts would be established in the design phase.

- **Balconies**

The Code recommends each unit have a primary balcony with a minimum depth of 2 metres. All primary balconies for units within Stage 1 have a minimum depth of 2 metres. The location and size of balconies is not shown in the Concept Plan (Stage 2) but would be the subject of further assessment at Development Application stage.

- **Ceiling Heights**

The Code encourages ceiling heights of 2.7m for habitable rooms and 2.25-2.4m for non-habitable rooms. Minimum floor to ceiling heights are met and generally exceeded.

- **Flexibility**

The Code encourages housing designs which meet the broadest range of occupants needs possible and encourage adaptive re-use by providing apartment layouts which accommodate the changing use of rooms and promote accessibility and adaptability.

The floor layout for Stage 1 shows multiple cores and a mix of apartment types. There is a high degree of accessibility throughout the development with some adaptable units being provided. The flexibility of flat designs for Stage 2 would be determined at the detailed design stage.

- **Ground Floor Apartments**

The Code seeks to optimise the number of ground floor apartments with separate entrees and access to private open spaces, preferably as a terrace or garden.

All ground floor units have garden courtyards providing separate street and ground level access in addition to an access from the main lobby areas.

- **Internal Circulation**

The Code aims to limit the number of units accessible from a single core/corridor to 8. All buildings except Building F have less than 8 units serviced by a single core. Building F has 12 units serviced by a long corridor with two lift/stair cores. Recommended amendments to the floor layout of this building to provide additional cross through apartments to meet solar access requirements are likely to address this non-compliance.

- **Mixed Use**

Not applicable – This standard relates to 'shop-top' housing type developments and the proposed childcare centre is located within a separate building. Notwithstanding this the proposed uses complement each other. The childcare centre is a stand along building and will help activate the street area and provide a much needed service for the area.

- **Storage**

The Code requires that in addition to kitchen cupboards and bedroom wardrobes, accessible storage facilities are to be provided at the rate of $6m^3$ for studio and one-bedroom apartments, $8m^3$ for two-bedroom apartments and $10m^3$ for three plus bedroom apartments.

Storage areas are provided within each unit and further storage is provided with the basement level to provide for storage of larger items.

Building Amenity

- **Acoustic Privacy**

The Code seeks to ensure a high level of amenity is provided by protecting the privacy of residents within buildings both within apartments and private open spaces by arranging apartments to minimise noise transmission between flats by appropriately locating or stacking rooms to separate noisy areas from quieter areas and resolving conflicts of noise, outlook and views by using design measures including double glazing, operable screened balconies and courtyard walls.

Sufficient distances are maintained between units to minimise any noise conflicts and rooms are appropriately stacked and positioned to minimise noise transmission. Balcony screens and courtyard walls are also proposed to restrict overlooking.

- **Daylight Access**

The Code recommends that 70% of apartments are to receive at least 3 hours of sunlight to living spaces and private open spaces in midwinter between 9.00am and 3.00pm. The number of single aspect units with a southerly aspect (SW-SE) should be limited to no more than 10% of the total units proposed.

Daylight access is discussed in **Section 6.2** of this report and is acceptable subject to a condition requiring amendments to unit layouts in Building F. A total of 20 out of 295 apartments (7%) are single aspect-south facing and therefore complies.

- **Natural Ventilation**

The Code states building depths which support natural ventilation typically range from 10-18 metres and recommends that 60% of units should be naturally cross ventilated and 25% of kitchens should have access to natural ventilation.

60% of units are flow through allowing for cross ventilation. Living areas are open plan and all kitchens would be within 8 metres of a window opening to provide access to natural ventilation.

Building Form

- **Awnings and Signage, Facades and Roof Design**

Awnings are encouraged to provide weather protection and provide contribute to the legibility of the development by locating awnings over building entries. Under awning lighting should be provided for safety. Any proposed signage should be integrated into the design of the development by responding to scale, proportions and architectural detailing and provide clear and legible way finding for residents and visitors. Facades should promote high architectural quality, define and enhance the public domain and desired street character and ensure building elements are integrated into the overall building form and design. Rood design should be incorporated into the overall façade and building composition.

All entrances are covered by the level above, as are proposed balconies. Entrances and common areas would be appropriately lit. No signage is proposed at this stage and further development would be sought where needed. The development presents active residential frontages to both Macpherson Street and Boondah Road by being orientated towards each street and increasing in height towards the middle and rear of the site to respond to the height of surrounding development. Various materials and finishes are incorporated into the design to articulate the façade and roof design and provide visual interest.

Building Performance

- **Energy Efficiency**

The Code seeks to reduce the need for mechanical heating and cooling, reduce a reliance on fossil fuels, minimise greenhouse gas emissions and support renewable energy by incorporating possible solar design techniques, improving the design of dwellings, providing for the future installation of photovoltaic panels, reducing reliance on artificial lighting and maximising the efficiency of household appliances.

The built form and fabric has been carefully considered to balance solar heat gains, daylight, glare and views to outside. Passive design strategies including external shading, insulation for walls and ceiling are proposed. BASIX certificates have been submitted for Stage 1 buildings demonstrating the development meets the required target. Water efficiency in buildings has also been considered.

- **Maintenance and Waste Management**

The Code provides better design guidelines to ensure long life and ease of maintenance for the development. Waste management plans are required to be submitted as part of the planning application.

Appropriately durable materials are proposed for construction and landscaped areas have been designed to minimise maintenance. A waste management plan has been submitted.

- **Water Conservation**

The use of rainwater tanks and AAA rated water efficient appliances, the use of indigenous landscaping and grey water recycling are recommended to reduce mains consumption of potable water and urban stormwater runoff.

Recycled water is to be used within the development and appropriate water efficient appliances would be installed. The use of native species in landscaping is proposed.

Overall, the proposed Concept Plan and Stage 1 development is generally consistent with the aims and provisions of the "Rules of Thumb" it is considered that the proposal will provide a high quality environment with the residents provided with communal areas and public open space for their enjoyment.

State Environmental Planning Policy Building Sustainability Index: BASIX 2004

SEPP BASIX encourages sustainable residential development across NSW by setting targets that measure the efficiency of buildings in relation to water and energy use and thermal comfort. SEPP BASIX requires all new residential dwellings meet sustainability targets of a 30-35% reduction in energy use (building size dependent) and a 40% reduction in potable water.

There has been a commitment to use the requirements of BASIX as a minimum requirement and BASIX certificates have been submitted for buildings in Stage 1 indicating each building will satisfactorily meet the BASIX targets. The resulting BASIX scores for the Stage 1 building are:

- Energy - 35
- Water - 41
- Thermal Comfort – Pass

A condition is recommended that the proposal be carried out in accordance with the commitments of the certificates. Certificates for the remaining Concept Plan buildings would be submitted as part of the future development application.

Pittwater Local Environmental Plan (PLEP) 1993

The relevant provisions of the PLEP 1993 have been addressed within the report in **Sections 4** and **6** of this report with the exception of heritage and aboriginal archaeology issues which are considered below. Information in relation to flora and fauna impacts which were relied on in the assessment under **Section 6.4** is also included in this section.

Heritage and Aboriginal Archaeological Potential

The site does not contain any individual heritage items and is not located in a heritage conservation area. The Heritage Report prepared by Graham Brooks and Associates (January 2010) concludes that the locally-listed (PLEP) items at 21 Macpherson Street (Federation Cottage) and the bus shelter at the intersection of Garden and Macpherson Streets are of a sufficient distance from the site so that the development would not have an impact on their significance.

The Aboriginal Archaeological and Cultural Heritage Impact Assessment prepared by Banksia Heritage + Archaeology (February 2010) states no Aboriginal archaeological sites or objects have previously been recorded to occur on the subject site and no specific areas of subsurface Aboriginal Archaeological Potential or Sensitivity have been identified. The report concludes that there are no Aboriginal archaeological or cultural heritage constraints to the proposed development of the subject land proceeding and that no further Aboriginal archaeological input is required prior to the commencement of works.

Flora and Fauna Assessment

The following table provides a summary of the findings of the Flora and Fauna Assessment by Total Care (Appendix J of PPR) which was used to consider the impacts of the development on flora and fauna on site in **Section 6.2**.

Endangered Fauna	None recorded
Endangered Ecological Community - Flora	Areas of Swamp Sclerophyll Forest and Freshwater Wetlands which are remnant native vegetation and listed as Endangered Ecological Communities were identified along the southern portions of the site adjacent to the wetland and leading to Boondah Road.
Threatened Species - Fauna	1 threatened fauna species, a Powerful Owl (*Ninox strenua),* listed as Vulnerable under the TSC Act was observed roosting in the eastern section of the Swamp Forest on the site during March 2008. No species were determined to rely specifically on the habitats present onsite.
Threatened Species – Flora	None recorded

Other Relevant Policies and Guidelines

The following relevant policies and guidelines were also considered

- Pittwater 21 DCP (Amendment No. 5)
- Warriewood Valley Section 94 Contributions Plan and Warriewood Valley Planning Framework 2010
- NSW Ground Water Policy Framework;
- NSW Groundwater Quality Management and Protection Policy;
- NSW State Rivers and Estuaries Policy;
- NSW Wetlands Management Policy;
- NSW State Sea Level Rise Policy.

Pittwater 21 DCP (Amendment No. 5)

The DCP's density and height controls are considered in **Sections 6.1** and **6.2**. The proposal complies with the DCP's site coverage and setback requirements. Environmental hazards, controls relating to the natural environment and water management have been considered by the Proponent in their EA and PPR and in **Section 6.4**. Site works management issues would be addressed via conditions. The proposal does not meet the solar access requirements of the DCP which seeks a minimum of 4 hours access for units as the proposal has been designed to accord with SEPP 65. This matter is considered in **Section 6.4** and is considered acceptable.

Parking requirements for the development are considered below in **Table 3** and discussed in **Section 6.6.3**.

Table C: Parking Calculations

	Council's Parking Standards Pittwater DCP 21	Council's Requirement	RTA Guide[2]	Proposed[1]
Stage 1 (295 units)				
45 x studio + 1 beds	1 space per dwelling	45	45	45
233 x 2 beds	2 spaces per dwelling	466	280	349.5
17 x 3 beds	2 spaces per dwelling	34	34	34
Childcare 40 places	1 space per 4 children[3]	10	10	8
Visitor parking	1 space per 3 dwellings	98	42	42
Total		**653**	**411**	**479**
Stage 2 (264 units indicative)				
30 x studio + 1 beds	1 space per dwelling	30	30	30
192 x 2 beds	2 spaces per dwelling	384	230	288
42 x 3 beds	2 spaces per dwelling	84	84	84
Visitor parking	1 space per 3 dwellings	88	38	27
Total		**586**	**382**	**429**
Total Parking for Concept Plan		**1,239**	**793**	**908**

Notes:

1: Proponent proposes 1 space for 1 beds, 1.5 spaces for 2 beds and 2 spaces for 3 beds.

2: RTA, Guide to Traffic Generating Developments (2002). Guide requires 1 space for 1 beds, 1.2 spaces for 2 beds and 2 spaces for 3 beds.

3: Refers to RTA requirement for childcare.

Warriewood Valley Section 94 Contributions Plan and Warriewood Valley Planning Framework 2010

The relevant provisions of the Section 94 Plan and Planning Framework have been addressed **Section 6** of this report with the exception of vehicular access which is addressed below:

Vehicular access is proposed via both Macpherson Street and Boondah Road. A roundabout would be constructed at the Macpherson Street access by the Proponent which could also provide access into the senior's development to the north once completed. The Boondah Road access is proposed to be a priority controlled tee intersection. Internally a future public road would connect Macpherson Street with Boondah Road with all other internal access ways under private ownership. Collectively these routes would provide direct access to car parking areas, internal circulation, emergency vehicle access, access for service vehicles and on street parking. The future public road is designed as a local street in accordance with the Council's *Warriewood Roads Master Plan (2006 Review)*. Access arrangements are therefore acceptable.

NSW State Groundwater Policy Framework Document and NSW Groundwater Quality Management and Protection Policy

The NSW State Groundwater Policy encourages the ecologically sustainable management of the State's groundwater resources. A detailed Stormwater and Environmental Management Study has been submitted with the application which includes an overland flowpath and water quality treatment including the re-use of roof runoff, primary pollutant traps capable of removing gross pollutants, sediment and oils to pre-treat road and lot drainage and bio-retention basins which will receive flows from the pollutant traps. The NSW Office of Water has assessment the proposal in relation to groundwater issues and raises no objection to the scheme subject to recommended conditions.

NSW State Rivers and Estuaries Policy

The Policy objectives relate to managing the rivers and estuaries of NSW to slow, halt or reverse the overall rate of degradation in the systems; ensure the long-term sustainability of their essential biophysical functions; and maintain the beneficial use of these resources.

Fern Creek traverses the south western corner of the site and the development is upstream from the Warriewood Wetlands. The development proposes riparian zones and buffer zones to protect .the creek and wetlands and on-site detention systems would maintain existing flow regimes and to provide

additional flood storage to ensure no loss in floodplain volume to Fern Creek. Significant rehabilitation works including weed eradication are also proposed.

NSW Wetlands Management Policy

The NSW Wetlands Management Policy objectives are related to the conservation, sustainable management and use of NSW wetlands by all stakeholders for the benefit of present and future generations.

The site adjoins the Warriewood Wetland. This matter is addressed in **Section 6.4** of this report and it is considered that the proposed riparian and buffer zones, as amended by the recommended conditions and proposed ecological rehabilitation and environmental improvements would satisfactorily protect the wetland area.

NSW State Sea Level Rise Policy

The NSW Sea Level Rise Policy Statement specifies sea level planning benchmarks for the NSW coastline. These benchmarks are an increase above 1990 mean sea levels of 40 centimetres by 2050 and 90 centimetres by 2100. The NSW Coastal Planning Guideline: Adapting to Sea Level Rise (August 2010) adopts the sea level rise planning benchmarks in the NSW Sea Level Rise Policy Statement. It is a forward-looking document which assists planning for future development proposals.

The development has been designed in accordance with the provisions of the NSW State Sea Level Rise Policy and does not pose any risk to the immediate coastal area and the Narrabeen Lagoon Catchment Area. The proposed development does not pose any risk to public safety, properties adjoining the site or natural ecosystems. The impact of sea level rise impacts on the probable maximum flood level is discussed in **Section 6.4** of this report and the proposal levels are acceptable. A Further Assessment Requirement is however recommended for Stage 2 in **Section 7.2** requiring the Proponent consider any new adopted studies should the Council complete their updated flood study.

APPENDIX 7 SUMMARY OF COUNCIL'S SUBMISSION AND RESPONSE

Pittwater Council objects to the project. The key concerns are summarised as follows:

Equity and precedent

- The proposal is a significant departure from the Council's planning policies and would establish a precedent for other undeveloped areas in Warriewood Valley.
- The community should not be burdened with additional infrastructure and service provision for unplanned development.

Departure from the planning process and community expectation

- The development disregards outcomes and targets of the Metropolitan Strategy, draft North East Subregional Strategy and Council policies including the Warriewood Valley Planning Framework 2010.
- The proposal departs from community expectations and provides no public benefit to support significant policy departures.
- The Council considers it is able to meet its housing target without the proposed additional units.
- The proposed childcare centre is a prohibited use.
- The proposal does little to achieve affordable housing, accommodation of key workers or ageing in place.

Inadequate infrastructure and services provision and funding

- An inadequate level of infrastructure and services is proposed. The Pittwater community should not be burdened by development not provided for through planned infrastructure and service provision.
- A complete review of the strategic land use and infrastructure and services planning is needed to address the impact of the additional unplanned development. The Strategic Review being conducted by the Department is incomplete and does not address the likely impacts of increasing density in terms of visual amenity, traffic and transport and infrastructure and service requirements.

Impact on amenity and the environment

- The proposal is an overdevelopment. The built form would be out of scale and character with the area and would result in poor visual privacy, acoustic privacy, solar access and utility of private and communal open space areas which would adversely affect resident's amenity.
- Inadequate setbacks and landscaping to minimise the visual impact and impact on wetlands and riparian zones.
- Assessment of the likely impacts on Endangered Ecological Communities (EEC) is deficient. The removal of Angophora trees on the Boondah Road reserve which are locally significant is not supported and a Species Impact Statement should be required.
- The proposed Asset Protection Zone relating to bushfire constraints would have serious impacts on EECs by preventing the provision of a fully vegetated 10 metre buffer to the wetlands.
- Displaced groundwater from the basement parking level would adversely impact native vegetation on site and the wetlands.

Traffic, Parking and Public Transport

- Traffic management and accessibility provisions are inadequate and fail to address likely road impacts resulting from increased traffic volumes.
- Inadequate resident and visitor parking provisions compared to Council's controls which cannot be accommodated within the proposed internal road.
- Inadequate loading and servicing areas, wash bays, storage areas and disabled parking spaces.
- The main internal road is insufficient to cater for the proposed amount of traffic. The design of the basement car park does not meet Australian Standard.
- Existing public transport levels are inadequate and there are no measures to promote or improve public transport by either Sydney Buses or the RTA to cater for increased demand.
- The proposal does not include road upgrade works along Boondah Road or Macpherson Street in line with the Council's DCP and Warriewood Valley Roads Masterplan.

Flooding and Climate Change

- The development should be deferred to await results of the Narrabeen Lagoon Flood Study update (anticipated for completion in 2012) to ensure the full impact of sea level rise and climate change can be assessed. Notwithstanding this, the Council stated Flood Planning Levels at the site with climate change scenarios ranges from 4.06m to 4.35m AHD and the proposed finished floor level of 4.5m AHD were accepted.
- A community flood emergency response plan should be provided.

Other Matters

- The proposal should achieve industry best practice by exceeding the minimum requirements of BASIX and the BCA.
- Inadequate waste management plan.
- Companion animals and their potential impact on fauna within the wetlands must be managed.

Department's response

Equity and precedent and Inadequate infrastructure and services provision and funding

- Issues of equity and precedent have been considered by the Department in the Warriewood Strategic Review (and subsequent Independent Traffic Study) and are discussed in detail in **Section 3.4**. The Review confirms that should the current major project be approved, the existing infrastructure and road network has the capacity to ensure equity for other landowners of surrounding undeveloped land.
- Infrastructure and services are proposed to be provided by the Proponent in the form of developer contributions and works-in-kind, commensurate with the proposed level of development. The level of contributions has been the subject of a detailed report in **Appendix 10** and is discussed in **Section 6.5**.

Departure from the planning process and community expectation

- The Department has considered the proposal against relevant strategic and statutory planning policies and Council's policies in **Sections 3** and **4** and **Appendix 6**. The proposal is considered to be consistent with the objectives of strategic policies. Although the development proposes some departures from Council's current policies, these variations would not lead to significant detrimental impacts on neighbouring properties or the surrounding area. The built form, and scale of the proposal is considered acceptable and would not have an adverse impact on the future character of the area and this conclusion is supported by the findings of the Strategic Review.
- The development would provide a number of public benefits which are outlined in **Section 8**. These benefits however do not in themselves provide justification for the proposed departures to Council's controls as the merit of the scheme as a whole has been considered in **Section 6.**
- Although the proposal is not considered necessary by the Council to meet its housing target, the development does provide the opportunity to increase housing numbers and housing choice within the area.
- The Concept Plan provides the mechanism for the Department to consider the permissibility of uses.
- Adaptable housing is proposed which would allow for ageing in place. There is no statutory requirement or policy for affordable or key worker housing provision.

Impact on amenity and the environment

- Built form, height and residential amenity are considered in detail in **Section 6.2**. The built form, and scale is considered acceptable and would not have an adverse impact on the future character of the area. The proposal is sufficiently setback from neighbours to provide opportunities for significant landscaping along boundaries and restrict privacy and noise issues and the proposal would have minimal impact on neighbouring solar access. The internal amenity of the development is considered acceptable subject to amendments to Building F to increase solar access to units.
- Setbacks from environmental zones and the wetlands and the impacts on Endangered Ecological Communities (EECs) are considered in detail in **Section 6.4**. A revised Flora and Fauna assessment has been submitted and Building O (in Stage 2) has been modified to retain additional areas of the Endangered Ecological Communities (EECs). Modifications are recommended to the location of the Asset Protection Zone and Bio-Retention Basin B to address Council's, DECCW's and NOW's concerns. A Further Assessment Requirement to retain the Angophora trees is also recommended.

- NOW has not raised objection to the proposed basement parking provided the facility is tanked. The Flora and Fauna Assessment indicates regular monitoring would assist in the management of the groundwater and wetlands and NOW have recommended conditions to address this.

Traffic, Parking and Public Transport

- Traffic generation and the road network capacity are considered in detail in **Sections 3.4** and **6.3**. Traffic modelling indicates that the development would not exceed the planned road network capacity.
- Resident and visitor parking provisions are considered in **Section 6.6.3** and **Appendix 6**. The proposal is considered to provide an acceptable balance between addressing local car parking need, reducing car dependency and managing traffic generation and the RTA and Transport NSW have not raised objection to the proposal.
- Loading and servicing areas, storage areas, cycle parking and disabled parking are provided for Stage 1 and conditions relating to the design of these areas and compliance with Australian Standards are recommended. The lack of wash bays is acceptable as alternative off site car wash services are available. The internal road has been designed to meet Council's requirements.
- Although existing public transport is limited, the STA have indicated the development would provide an opportunity to review existing services to cater for increased demand. The proposal also encourages pedestrian and cycling facilities to compliment public transport and parking provisions.
- The Proponent has indicated road upgrade works along Boondah Road and Macpherson Street would be carried out in accordance with Warriewood Valley Roads Masterplan and it is recommended these works form the basis of conditions of consent.

Flooding and Climate Change

- The stormwater and environmental management plan submitted with the proposals has established the flood planning levels for the site taking into consideration climate change and sea level rise. A key requirement of Council for the site to provide a minimum 50% of the site's developable area as deep soil planning to minimise runoff (and downstream flooding) has been met by the changes in the PPR. 54% deep soil area is now proposed. The proposed minimum floor levels have been set above these levels and it is recommended an emergency response plan be required as condition of consent. **Section 6.4** contains a more detailed discussion of this matter.

Other Matters

- The proposal is capable of complying with relevant policy which sets minimum requirements in relation to BASIX and the BCA. An assessment of the proposal against the BASIX SEPP is considered in **Appendix 6**. Waste management and companion animal issues can be addressed by way of conditions.