

Appendix

I

Social Impact Assessment

Social Impact Assessment

Mixed Use Development



Lots 184 – 187 & 191 - 194 in DP 259164, and Lots 20 – 23 in DP 31208,
Hastings road and Tweed Coast Road, Bogangar/ Cabarita Beach

Prepared for *Stockwell Pty Ltd*

By

Planit Consulting Pty Ltd

December 2007

Introduction

1.1 Brief

Planit Consulting has been commissioned by Stockwell Pty Ltd to prepare and submit a Social Impact Assessment Report to accompany a development application and planning for the construction of a mixed use development comprising a supermarket, kiosk and specialty retail shops, 23 residential units and associated car parking and loading bays.

1.2 Terms of Reference

The terms of reference for this report have been derived by Planit Consulting from the Tweed Shire DCP 2007 – Section A13 Socio Economic Impact Assessment. An Economic assessment of the proposed development has been carried out by others and this report focuses on Social Impacts of the proposal. Based on Section A13 the Social Impact Assessment Report will address the following points.

1. Introduction
2. Objectives of the Development
3. Community Profile
4. Analyse Feasible Alternatives
5. Identify and Evaluate potential impacts of the development
6. Consultation
7. Justification for the development

1.3 Assumptions

The report has been prepared on the instructions of the stated party and is intended to address the terms of reference as defined above. The data, analysis, findings and forecasts contained in this report are therefore not appropriate for use in an any other circumstance. Planit Consulting can give no guarantee that these findings and forecasts will be realised.

Background and Objectives

2.1 Definition of Social Impact

Effective social impact assessments (SIA's) involve an understanding of demographics, and social indicators, and the values of communities and cultures. By "social impacts" we mean the consequences to human populations of development that alter the ways in which people live, work, play, relate to one another, organise to meet their needs and generally cope as members of society. The term also includes cultural impacts involving changes to the norms, values, and beliefs that guide and rationalise their cognition of themselves and their society. In this instance, however, we define social impact assessment in terms of efforts to assess or estimate, in advance, the social consequences and community impacts that are likely to follow from proposed specific development.

The purpose of an SIA is to provide an indication of the ability of a community or group to adapt to changing conditions; define the problems or clarify the issues involved in a proposed change; anticipate and assess impacts on the quality of life; illuminate the meaning and importance of anticipated change; identify mitigation opportunities or requirements; and advise communities and other stakeholders on how to comply with regulations and policies. The social impact of any development is the effect it has on people. Such effects include changes to peoples way of life (how they live, work, play and interact), their cultural traditions (shared beliefs, customs and values), economic issues (employment, financial and business impact) and their community (population structure, cohesion, stability and character).

2.2 Objectives of the Development

The objectives of the proposal is to create an onsite development that will cater for increasing housing, social and economic needs for Bogangar/ Cabarita Beach. The land is underutilised and in part vacant at present, however the existing activity on the land is restricted to a newsagent, service station, café and motel. In summary the property does not realise its full potential.

The proposed development seeks to construct a supermarket with an area of 2300 m², specialty retail shops with a total area in excess of 1000 m², and a forecourt area containing a Kiosk for social interaction. Twenty three upper level units are proposed in a variety of forms and sizes to cater for the needs of different households. The retail/supermarket component is to cater for not only Bogangar/ Cabarita Beach, but also to attract clientele from the other residential villages along the Tweed Coast from South Kingscliff to Wooyung and westward to Tanglewood.

Local Community Area

3.1 The Site & its Surrounds

The subject site comprises a total of twelve (12) properties. The properties have the following descriptions use and areas.

Legal Description	Address	Area	Use
Lot 184 DP 259164	96 Hastings Road, Bogangar	365.70 m ²	Vacant
Lot 185 DP 259164	94 Hastings Road, Bogangar	365.70 m ²	Vacant
Lot 186 DP 259164	92 Hastings Road, Bogangar	365.70 m ²	Vacant
Lot 187 DP 259164	90 Hastings Road, Bogangar	365.70 m ²	Vacant
Lot 191 DP 259164	76 Hastings Road, Bogangar	335.40 m ²	Vacant
Lot 192 DP 259164	74 Hastings Road, Bogangar	335.40 m ²	Vacant
Lot 193 DP 259164	72 Hastings Road, Bogangar	335.40 m ²	Vacant
Lot 194 DP 259164	70 Hastings Road, Bogangar	335.40 m ²	Vacant
Lot 20 DP 31208	39 Tweed Coast Road	841 m ²	Motel and Cafe
Lot 21 DP 31208	41 Tweed Coast Road	613.16 m ²	Service Station
Lot 22 DP 31208	43 Tweed Coast Road	613.16 m ²	Service Station
Lot 23 DP 31208	45 Tweed Coast Road	613.16 m ²	News Agency

The property has extensive frontage to both Tweed Coast Road and Hastings Road. Please refer to the locality plan below for identification of the site within the surrounding environs of Bogangar/ Cabarita Beach.

The subject property is located within the centre of the Bogangar Business District which fronts Tweed Coast Road and Hastings Road. The property is zoned 3(b) General Business and surrounding land to the north, south and east is similarly zoned. The land to the east of the site is zoned for residential purposes and contains a medium density residential development.



3.2 Project Description

This application proposes the erection of a three/ four storey building comprising a total of a supermarket, kiosk, retail shops, and 23 residential units. The proposal comprises the following key elements as follows:

Design Element	Details
Number of Residential Units	23 x 2 Bedroom Residential Units
Commercial Component	<ul style="list-style-type: none">• Supermarket – 2403.9 m²• Retail Shops – 1008.4 m²• Kiosk - 71.675 m²
Storeys	Generally 3 storeys facing Tweed Coast Road and Hastings Road, however small four storey element through the centre of the property due to the topography of the site.
Site area	5484.88 m ²
Car Parking	216 spaces - 35 Resident Spaces - 181 Customer Spaces plus Loading Bays and Bike Racks

This integrated proposal incorporates a number of design features so as to assist in breaking up and articulating the development on the site. In this regard the building possesses its own architectural character and appeal which responds well to the site having regard to its prominent position on Tweed Coast Road and to the rest of the Cabarita CBD. The subject site also has the necessary locational considerations for higher and medium end accommodation options such as proximity to entertainment and recreational facilities, and ease of access and location in terms of the surrounding natural attributes of Cabarita Beach.

The development is planned to enhance and rejuvenate the urban fabric of Bogangar/ Cabarita Beach whilst providing additional retail and residential opportunities for the local population of the Tweed Coast.

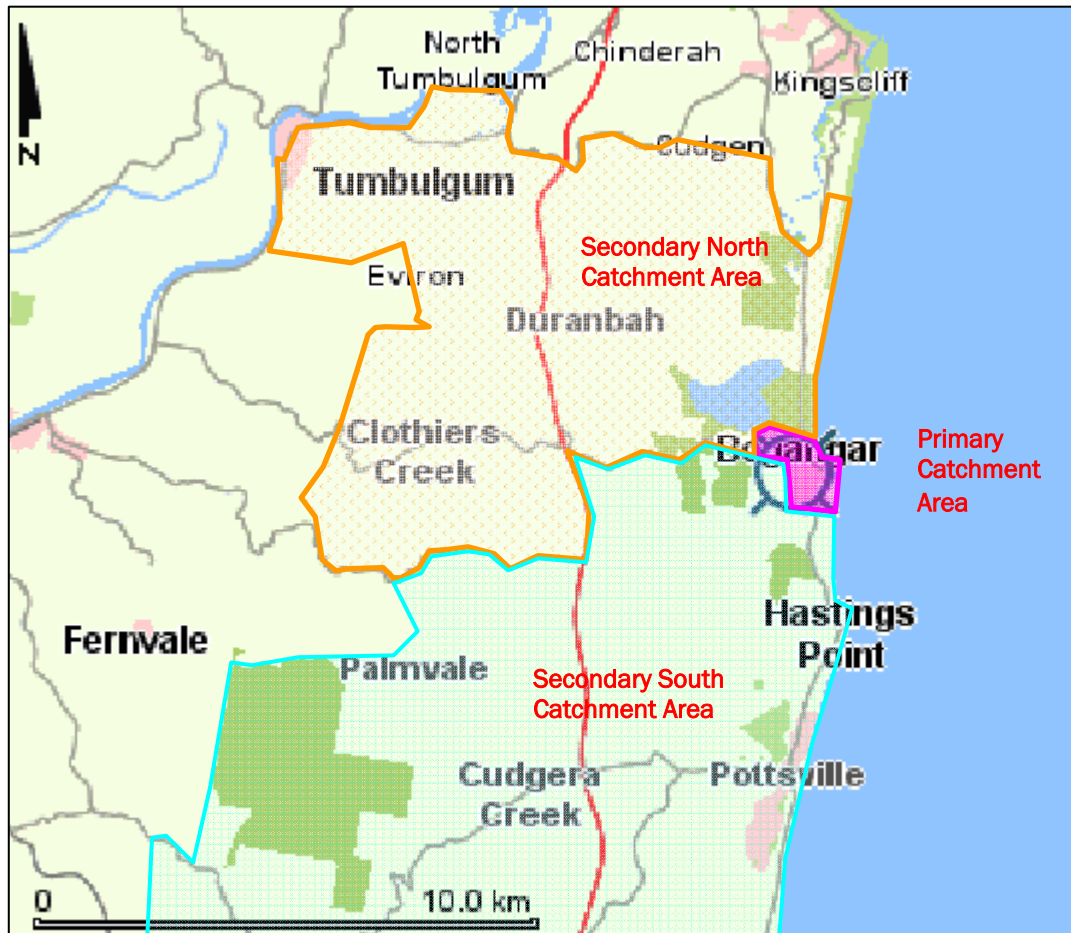
3.3 Community Profile

Census Data is provided for Bogangar/ Cabarita Beach noted as the Primary Area and for the secondary catchments to Kingscliff to the north and Pottsville to the south. (See Appendix A for details – to ensure consistency with Economics Report the same catchment areas have been utilised and are identified on the map below). The following key points are identified.

- The Primary and Secondary Catchment Areas have a higher proportion of people aged 14 and under and aged 65+ compared to the NSW Average;
- This reflects the influx of new families and retirees into the area and in particular the residential estates of Salt, Casuarina and elsewhere at Pottsville.
- The catchment area has a higher proportion of families comprised of couples with no children and one parent households relative to the whole of NSW
- Unemployment data for Tweed Shire as of June 2006 was 7.6% which was 2.5% higher than the state average;
- Average household Income for the Catchment Area is \$53,024 which is 18% below the NSW Average of \$64,834 but 11% greater than incomes for the Tweed

Richmond SD. These figures are skewed though with annual household incomes for the Primary Catchment and the Southern Secondary catchment are similar to the Richmond Tweed SD, however average incomes in the secondary north catchment are \$79,387.

- Housing stock is dominated by detached and semi detached housing. The secondary south catchment has a high proportion of permanently occupied housing consisting of caravans and others.
- The Catchment area has a high level of mobility with more than 50% of households owning two or more motor cars.



3.4 Local Community Area Characteristics

The major characteristics, infrastructure, development and community facilities in Cabarita Beach/ Bogangar Locality include:

- Educational Institutions – Infants and Primary School, and preschool. Similar facilities are located at Pottsville and Kingscliff. Kingscliff also contains a high school, a catholic Infants and Primary School and a TAFE.
- Libraries – Closest Library is located at Kingscliff
- Hospitals – Located in Murwillumbah and Tweed Heads
- Medical Services – Doctor and Dental Surgery in Cabarita CBD
- Community Facilities – Cabarita Beach Surf Life Saving Club
- Sporting Ovals and Grounds - Les Burger Sports Fields (Includes Skate Park) and Casuarina Sports Fields
- Licensed Clubs – Cabarita Beach Bowls Clubs similar facilities in Kingscliff and Pottsville

- Retail – Strip retail along either side of Tweed Coast Road. Closest major supermarket (Woolworths) located at Kingscliff Shopping Centre to the north.
- Residential – Limited vacant land in Bogangar/ Cabarita Beach. Re-development of underutilised properties will result in single dwellings in medium density zones being replaced with residential flat buildings, duplexes and townhouses. Opportunities also exist for medium density above ground floor commercial and retail units.
- Tourist Accommodation - Holiday Flats and resort accommodation located in Pandanus Parade (Beach Resort), Cypress Crescent, and on Tweed Coast Road.

3.5 Discussion

The subject site is located within the centre of the Bogangar/ Cabarita Beach CBD. Its primary use as a retail site is considered justified having regards to its exposure to Tweed Coast Road and the 3(b) General Business zoning of the land. The use of the upper level areas for residential living is also well founded in relation to the principles of urban consolidation. In particular residents will be within walking distance to services, the beach, restaurants, cafes, food and grocery stores and medical services, reducing the need for a vehicle to access these goods and services.

The residential component of the development will provide a minor increase in demand for local services provided within the existing CBD through an increase in population. The development containing a major supermarket will also encourage increased business activity in the locality and increase the customer base accordingly for the remainder of the business district. That is local residents within the primary and secondary catchments will have an alternative to driving to the shopping centres of Tweed Heads, Tweed Heads South, Kingscliff and Banora Point. This will have a positive impact upon the locality of Cabarita Beach/ Bogangar in terms of the continued urban renewal of the business district.

Development Alternatives for the site

The principles of ecological sustainable development require a best use approach for the site. To carry out this assessment the following alternatives were examined.

- Not proceeding and continuing the current use of the land;
- Retail and commercial development only;
- Residential development only;
- Entertainment/ Recreation Development.

The advantages and disadvantages of these alternatives are summarised in the table below.

Alternatives	Advantages	Disadvantages
Not Proceeding – The Do Nothing Option	No cost in carrying out the development;	<p>The site would remain undeveloped and underutilised.</p> <p>Lost opportunity to develop a commercial site which has good exposure to passing traffic which would assist in the ongoing upgrading and enhancement of the Cabarita CBD.</p> <p>Loss of employment opportunities for local residents;</p> <p>Loss of Income for the property owners;</p> <p>Visually the area would remain somewhat unattractive with the existing buildings aged and dated, whilst the service station and mechanics workshop detracts from the generally locality and is a hazard to pedestrian traffic using the footpath.</p>
Retail and commercial development Only	<p>The creation of a larger retail and commercial node would provide greater range of retail shops and commercial services for local residents;</p> <p>Greater competition between Shopping Centres along the Tweed Coast</p>	<p>Such a development would lead to an oversupply of commercial floor space in this area of the Tweed Coast.</p> <p>An underutilised building would appear as a “white elephant” and could lead to a negative view of the Cabarita Beach CBD and fail to invigorate the locality.</p>

Residential development Only	<p>Short term windfall for the landowner;</p> <p>Will provide additional housing stock and variety within the Cabarita Beach area.</p>	<p>Proposal would require the land to be rezoned for residential purposes and may not be supported by Council having regard to the strategic planning carried out to date;</p> <p>Loss of opportunity to provide additional life and vitality into Cabarita CBD;</p> <p>Underutilisation of a key commercial site within the Cabarita CBD.</p> <p>Fails to provide a vehicle for long term employment and income generation.</p>
Entertainment/ Recreational Facility Pub/ cinemas etc	<p>Would provide additional facilities for recreational purposes in Cabarita and remove need to travel to Tweed Heads Coolangatta.</p>	<p>A Hotel would compete directly with the recently re-opened hotel at the Beach Resort and the Bowls Club which are established facilities.</p> <p>The demand for another hotel in Cabarita probably doesn't exist, and NSW licensing may be loath to create another venue for drinking and gambling in close proximity to existing facilities.</p> <p>In recent times Cinemas to be successful generally need to contain a number of theatres showing a range of movies at varying times and located with a large population base. It is considered such a facility would not be viable in Cabarita and struggle to compete with the established Cinema complexes at Tweed Heads and Tweed Heads South.</p>

In summary it is concluded that the alternatives are not feasible, and that the proposal can occur with identified impacts being suitably mitigated and managed.

Potential Social Impacts from the Development

5.1 Community Networks

The redevelopment of this site will strengthen and add further vitality to a site which is predominantly under developed at present and will assist in improving the quality and quantity of facilities for social interaction in Bogangar and Cabarita Beach. The proposal will serve as an attraction for both local residents and visitors to the areas and the general amenity will be improved as a result of the redevelopment of the site. The development will provide active shop fronts to the street and improved streetscaping to Tweed Coast Road.

5.2 Public Realm

The site and the buildings upon it are not listed as items or properties of European heritage or Aboriginal significance. The mixed use development will result in a further upgrade of Tweed Coast Road by way of new footpaving, public seating and general landscaping. Having regards to the size of the property, the proposal is not considered to be an overdevelopment of the site. Having regards to the sites location within the centre of Cabarita CBD, and the provision of a major supermarket, it is expected public support for the proposal will be positive.

5.3 Housing

The proposal will add an additional 23 residential dwellings to the available housing stock in Bogangar. The designs of these units are varied and will suit a range of housing needs. In terms of the sites location, the units will attract a premium price, however in terms of residential activity elsewhere along the Tweed Coast it is unlikely the proposal will have a noticeable impact on average house prices or rents across the Tweed Coast or in Cabarita/ Bogangar.

5.4 Human Services

The proposal will not change the supply of community support, welfare or health services in the region. The residential component is for standard housing units as opposed to Seniors Living development, however potential exists for a slight increase in demand for these services from the development depending upon the future owners and residents of the development. It is anticipated that Council will levy Section 94 Contributions for community facilities including, libraries, surf lifesaving facilities, parks and gardens, cemeteries, roads and cycle ways. Such funding will assist in the provision of such services by Tweed Shire Council within the locality.

5.5 Access

The proposal will see all vehicle access to the site provided from Hastings Road which will make the Tweed Coast Road frontage a friendlier safer place for pedestrians and enable the business houses along the street frontage to engage with the public. This includes

customers and window shoppers alike. The development will also facilitate disabled access and the proposal will be designed and constructed to comply with Council's requirements. The development is unlikely to have any substantial impact on public transport services in the area, however the increase in population may lead to greater demand and usage of the existing bus services provided by Surfside buses.

The development also provides a pedestrian linkage through the site from Hastings Road to Tweed Coast Road enabling residents to the west of the site to walk through the site facilitating improved access to Pandanus Parade and down to Cabarita Beach.

Consultation

The proponents have had a variety of meetings and discussions with relevant stakeholders with the preparation of the development application. In particular, Stockwell have met and discussed the development concept with the Cabarita Beach Business Association who have given support for the development.

The development concept has been discussed with a number of Tweed Shire Council employees to scope and identify potential development issues. This includes the General Manager, the Director of Planning, Council's Strategic Planning Officers and Waste Management Offices. Council have indicated broad support for the concept advising that access from Hastings Road was to be encouraged, whilst development on Tweed Coast Road should be designed to encourage activity and vitality and to enhance the streetscape.

Once submitted, Council will exhibit and advertise the application in accordance with its Notification Policy providing the public with an opportunity to review the development proposal. Any submissions received by Council from surrounding landowners and the general public will need to be considered as part of the assessment of the application.

Justification and Conclusion

The site is occupied in part by aging buildings used as a Service Station, Newsagency, Café and Motel with the remainder of the site is vacant and under utilised at present. The development will replace these existing premises with a supermarket, specialty retail stores and upper level residential units. The development will provide further impetus to the ongoing renewal of the Cabarita CBD and the new building will provide a centre for social interaction and additional shopping opportunities for local residents and visitors alike.

Importantly the development although exceeding the statutory three storey height limit for Cabarita Beach, will not impact upon the views of surrounding residents to the coast or important view corridors. Significantly, those residential property located to the west of the site on Hastings Road have no views to the Coast at present with Tweed Coast Road elevated approximately 4.5 metres above Hastings Road, with potential for any views further disrupted by the existing built form either side of Tweed Coast Road.

The residential component of the development consists of a variety of housing forms in one and two storey apartments and will increase housing stock and choice across the Tweed Shire. The additional onsite population although minor will provide additional demand for services and add further to the vitality of the town centre through increased residential and pedestrian activity. This will provide further benefit to the amenity of the locality in relation aspects of pedestrian safety and casual surveillance of the various shops and commercial premises within the CBD.

The development will not place a strain on community services and amenities in the locality and where required, contributions will be levied by Council to assist with the continued funding of a range of services and facilities provided by Council. It is submitted that the development will have a positive impact upon the locality and will not generate deleterious impacts upon the local population or the community at large.

A

Census Data

Appendix

J

Basix Certificate

BASIX Certificate

Building Sustainability Index

www.basix.nsw.gov.au

Certificate number: 174555M

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 29/06/2006, published by the Department of Planning. This document is available at www.basix.nsw.gov.au

Director-General

Date of issue: Friday, 21 December 2007



NSW GOVERNMENT
Department of Planning

Score

- ✓ Water: 42 (Target 40)
- ✓ Thermal comfort: pass (Target pass)
- ✓ Energy: 31 (Target 30)

Description of project

Project address	
Project name	Cabarita Beach Shopping Centre V1
Street address	39 Tweed Coast Road Cabarita Beach 2488
Local Government Area	Tweed Shire Council
Plan type and plan number	deposited 31208
Lot no.	20
Section no.	-
Project type	
No. of unit buildings	2
No. of attached dwelling houses	0
No. of separate dwelling houses	0
Site details	
Site area (m ²)	5484.88
Roof area (m ²)	1461.16
Non-residential floor area (m ²)	3483.96
Residential car spaces	35
Non-residential car spaces	134
Common area landscape	
Common area lawn (m ²)	250
Common area garden (m ²)	100
Area of indigenous or low water use species (m ²)	-
Assessor details	
Assessor number	40207
Certificate number	30162368

Description of project

The tables below describe the dwellings and common areas within the project

Unit building - Building1, 4 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species: (min area m2)
1	2	123.0	0.0	0	-
5	2	86.0	0.0	0	-
9	2	169.0	4.0	0	-
17	2	86.0	0.0	0	-

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species: (min area m2)
2	2	123.0	0.0	0	-
6	2	83.0	0.0	0	-
10	2	169.0	4.0	0	-
18	2	83.0	0.0	0	-

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species: (min area m2)
3	2	123.0	0.0	0	-
7	2	83.0	0.0	0	-
11	2	123.0	0.0	0	-
19	2	83.0	0.0	0	-

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species: (min area m2)
4	2	123.0	0.0	0	-
8	2	123.0	0.0	0	-
12	2	123.0	0.0	0	-

Unit building - Building2, 4 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species: (min area m2)
13	2	70.0	0.0	0	-
20	2	70.0	0.0	0	-

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species: (min area m2)
14	2	70.0	0.0	0	-
21	2	70.0	0.0	0	-

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species: (min area m2)
15	2	70.0	0.0	0	-
22	2	70.0	0.0	0	-

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species: (min area m2)
16	2	70.0	0.0	0	-
23	2	70.0	0.0	0	-

Description of project

The tables below describe the dwellings and common areas within the project

Common areas of the development (non-building specific)

Common area	Floor area (m²)	Common area	Floor area (m²)	Common area	Floor area (m²)
Car Park (Lower, Upper and Secure)	5417.6	Lift car (No. 1)	-	Ground floor lobby type (No. 1)	9.3

Schedule of BASIX commitments

1. Commitments for unit building - Building1

(a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Comfort

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

2. Commitments for unit building - Building2

(a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Comfort

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

3. Commitments for attached dwelling houses

4. Commitments for separate dwelling houses

5. Commitments for common areas and central systems/facilities for the development (non-building specific)

- (i) Water
- (ii) Energy

Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

1. Commitments for unit building - Building1

(a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on-demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "Hot water recirculation" column of the table below.		✓	✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	Hot water recirculation	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	3 star	3 star	3 star	3 star	no	-	-	-	-	-	-	-	-	-

Dwelling no.	Alternative water source							
	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection	Laundry connection	Pool top-up	Spa top-up
All dwellings	central water tank (no. 1)	See central systems	See central systems	no	yes	yes	no	no
None	-	-	-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓ ✓	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below;		✓	

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and		✓	✓
(cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓	
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan, ducted to façade or roof	manual switch on/off	individual fan, not ducted	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
9, 10	1-phase airconditioning 6 Star	1-phase airconditioning 6 Star	1-phase airconditioning 6 Star	1-phase airconditioning 6 Star	2	3	yes	yes	yes	yes	0	no
5, 6, 7, 17, 18, 19	1-phase airconditioning 6 Star	1-phase airconditioning 6 Star	1-phase airconditioning 6 Star	1-phase airconditioning 6 Star	2	1	yes	yes	yes	yes	0	no
1, 2, 3, 4, 8, 11, 12	1-phase airconditioning 6 Star	1-phase airconditioning 6 Star	1-phase airconditioning 6 Star	1-phase airconditioning 6 Star	2	2	yes	yes	yes	yes	0	no

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	electric cooktop & electric oven	-	yes	3.5 star	3.5 star	4 star	yes	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.			
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.			
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Commitment (h) below, applies to the rooms or areas of a dwelling which are listed in the "Cross Ventilation" table below as comprising a breeze path for the dwelling.			
(h) The applicant must construct the dwelling so that at least one ventilation opening is provided in each such room or area. (If only one room or area of a dwelling is mentioned for a breeze path, then that room or area must have at least two ventilation openings).		✓	✓
(i) The two ventilation openings referred to in (h), must meet the following specifications: (aa) be located as specified for the breeze path in the table;			

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(bb) not be more than 15 metres apart; (cc) if the dwelling is below the 10th storey of the building, be at least 1 square metre in size, or if the dwelling is on or above the 10th storey, be at least 0.5 square metres in size and be located above door head level in the room; and (dd) have only 1 doorway, or opening less than 2 square metres in size, located in the direct path between them.			

	Thermal loads		
Dwelling no.	Heating load (in mJ/m ² /yr)	Cooling load (in mJ/m ² /yr)	Corrected Cooling load (in mJ/m ² /yr)
1	4	65	65.0
2	8	59	59.0
5	4	52	52.0
6	5	40	40.0
7	19	42	42.0
8	12	63	63.0
9	16	62	62.0
10	5	75	75.0
11	8	62	62.0
12	12	73	73.0
17	6	72	72.0
3, 4	9	53	53.0
All other dwellings	5	58	58.0

	Cross ventilation			
Dwelling no.	Breeze path 1	Breeze path 2	Breeze path 3	Breeze path 4
All dwellings	-	-	-	-

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
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(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Central energy systems	Type	Specification
Other	Building management system installed?: yes Active power factor correction installed?: no Common area clothes drying line installed?: no	-

2. Commitments for unit building - Building2

(a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on-demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "Hot water recirculation" column of the table below.		✓	✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	Hot water recirculation	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	3 star	3 star	3 star	3 star	no	-	-	-	-	-	-	-	-	-

Dwelling no.	Alternative water source							
	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection	Laundry connection	Pool top-up	Spa top-up
All dwellings	central water tank (no. 1)	See central systems	See central systems	no	yes	yes	no	no
None	-	-	-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓ ✓	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below;		✓	

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and		✓	✓
(cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓	
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan, ducted to façade or roof	manual switch on/off	individual fan, not ducted	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/ toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
All dwellings	1-phase airconditioning 6 Star	1-phase airconditioning 6 Star	1-phase airconditioning 6 Star	1-phase airconditioning 6 Star	2	1	yes	yes	yes	yes	0	no

	Individual pool		Individual spa		Appliances & other efficiency measures							
Dwelling no.	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	electric cooktop & electric oven	-	yes	3.5 star	3.5 star	4 star	yes	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.			
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.			
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Commitment (h) below, applies to the rooms or areas of a dwelling which are listed in the "Cross Ventilation" table below as comprising a breeze path for the dwelling.			
(h) The applicant must construct the dwelling so that at least one ventilation opening is provided in each such room or area. (If only one room or area of a dwelling is mentioned for a breeze path, then that room or area must have at least two ventilation openings).		✓	✓
(i) The two ventilation openings referred to in (h), must meet the following specifications: (aa) be located as specified for the breeze path in the table; (bb) not be more than 15 metres apart; (cc) if the dwelling is below the 10th storey of the building, be at least 1 square metre in size, or if the dwelling is on or above the 10th storey, be at least 0.5 square metres in size and be located above door head level in the room; and (dd) have only 1 doorway, or opening less than 2 square metres in size, located in the direct path between them.			

Thermal loads			
Dwelling no.	Heating load (in mJ/m ² /yr)	Cooling load (in mJ/m ² /yr)	Corrected Cooling load (in mJ/m ² /yr)
13	24	72	72.0

	Thermal loads		
Dwelling no.	Heating load (in mJ/m²/yr)	Cooling load (in mJ/m²/yr)	Corrected Cooling load (in mJ/m²/yr)
16	19	70	70.0
20	23	77	77.0
23	19	75	75.0
14, 15	16	68	68.0
All other dwellings	16	67	67.0

	Cross ventilation			
Dwelling no.	Breeze path 1	Breeze path 2	Breeze path 3	Breeze path 4
All dwellings	-	-	-	-

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
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(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Central energy systems	Type	Specification
Other	Building management system installed?: yes Active power factor correction installed?: no Common area clothes drying line installed?: no	-

5. Commitments for common areas and central systems/facilities for the development (non-building specific)

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	30000	To collect run-off from at least: - 400 square metres of roof area of buildings in the development - 0 square metres of impervious area in the development - 0 square metres of garden/lawn area in the development - 0 square metres of planter box area in the development (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).	- irrigation of 300 square metres of common landscaped area on the site - car washing in 0 car washing bays on the site

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Car Park (Lower, Upper and Secure)	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	compact fluorescent	time clock and motion sensors	Yes
Lift car (No. 1)	-	-	compact fluorescent	connected to lift call button	Yes
Ground floor lobby type (No. 1)	no mechanical ventilation	-	compact fluorescent	time clock and motion sensors	Yes

Central energy systems	Type	Specification
Central hot water system (No. 1)	electric heat pump - gas boosted	Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.6 (~25 mm); (b) Piping internal to building: R0.6 (~25 mm)
Lift (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 5
Other	Building management system installed?: yes Active power factor correction installed?: no Common area clothes drying line installed?: no	-

Notes

1. In these commitments, "applicant" means the person carrying out the development.
2. The applicant must identify each dwelling, building and common area listed in this certificate, on the plans accompanying any development application, and on the plans and specifications accompanying the application for a construction certificate / complying development certificate, for the proposed development, using the same identifying letter or reference as is given to that dwelling, building or common area in this certificate.
3. This note applies if the proposed development involves the erection of a building for both residential and non-residential purposes (or the change of use of a building for both residential and non-residential purposes). Commitments in this certificate which are specified to apply to a "common area" of a building or the development, apply only to that part of the building or development to be used for residential purposes.
4. If this certificate lists a central system as a commitment for a dwelling or building, and that system will also service any other dwelling or building within the development, then that system need only be installed once (even if it is separately listed as a commitment for that other dwelling or building).
5. If a star or other rating is specified in a commitment, this is a minimum rating.
6. All alternative water systems to be installed under these commitments (if any), must be installed in accordance with the requirements of all applicable regulatory authorities. NOTE: NSW Health does not recommend that stormwater, recycled water or private dam water be used to irrigate edible plants which are consumed raw, or that rainwater be used for human consumption in areas with potable water supply.

Legend

1. Commitments identified with a "✓" in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
2. Commitments identified with a "✓" in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
3. Commitments identified with a "✓" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an occupation certificate (either interim or final) for a building listed in this certificate, or for any part of such a building, unless it is satisfied that each of the commitments whose fulfilment it is required to monitor in relation to the building or part, has been fulfilled).

Assessor # 40207

Certificate # 30162368

Issued: 12-Dec-07

Thermal Performance Specifications

These are the Specifications upon which the Certified Assessment is based. If details included in these Specifications vary from other drawings or written specifications, these Specifications shall take precedence. If only one specification option is detailed for a building element, that specification must apply to all instances of that element for the project. If alternate specifications are detailed for a building element, the location and extent of alternate specifications must be detailed below and / or clearly indicated on referenced documents

Windows	Product ID	Glass	Frame	U value	SHGC	Area M ²	Detail
Generic		Single Clear	Aluminum			463	As per plans
Generic		Single Clear Low-e	Aluminum	4.7	0.63	201	As per plans

Skylights	Product ID	Glass	Frame	U value	SHGC	Area M ²	Detail
None							

Window and skylight U and SHGC values, if specified, are according to NFRC. Alternate products or specifications may be used if their U value is lower, and the SHGC value is less than 10% higher or lower, than the U and SHGC values of the product specified above.

External walls	Construction	Insulation	Colour – solar abs.	Detail
Concrete Block 190mm		R1.0	Medium - SA 0.475 - 0.7	All External Walls

Internal walls	Construction	Insulation	Detail
Plasterboard on Studs		None	Partition Walls - Internal
Concrete Block 190mm		None	Partition Walls - Adjoining Unit

Floors	Construction	Insulation	Covering	Detail
Concrete		None	Various	As per plans (Units 1-6, 10-23)
Concrete		R0.5	Various	As per plans (Units 7-9)

Ceilings	Construction	Insulation	Detail
Concrete		None	Internal Ceiling (All Units)
Plasterboard		R3.0	Ceiling to Roof Space (All Units)

Roof	Construction	Insulation	Colour – solar abs.	Detail
Metal Deck		Double Sided Foil	Medium - SA 0.475 - 0.7	All Units

Window cover	Internal (curtains)	External (awnings, shutters, etc)
None		Pull Down Blinds / Timber Battens – As per plans Timber Shutters – As per plans

Fixed shading	Eaves (width - inc. gutters, h't above windows)	Verandahs, Pergolas (type, description)
1200 200	As per plans	Balcony – As per plans
700 0	As per plans	Balcony Soffits Over – As per plans
300 200	As per plans	Building Overhangs – As per plans

Overshadowing	Overshadowing structures	Overshadowing trees
No		No

Orientation, Exposure, Ventilation and Infiltration					
Orientation of nominal north:	58/282	Living area open to entry:	Yes	Ventilated skylights:	No
Terrain category:	Suburban	Doors separate living areas:	No	Open fire, unflued gas heat:	No
Roof ventilation:	Unventilated	Stair open to heated areas:	Yes	Vented downlights:	No
Cross ventilation:	Standard	Seals to windows and doors:	Yes	Wall and ceiling vents:	No
Subfloor:	Retail Below/Elevated > 1m	Exhaust fans without dampers:	No		