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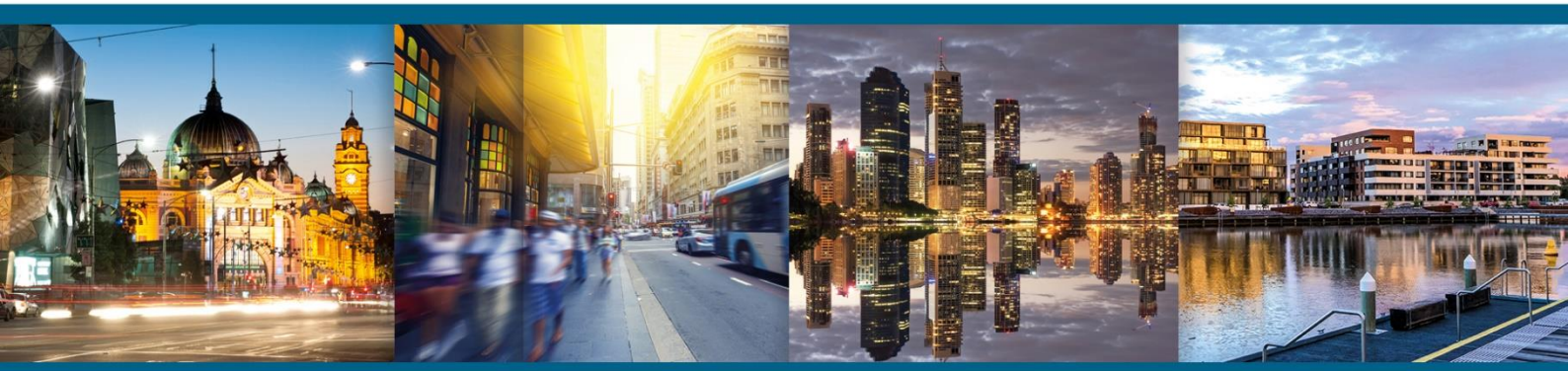
Long Reef Surf Club & Associated Community Facilities

Lot 11 DP 1193189
BCA Assessment Report to Accompany DA Submission



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Introduction

This report presents the findings of a preliminary assessment of the proposed new Long Reef Surf Club & Associated Community Facilities development against the Deemed-to-Satisfy (DtS) provisions of Building Code of Australia (BCA) 2019.

It has been prepared by building regulations consultants and certifiers Steve Watson and Partners for Adriano Pupilli Architects.

Purpose

The assessment is undertaken for the purpose of, and to the extent necessary for, submission with the Development Application to Council.

Scope

The scope of this assessment is limited to the design documentation referenced in Appendix A of this report.

Description of Proposed Development

The proposed works involves the construction of a three separate building consisting of a two-storey SLSC building, a single storey café/storage building and Public amenities building.

Summary of Construction Determination	
BCA Classification	SLSC Building – Class 9b Café building – Class 6 & 7b Amenities Building - Class 10a
Rise in storeys	SLSC Building – 2 Café building – 1 Amenities Building - 1
Type of construction required	SLSC Building 1– Type B Café building – Type C Amenities Building – N/A
Effective height	SLSC Building 1– less than 12m Café building – less than 12m Amenities Building – N/A
Floor area	SLSC Building 1– 993m^2 Café building – 132m^2 Amenities Building – N/A

Assessment

The following is a summary of an assessment of the proposed design against the relevant Deemed-to-Satisfy provision of the BCA.

Section A: General Provisions

The development is proposed to be classified as three separate buildings for the purposes of the BCA assessment.

Section B: Structure

The structural engineering design of the building will be required to comply with the structural provisions of Part B1 of the BCA.

Section C: Fire Resistance

The SLSC Building is required to be Type B construction Please refer to Appendix D, which outlines required FRLs.

Its noted Type B constriction requires floors to comply with either of the following;

- be constructed so that it is at least of the standard achieved by a floor/ceiling system incorporating a ceiling which has a resistance to the incipient spread of fire to the space above itself of not less than 60 minutes; or
- have an FRL of at least 30/30/30; or
- have a fire-protective covering on the underside of the floor, including beams incorporated in it, if the floor is combustible or of metal

The Café building is required to be Type C construction with no FRL required due to their being no fire source features within 3m

The Amenities Building is a class 10a building with no FRL requirements

Proposed floor coverings and any proposed wall and ceiling lining materials must comply with the fire hazard properties nominated in Specification C1.10a of the BCA.

Section D: Access and Egress

Egress from the buildings is capable of complying with Clauses D1.4 and D1.5 of the BCA.

Adriano Pupilli Architects have confirmed on behalf of the client that maximum staff and patron population that will occupy the first floor function area is 320 people. In accordance with Clause D1.6 of the BCA, the available two exit stairs provided are capable of accommodating the maximum population of 320. To ensure that staff and patron numbers do not exceed 320, a management in use strategy is to be developed to ensure all senior staff are aware of the maximum population, with

capacity signage to be displayed in a prominent positon in accordance with clause 98D of the EP&A Regulations.

Any new electrical meters, distribution boards (telecommunications or electrical) in the path of travel must be contained within a non-combustible enclosure with the doorways fitted with smoke seals in accordance with Clause D2.7 of the BCA.

The club store located underneath the stair to first floor of the SLSC building is required to have enclosing walls and ceilings with an FRL of not less than 60/60/60; and access doorway to the enclosed space is fitted with a self-closing –/60/30 fire door in accordance with Clause D2.8 of the BCA.

The construction of the new stairways including goings, risers and slip resistance classification is to comply with Clause D2.13 of the BCA. Landings at the top and bottom of the stairway is to comply with Clause D2.14 of the BCA.

Barriers to prevent falls are to be provided on the first floor balcony in accordance with Clause D2.16 and be certified by a structural engineer against relevant Australian standards.

Handrails are to be provided on both side of the stairs in accordance with Clause D2.17, D3.3 and Clause 11 and 12 of AS1428.1 – 2009.

In accordance With NSW D2.21 (c) the balcony doors on first floor must be readily openable—

(i) without a key from the side that faces a person seeking egress; and
(ii) by a single hand pushing action on a single device such as a panic bar located between 900 mm and 1.2 m from the floor; and
(iii) where a two-leaf door is fitted, the provisions of (i) and (ii) need only apply to one door leaf if the appropriate requirements of D1.6 are satisfied by the opening of that one leaf; and
(iv) where the door is a door in a path of travel providing re-entry to the building from a balcony, terrace or the like, it may be fitted with key-operated fastenings only, the tongues of which must be locked in the retracted position whenever the building is occupied by the public, so the door can yield to pressure.

Access for people with disabilities is to be provided in accordance with the provisions of Part D3 of the BCA and AS1428.1 – 2009. The following details are to be included on construction certificate drawings;

- Compliant access pathway between buildings and from the main point of pedestrian entry at the allotment boundary and assessable car parking spaces;
- Compliant door hardware;
- Compliant latch side clearances on ground floor doors;
- Compliant doorway and glazing luminance contrast;
- TGSI location;
- Lift fit out details (AS1735.12 – 1999: Lift Facilities for People with Disabilities);
- Assessable toilet and shower details;

- Ambulant toilet details;
- Signage location and details; and
- Provide hearing augmentation in the SLSC building if an inbuilt amplification system is installed.

Section E: Services and Equipment

The SLSC Building is required to be served by a fire hydrant system complying with Clause E1.3 of the BCA and AS 2419.1 – 2005. Consideration is to be given to the location of the fire brigade booster assembly. Where located remotely from the buildings the booster assembly is required to be:

- At the boundary of the site and be within sight of the main entrance to the building;
- Adjacent to the principal vehicular access to the site;
- Located not less than 10m from the externa wall of any building served.

The SLSC Building is required to be served by fire hose reels complying with Clause E1.4 of the BCA and AS 2441 – 2005.

The SLSC & Café building will require portable fire extinguishers complying with Clause E1.6 of the BCA and AS 2444 – 2001.

If the SLSC Building is being provided with ducted mechanical ventilation, it must be provided with automatic shutdown (unless the system is non-ducted individual room units with a capacity not more than 1000 L/s and miscellaneous exhaust air systems installed in accordance with Sections 5 and 6 of AS/NZS 1668.1) which does not form part of the smoke hazard management system, on the activation of—

(i) smoke detectors installed complying with Clause 5 of Specification E2.2a

The proposed lift will be required to be one of types identified in Table E3.6a, subject to the limitations on use specified in the Table. The lift also is required to incorporate the accessible features in accordance with Table E3.6b of the BCA.

The SLSC Building will require emergency lighting in accordance with Clauses E4.2 & E4.4 of the BCA and AS 2293.1 – 2005.

The SLSC Building will require exit signage in accordance with Clauses E4.5, E4.6 & E4.8 of the BCA and AS 2293.1 – 2005.

Section F: Health and Amenity

There are adequate facilities for staff and patrons in the SLS building and the Café staff and occupants will have access adequate facilities in the proposed public toilet block. (See appendix E for more details)

An accessible unisex sanitary compartment is required in accordance with Clause F2.4 of the BCA and AS 1428.1 – 2009. A male and female sanitary compartment suitable for a person with an ambulant disability is required in accordance with AS 1428.1 – 2009.

Minimum ceiling heights are to be 2.4m or 2.7m where a room accommodates more than 100 persons, except where 2.1m is permitted in corridors, passageways, bathrooms, sanitary compartments, storerooms or the like.

Artificial lighting is required to all rooms that are frequently occupied, all accessible spaces, all corridors and circulation spaces and path of egress in accordance with AS/NZS 1680.0 – 2009.

Ventilation will be required to all rooms occupied by a person for any purpose by means of natural ventilation complying with Clause F4.6 of the BCA or mechanical ventilation/air-conditioning complying with AS 1668.2 –2012

Section J: Energy Efficiency

The buildings are to be designed to achieve compliance with the relevant provisions of Part J1 to J8 respectively.

Key compliance items include:

- Roof and ceiling construction will be required to achieve compliance with Clause J1.3;
- External wall construction will be required to achieve compliance with Clause J1.5;
- External glazing will be required to achieve compliance with Clause J2.4;
- Building sealing will be required to windows and doors in accordance with the relevant sections Part J3;
- Air-conditioning and mechanical ventilation systems will need to be designed in accordance with the relevant sections of Part J5;
- Artificial lighting and power will need to be designed in accordance with the relevant sections of Part J6;
- Heated water supply system for food preparation and sanitary facilities to be designed and installed in accordance with Part B2 of the Plumbing Code of Australia; and
- Facilities for energy monitoring in accordance with Clause J8.3.

Conclusion

This statement has been provided to accompany the Development Application submission following a preliminary assessment of the proposed design. The development adequately satisfies the intent of being able to comply with the requirements of the BCA for the purpose of DA submission.

We confirm the design as shown on the drawings referenced in Appendix A is capable of achieving compliance with the BCA subject to further detail at the design development stage. The design will be subject to a Construction Certificate to ensure all aspects of the design will comply with BCA requirements including any performance-based determinations.

Appendix A – Referenced Documentation

The following documentation was used in the preparation of this report:

Drawing No.	Title	Issue	Date	Drawn By
003	Site Plan	A	03/12/19	Adriano Pupilli Architects
010	Proposed Ground Floor Plan	A	03/12/19	Adriano Pupilli Architects
011	Proposed First Floor Plan	A	03/12/19	Adriano Pupilli Architects
012	Proposed Roof Plan	A	03/12/19	Adriano Pupilli Architects
013	Proposed Section	A	03/12/19	Adriano Pupilli Architects
014	Proposed Elevations North & South	A	03/12/19	Adriano Pupilli Architects
015	Proposed Elevations East & West	A	03/12/19	Adriano Pupilli Architects

Appendix B – Schedule of proposed statutory Fire Safety Measures

SLSC Building

Statutory fire safety measure	Standard of Performance
Automatic Fire Detection And Alarm System (Smoke Detection System To auto matic shut down)	BCA2019 Clause 5 of Specification E2.2a and AS 1670.1 – 2018
Emergency lighting	BCA2019 Clause E4.2, E4.4 and AS/NZS 2293.1 – 2018
Exit signs	BCA2019 Clause E4.5, NSW E4.6, E4.8 and AS/NZS 2293.1 – 2018
Fire hose reel system	BCA2019 Clause E1.4 and AS 2441 – 2005
Fire hydrant system	BCA2019 Clause E1.3 and AS 2419.1 – 2005
Mechanical Air Handling System (Automatic Shut Down Of Air-Handling System)	BCA2019 Clause E2.2 and AS 1668.1 – 2015
Portable fire extinguishers	BCA2019 Clause E1.6 and AS 2444 – 2001
Warning and operational signs	BCA2019 Clauses D3.6

Cafe Building

Statutory fire safety measure	Standard of Performance
Portable fire extinguishers	BCA2019 Clause E1.6 and AS 2444 – 2001

Note the fire safety schedule will need to be amended subject to finalising the design

Appendix D – Fire-resistance levels

The below table contain the fire-resistance levels (FRL) required under Specification C1.1 of the BCA. Class 6 FRL's are required to both building 1 and 2.

TYPE B CONSTRUCTION: FRL OF BUILDING ELEMENTS				
Building element	**Class of building - FRL:** (in minutes)			
	Structural adequacy/Integrity/Insulation			
	2, 3 or 4 part	5, 9 or 7a	6	7b or 8
EXTERNAL WALL (including any column and other building element incorporated therein) or other external building element, where the distance from any fire-source feature to which it is exposed is-				
For loadbearing parts-				
less than 1.5m	90/90/90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/60/30	120/ 90/60	180/120/90	240/180/120
3 to less than 9 m	90/30/30	120/ 30/30	180/90/60	240/90/60
9 to less than 18 m	90/30/-	120/30/-	180/60/-	240/60/-
18 m or more	- / - / -	- / - / -	- / - / -	- / - / -
For non-loadbearing parts-				
less than 1.5 m	-/90/90	- /120/120	- /180/180	- /240/240
1.5 to less than 3 m	-/60/30	- / 90/60	- /120/90	- /180/120
3 m or more	- / - / -	- / - / -	- / - / -	- / - / -
EXTERNAL COLUMN not incorporated in an external wall, where the distance from any fire-source feature to which it is exposed is-				
less than 3 m	90/ - / -	120/ - / -	180/ - / -	240/ - / -
3 m or more	- / - / -	- / - / -	- / - / -	- / - / -
COMMON WALLS				
and FIRE WALLS	90/90/90	120/120/120	180/180/180	240/240/240
INTERNAL WALLS				
Fire-resisting lift and stair shafts				
Loadbearing	90/90/90	120/120/120	180/120/120	240/120/120
Non-loadbearing	- /90/90	- /120/120	- /120/120	- /120/120
Bounding public corridors, public lobbies and the like-				
Loadbearing	60/60/60	120/ - / -	180/ - / -	240/ - / -
Non-loadbearing	- /60/60	- / - / -	- / - / -	- / - / -
Between or bounding sole-occupancy units-				
Loadbearing	60/60/60	120/ - / -	180/ - / -	240/ - / -
Non-loadbearing	- /60/60	- / - / -	- / - / -	- / - / -
OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES AND COLUMNS				
	60/ - / -	120/ - / -	180/ - / -	240/ - / -
ROOFS	- / - / -	- / - / -	- / - / -	- / - / -

Appendix E – Requirements for Sanitary Facilities

The status of sanitary facilities required by Part F2 of the BCA are set out below:

	Occupant Numbers			WC Required / Provided		Urinal Required / Provided		Basin Required / Provided	
	Total								
SLSC	346 patrons	Male	173	**2**	5	4	4	3	5
		Female	173	**5**	6	N/A		3	5
		Unisex Disabled		**2**	2	N/A		2	2
SLSC	14 staff	Male	7	1	5	-	4	1	6
		Female	7	1	6	N/A		1	6
		Unisex Disabled		2	2	N/A		2	2
total		Male		**3**	5	**4**	4	**4**	5
		Female		**6**	6			**4**	5
		Unisex Disabled		**2**	2			**2**	2

Notes:

1. A common unisex accessible facility may be counted once for both male and female facilities in accordance with Clause F2.2(c) of the BCA;
2. Staff and patrons are permitted to share the same facilities in accordance with Clause F2.3(d) of the BCA;
3. At least one ambulant sanitary compartment must be provided within each the male and female facilities complying with Section 16 of AS1428.1 – 2009.
4. A WC is able to be used in place of a urinal.