

30 September 2019

Turnbull Planning International Pty Limited  
Attention – Claire Waddington  
2301/4 Daydream Street  
**WARRIEWOOD NSW 2102**

Dear Claire,

**By Email**

**Re: 39 Cabbage Tree Road, BAYVIEW NSW 2104; BCA Desktop Assessment**

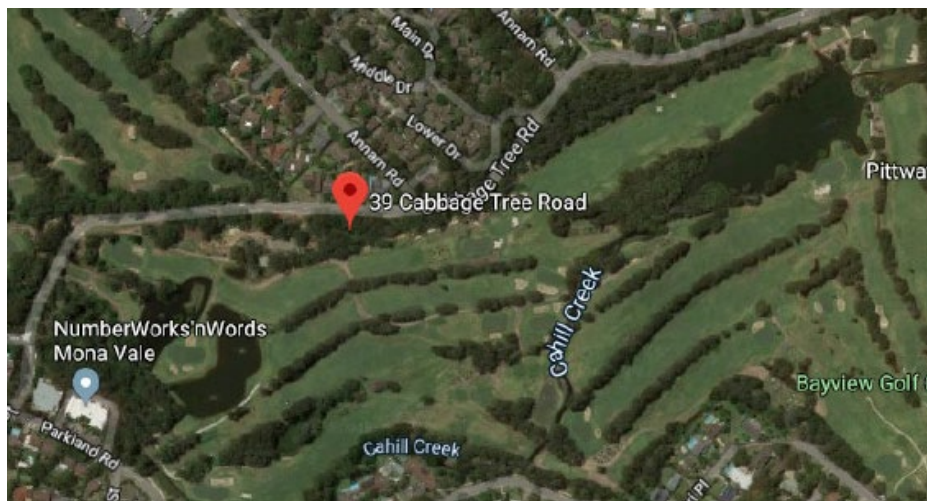
Further to the email dated 29 September 2019 from Blue Sky Building Designs.

**Purpose of Report**

The purpose of this report is to provide a desktop plan study to identify the requirements of the Building Code of Australia for the proposed new commercial use of the existing building against the 'Deemed-to-Satisfy' provisions of the BCA, to identify areas of non-compliance and providing upgrading strategies.

**Location of Premises**

The premises are located on the southern side of Cabbage Tree Road and adjacent to the Bayview Golf Club, BAYVIEW NSW 2104.



Location plan – 39 Cabbage Tree Road, Bayview NSW 2104 – Courtesy of Google Maps

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**All State Building Surveying Pty Ltd**  
**Building Surveying, Fire and Safety Engineering**

**Building Description**

This BCA commentary relates to the proposed new commercial building located at 39 Cabbage Tree Road, BAYVIEW NSW 2104. It is proposed to construct a new three (3) storey indoor recreational complex with associated carparking and amenities.

**BCA Version**

Our reference document is the Building Code of Australia 2019 (BCA) Volume 1 including the NSW variations as applicable.

**Plan Version**

We are in receipt of a copy of architectural plans prepared by Blue Sky Building Designs, dated 27.09.2019, Project Number 2019031, Drawings Numbered A101 – A115, Revision 3 including – Site Plan, Ground Floor Plan, Level 1, Level 2, Elevations and Elevations.

**Compliance Issues with the Building Code of Australia**

For the purposes of our assessment and the BCA, we would describe the building as being a three (3) storey Class 9b building with two (2) levels of amenities etc. and one (1) level of carparking – Class 7a, having a rise in storeys of three (3) and being required to satisfy the requirements of Type B construction.

The comments below are a summary of the issues detailed in the attached table, being -

**1. Fire Resistance and Compartmentation**

In BCA terms, the type of fire-resistant construction required for a building is determined because of both the number of storeys a building exhibits and compliance with the area and volume table in clause C2.2.

In this instance, the proposed building is to be a three (3) storey provided with lightweight external walls and non-combustible roof. The proposal will largely comply with the requirements of Type B construction, subject to the walls achieving the required FRL. Details need to be supplied.

For compartmentation, the application of Table C2.2 is applicable to both the Class 9b and 7a – see table below.

**Table C2.2 MAXIMUM SIZE OF FIRE COMPARTMENTS**

Classification		Type of construction of building		
		Type A	Type B	Type C
5, 9b or 9c <i>aged care building</i>	max <i>floor area</i> —	8 000 m <sup>2</sup>	5 500 m <sup>2</sup>	3 000 m <sup>2</sup>
	max volume—	48 000 m <sup>3</sup>	33 000 m <sup>3</sup>	18 000 m <sup>3</sup>
6, 7, 8 or 9a (except for <i>patient care areas</i> )	max <i>floor area</i> —	5 000 m <sup>2</sup>	3 500 m <sup>2</sup>	2 000 m <sup>2</sup>
	max volume—	30 000 m <sup>3</sup>	21 000 m <sup>3</sup>	12 000 m <sup>3</sup>
<b>Note:</b> See C2.5 for maximum size of compartments in <i>patient care areas</i> in Class 9a <i>health care buildings</i> .				

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**2. Part D – Access and Egress**

**(i) Part D1 – Provision for Escape**

In terms of egress, the proposed building must be provided with at least one (1) exit. In this instance, it is proposed to provide the 1<sup>st</sup> floor level of the building with access to two (2) alternative exits with the Ground and 2<sup>nd</sup> floor levels with access to only one (1) exit.

A single fire isolated internal stairway will serve all floors of the building. The stair will discharge at ground floor level directly to open space onto a pathway, at grade, leading into the roadway.

The 1<sup>st</sup> floor level of the building is provided with an alternative stairway, which is proposed to be attached externally of the building on the western side and will discharge directly to the ground. Direct access to the street is shown on the plan.

The 2<sup>nd</sup> floor level of the building is provided with access to the fire isolated only. Travel distance to the fire-isolated stairs exceed 20m. A performance-based BCA solution will be required to address the issue of travel distances.

For population levels within the building, we have been advised that the total population of the building will not exceed Fifty (50) persons, with a maximum of thirty (30) person to occur the building at any only time.

In accordance with the provisions of D1.13 – Number of persons accommodated; a population count has been estimated for the 2<sup>nd</sup> floor level of the building at a total capacity of approximately 41 persons. This figure is less than 50 persons referred in BCA Clause D1.2 (d) (vi) where a storey or mezzanine that accommodates 50 or more person, is required to be served by 2 exits.

In terms of travel distance, within the building to the nominated exits, are considered to be BCA compliant.

**(ii) Part D2 – Construction of Exits**

In terms of compliance with Part D2, the plans are not detailed sufficiently to make comment about those matters and in any case, the construction phase of the project will enable compliance with these matters.

**(iii) Part D3 – Access for People with Disabilities**

In terms of Part D3 – Access for People with Disabilities, we note, the plans are sufficiently detailed to see that street access will be provided into the allotment, as well as, to each level of the building being served by an internal passenger lift. The construction phase of the project will enable compliance with these matters.

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**3. Services and Equipment**

In terms of services and equipment, we note that the total floor area of building is approximately, 605m<sup>2</sup>. The BCA requires building with a floor area greater than 500m<sup>2</sup> to be provided with access to a hydrant system, fire hose reels, and portable fire extinguishers, emergency lighting and illuminated exit and directional signage.

In terms of Fire Hydrants, the use of street hydrants is permissible provided the coverage and water pressure level requirements of AS 2419.1 are satisfied, then internal hydrants of the property may not be required.

In terms of Fire Hose Reels, where no internal (of the property) fire hydrants are provided and a fire compartment exceeds 500m<sup>2</sup> in area, fire hose reels are required to be provided to the building and within 4mts of an exit.

In terms of smoke control, the install of a smoke detection and alarm will address the issue of smoke control, provided an Occupant Warning System compliant with AS 1670.1 is also provided.

In terms of passenger lifts, details are required to determine compliance with Part E3 of the BCA.

In terms of emergency lighting and illuminated exit and directional signage, details are required to determine compliance with Part E4 of the BCA.

**4. Health and Amenity**

In terms of Health and Amenity, we note that the plans are not detailed sufficiently to make a comment, other than to note, that compliance with this section of the BCA needs to be achieved. It is noted that the building will need to be provided with a system of mechanical ventilation and electric lighting.

In terms of sanitary facilities, we note from the plans the following, being –

(a) Patrons

	W/C	H/basins	Urinals	Shower
Male	3	2	2	2
Female	4	3		2

(b) Staff – Unsex facilities maybe provided for up to 10 employees

(c) Accessible – provided separately at levels 1 and 2

**5. Energy Efficiency**

In terms of Energy Efficiency, we note the plans are not detailed sufficiently to make a comment, other than to note, that compliance with this section of the BCA needs to be achieved.

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**Summary**

In our view, the proposed building is readily able to satisfy the performance requirements of the BCA subject to items mentioned in this report.

Thank you once again for this opportunity to be of assistance and for any additional information, please contact the undersigned.

Yours faithfully,

**All State Building Surveying Pty Ltd**



**Sean O'Brien, Managing Director**

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**Attachments**

1. BCA Check List Report
2. Proposed Fire Safety Measure Table

**PROJECT – Class 9b & 7a;**  
**ADDRESS – 39 Cabbage Tree Road, Bayview**

## BCA CHECKLIST 2019

### Part A – General

CLASSIFICATION	A1.3	Use		Class 9b & 7a
				Gym and Carpark

### Part C – Fire Resistance

	Clause	Compliant?	Comment	Work required
RISE IN STOREYS	C1.2	Noted	3	
TYPE OF CONSTRUCTION	C1.1	Complies	Type B	
FRLs REQUIRED	Spec C1.1	120/120/120		
EXTERNAL WALLS	Spec C1.1	120/120/120	FI	Construction
COMPARTMENTATION	C2.2	Complies		
FIRE WALLS AFFECTED	C2.7	120/120/120	N/A	
OPENINGS IN EXTERNAL WALLS	C3.2	Noted		
PROTECTION OF OPENINGS	C3.4	Noted	Complies	
OPENINGS IN FIRE WALLS	C3.5	Fire Rated	N/A	
BOUNDING CONSTRUCTION	C3.11	N/A		

### Part D1 – PROVISION FOR ESCAPE

NO OF EXITS NEEDED	D1.2	Complies	1 Needed	2 provided
FIRE ISOLATED	D1.3	Complies		3 levels joined
TRAVEL DISTANCES	D1.4	Complies		
DISTANCE BETWEEN EXITS	D1.5	Complies		
EXIT DIMENSIONS	D1.6	Complies		
FIRE ISOLATED STAIRS	D1.7	Complies		
EXTERNAL STAIRS	D1.8	Complies		
NON-FIRE ISOLATED STAIRS	D1.9	N/A		
DISCHARGE FROM EXITS	D1.10	Complies		
HORIZONTAL EXITS	D1.11	N/A		
NON-REQUIRED STAIRS	D1.12	Noted		
PERSONS ACCOMMODATED	D1.13	Noted	50	See comment
DISTANCE MEASUREMENT	D1.15	Noted		

### Part D2 - CONSTRUCTION OF EXITS

FIRE ISOLATED STAIRS	D2.2	FI		Materials
NON-FIRE ISOLATED STAIRS	D2.3	FI		Materials
SEPARATION OF STAIRS	D2.4	N/A		
SMOKE LOBBIES	D2.6	N/A		
INSTALLATIONS IN EXITS	D2.7	FI		Design
ENCLOSURE under stairs	D2.8	Noted		
WIDTH OF STAIR	D2.9	Complies		
RAMP GRADE max 1:8	D2.10	Noted		
FIRE ISOLATED PASSAGEWAYS	D2.11	N/A		
ROOF as OPEN SPACE	D2.12	N/A		
TREADS & RISERS	D2.13	FI		Design
LANDINGS	D2.14	FI		Design
THRESHOLDS	D2.15	FI		Design

**CONSTRUCTION OF EXITS (cont.)**

BALUSTRADES	D2.16	FI		Design
HANDRAILS	D2.17	FI		Design
FIXED PLATFORMS	D2.18	N/A		
DOORWAYS & DOORS	D2.19	Noted		
DOOR SWINGS	D2.20	Noted		
RE-ENTRY FROM EXITS	D2.22	N/A		
SIGNS	D2.23	FI		
PROTECTION OPENABLE WINDOWS	D2.24	N/A		
CONCESSION TIMBER STAIRS	D2.25	N/A		

**Part D3 - ACCESS FOR DISABLED**

ACCESS REQUIREMENTS	D3.1	Noted		
ACCESS TO BUILDINGS	D3.2	Complies		
PARTS OF BUILDING ACCESSIBLE	D3.3	Complies		
CONCESSIONS	D3.4	Noted		
CAR PARKING	D3.5	Complies		
IDENTIFICATION OF FACILITIES	D3.6	FI		Design
HEARING HELP SYSTEM	D3.7	FI		Design
TACTILE INDICATORS	D3.8	FI		Design
WHEELCHAIR SEATING 9B	D3.9	N/A		
SWIMMING POOL	D3.10	N/A		
RAMPS	D3.11	N/A		
GLAZING IN ACCESSWAYS	D3.12	FI		Design

**Part E1 - FIRE FIGHTING EQUIPMENT**

HYDRANTS	E1.3	Internal	TBC	TFA approx. 605m <sup>2</sup>
HOSE REELS	E1.4	Required	TBC	
SPRINKLERS	E1.5	Required	TBC	See D1.3 & Spec E1.5
PORTABLE EXTINGUISHERS	E1.6	Required	TBC	

**Part E2 - SMOKE HAZARD MANAGEMENT**

PROVISION FOR SMOKE HAZARDS	E2.2	Required	TBC	SD&A
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**Part E3 - LIFT INSTALLATIONS**

LIFT INSTALLATIONS	E3.1	Required	TBC	Specification E3.1
STRETCHER FACILITY	E3.2	N/A		
FIRE USE WARNING	E3.3	Required	TBC	Signage
EMERGENCY LIFTS	E3.4	N/A		
LANDINGS	E3.5	Required	TBC	Section D
DISABILITIES FACILITIES	E3.6	Required	TBC	Dimensions
FIRE SERVICE CONTROLS	E3.7	N/A		
RESIDENTIAL CARE	E3.8	N/A		
FIRE SERVICE RECALL	E3.9	N/A		
FIRE SERVICE DRIVE	E3.10	N/A		

**Part E4 - EMERGENCY LIGHTING, EXITS SIGNS & WARNING SYSTEMS**

EMERGENCY LIGHTING NEEDS	E4.2	Required	TBC	Through building
DISTANCE	E4.3	Noted		
DESIGN & OPERATION	E4.4	Noted		
EXIT SIGNS	E4.5	Required	TBC	Over Exits
DIRECTION SIGNS	E4.6	Required	TBC	Through building
CLASS 2 & 3 BUILDINGS	E4.7	N/A		
DESIGN & OPERATION	E4.4	Noted		
COMMUNICATION SYSTEMS	E4.9	N/A		

**Part F2 - HEALTH & AMENITY**

NO. OF FIXTURES	F2.2	Noted		
FACILITIES IN CLASS 3-9	F2.3	Complies		
DISABILITIES FACILITIES	F2.4	Complies		
TOILET CONSTRUCTION	F2.5	FI		Design
MICROBIAL CONTROLS	F2.7	Noted		
WASTE MANAGEMENT	F2.8	Noted		

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**Part F3 - ROOM SIZES**

SIZES OF ROOMS	F3.0	Noted		
HEIGHTS	F3.1	Complies		

**Part F4 - LIGHT & VENTILATION**

PROVISION OF NATURAL LIGHT	F4.1	Noted		
EXTENT OF NATURAL LIGHT	F4.2	N/A		
ARTIFICIAL LIGHTING	F4.4	Required	TBC	Through building
VENTILATION	F4.5	Required	TBC	Through building
NATURAL VENTILATION	F4.6	Noted		
WATER CLOSET POSITIONS	F4.8	Noted		
AIRLOCKS	F4.9	Noted		
CAR PARKS	F4.11	N/A		
KITCHEN ETC EXHAUSTS	F4.12	N/A		



39 Cabbage Tree Road, Bayview  
Fire Safety Measures Table

Proposed Fire Safety Measure

<b>No.</b>	<b>Element</b>	<b>Design Standard</b>	<b>Maintenance Standard</b>
01.	Exit Door	BCA Part D1	BCA Part D1
02.	Latches	BCA Part D2	BCA Part D2
03.	Path of Travel	BCA Part D1	BCA Part D1
04.	Hydrants	BCA Part E1 AS 2419.1	AS 1851
05.	Fire Hose Reels	BCA Part E1 AS 2441	AS 1851
06.	Portable Fire Extinguishers	BCA Part E1, AS 2444	AS 1851
07.	Emergency Lighting	BCA Part E4, AS 2293.1	AS 2293.2
08.	Exit Signs	BCA Part E4, AS 2293.1	AS 2293.2
09.	Illuminated Directions Signs	BCA Part E4, AS 2293.1	AS 2293.2
10.	Smoke Detection & Alarm	BCA Part E2, AS 1670.1	AS 1670.1