



# Building Audit Report

Date: 30 April 2010

Prepared for: Your New or Existing Building Development

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## 1.0 BASIS OF ASSESSMENT

### 1.1 Location and Building Description

Your Building address

The development consists of a single storey motor showroom building. The building is to be constructed of portal steel frame construction with a mixture of colorbond and fibre cement external wall sheeting with a colorbond roof.

### 1.2 Purpose of Building Report

This report has been prepared as a Building Audit, on behalf of you the developer.

The purpose of this report is to:

- To undertake a Building Audit to identify the relevant Deemed-to-Satisfy Provisions of the Building Code of Australia (BCA) in relation to Clauses C, D and E, to identify any non-compliance with the proposed development; and
- To identify and recommend the proposed fire safety measures for the building.

### 1.3 Building Code of Australia (BCA)

This report is based on the Deemed-to-Satisfy Provisions of the Building Code of Australia 2009 and the NSW variations where applicable at the time of approval.

### 1.4 Report Limitations

This report does not include nor imply any detailed or assessment for design compliance for:-

1. the structural adequacy or design of the building;
2. the inherent derived fire-resistance ratings of any existing structural elements of the building (unless specifically referred to);
3. the design basis and/or operating capabilities of any existing or proposed electrical, mechanical or hydraulic fire safety measure (unless specifically referred to); and
4. fire safety upgrading of the existing building (unless specifically referred to).

This report does not include, imply or compliance with:

1. The Disability Discrimination Act and Part D3 BCA;
2. Demolition Standards not referred to by the BCA;
3. Occupational Health and Safety Act;
4. Construction Safety Act;
5. Requirements of other Regulatory Authorities including, but not limited to, Telstra, Water Authority, Electricity Authority, WorkCover, RTA, Council and the like; and
6. Conditions of Development Consent.

**Note:** "The contents of this report is provided for information only to demonstrate the types of compliance, non-compliance and safety measures that may be required to be installed in a building of this design when referencing the Deemed-to-Satisfy provisions of the Building Code of Australia".

### 1.5 Design Documentation

This report has been based on the following documentation;

- Architectural plan nos. 5, 6, 7, 8, 13 & 14 prepared by your architect;
- The Environmental Planning and Assessment Regulation 2000.

## **2.0 BUILDING DESCRIPTION**

For the purposes of the Building Code of Australia the development may be described as follows;

### **2.1 Rise in storeys**

The building has a rise in storeys of 1.

**Note:** The mezzanine floor area is less than 200m<sup>2</sup> and therefore is not considered to be a storey (Refer to Clause C1.2 (d) of the BCA).

### **2.2 Classification**

The building classification is Class 6 "Motor showroom".

### **2.3 Effective Height**

The building has an effective height of less than 25m.

### **2.4 Type of Construction**

Type C Construction applies in accordance with Table C1.1 of the BCA for Class 6 buildings.

## 3.0 BUILDING CODE OF AUSTRALIA ASSESSMENT (BCA)

Item	Description	Status	Comments
<b>SECTION C</b>	<b>FIRE RESISTANCE</b>	Applies	
<b>PART C1</b>	<b>FIRE RESISTANCE AND STABILITY</b>		
C1.1	Type of Construction	Type C Construction	The building fabric complies with the Type C construction requirements identified in Specification C1.1, Table 5 for a building of this Classification.
	Fire Source features		
	<ul style="list-style-type: none"> <li>External Wall to North Boundary</li> </ul>	Applies > 1.5m	Complies
	<ul style="list-style-type: none"> <li>External Wall to South Boundary</li> </ul>	Applies < 1.5m	The external wall within 1.5m of the northern boundary is to be provided with an FRL of 90/90/90.  <b>Comments:</b> The proposed fire check and fibre cement external construction is capable of complying with this provision.
	<ul style="list-style-type: none"> <li>External Wall to East Boundary</li> </ul>	Applies > 6m to far side of road (Maitland Road)	Complies
	<ul style="list-style-type: none"> <li>External Wall to West Boundary</li> </ul>	Applies > 3m	Complies
	<ul style="list-style-type: none"> <li>Other buildings on site</li> </ul>	N/A	N/A
Spec C1.1	Fire-resisting construction		
2	General Requirements	Noted	Noted
3	Type A Fire-Resisting Construction	N/A	N/A
4	Type B Fire-Resisting Construction	N/A	N/A
5	Type C Fire-Resisting Construction	Applies	Capable of complying
C1.2	Rise in storeys		1 Storey
C1.3	Mixed class & top most storey	N/A	N/A
C1.5	Two storey Class 2, 3 or 9 buildings concession	N/A	N/A
C1.6	Class 4 parts of buildings	N/A	N/A
C1.7	Open spectator stands and indoor sports stadiums	N/A	N/A
C1.8 and Specification C1.8	Lightweight construction	N/A	N/A
C1.10 and Spec C1.10 & C1.10a	Fire hazard properties	Applies	Capable of complying
C1.11 and Specification C1.11	Performance of external walls in fire	N/A	N/A
C1.12	Non-combustible materials	Noted	Noted

Item	Description	Status	Comments
<b>PART C2</b>	<b>COMPARTMENTATION AND SEPARATION</b>		
C2.2	General floor area and limitations	Applies	The max floor area limitations generally comply with Type C construction for the design. Note: The volume limitations of these buildings have not been calculated as part of this assessment.
C2.3	Large isolated buildings	N/A	N/A
C2.4	Requirements for open spaces and vehicular access	N/A	N/A
C2.5	Class 9a buildings	N/A	N/A
C2.6	Vertical separation of openings in external walls	N/A	N/A
C2.7	Separation by fire walls	N/A	N/A
C2.8	Separation of classifications in the same storey	N/A	N/A
C2.9	Separation of classifications in different storeys	N/A	N/A
C2.10	Separation of lift shafts	N/A	N/A
C2.11	Stairways and lifts in one shaft	N/A	N/A
C2.12	Separation of equipment	N/A	N/A
C2.13	Electricity supply system	Applies	<p>The architectural plans do not indicate a main switch room to be located in the building.</p> <p><b>Comments:</b> If a switch room is to be proposed it is to be enclosed with an FRL of 120/120/120 and - /120/30 self-closing (tagged) fire doors complying with the requirements of this clause.</p> <p>It should be noted that a 5kg Co2 portable fire extinguisher is to be located in the room.</p> <p>Capable of complying</p>
C2.14	Public corridors in Class 2 and 3 buildings	N/A	N/A

Item	Description	Status	Comments
<b>PART C3</b>	<b>PROTECTION OF OPENINGS</b>		
C3.2(a) NSW deleted	Protection of openings in external walls that are required to have an FRL	N/A	N/A
C3.3	Separation of openings in different fire compartments	N/A	N/A
C3.4	Acceptable methods of protection	N/A	N/A
C3.5	Doorways in fire walls	N/A	N/A
C3.6	Sliding fire doors	N/A	N/A
C3.7	Protection of doorways in horizontal exits	N/A	N/A
C3.8	Openings in fire isolated exits	N/A	N/A
C3.9	Service penetrations in fire isolated exits	N/A	N/A
C3.10	Openings in fire isolated lift shafts	N/A	N/A
C3.11 NSW C3.11(d)	Bounding construction: Class 2, 3 & 4 buildings	N/A	N/A
C3.12	Openings in floors for services	N/A	N/A
C3.15	Openings for service installations	N/A	N/A

SECTION D	ACCESS & EGRESS		
<b>PART D1</b>	<b>PROVISION FOR ESCAPE</b>		
D1.1	Application of part	Applies	
D1.2	Number of Exits required	Class 6 - 1 exit is required.	4 exits are evenly distributed throughout the motor showroom including the exit at the top of the mezzanine landing.  Complies
D1.3	When fire isolated exits are required	N/A	The building has been designed so that the required stairway exits are not required to be fire isolated.
D1.4	Exit travel distances	Applies	Class 6 – The travel distances does not exceed 20m to a single exit serving the mezzanine level.  No point on the floor within the showroom/service area is not more than 20m to a single exit or from a point at which travel in different directions to two (2) exits are available.  Complies
D1.5	Distance between alternative exits	Applies	Class 6 – Not less than 9m apart or not more than 60m apart.  Complies
D1.6	Dimensions of exits	Applies	Comply
D1.7	Travel via isolated exits	N/A	N/A
D1.8	External stairways	N/A	N/A
D1.9	Travel by non fire isolated stairways or ramps	Applies	Complies
D1.10	Discharge from exits	Applies	Complies  <b>Note:</b> General housekeeping ensure that exits are kept clear and un-obstructed at all times.
D1.11	Horizontal exits	N/A	N/A
D1.12 and Specification C1.12	Non required stairways, ramps or escalators	N/A	N/A
D1.13	Number of persons accommodated	Applies	Mezzanine = 19 people  Motor showroom = 192 people  Service/parts = 23 people  Total = 234 people  The exit widths equate for these occupant numbers.  Complies
D1.14 & D1.15	Measurement of distances and method of measurement	Noted	Noted
D1.16	Plant rooms and lift motor rooms: concession	N/A	N/A
D1.17	Access to lift pits	N/A	N/A

<b>PART D2</b>	<b>CONSTRUCTION OF EXITS</b>		
D2.1	Application of part	Applies	
D2.2	Fire isolated stairways and ramps	N/A	N/A
D2.3	Non-fire isolated stairways and ramps	N/A	The building does not have a rise in storeys of more than 2. Therefore, the limitations to the construction of the non-fire isolated stairs do not apply.
D2.4	Separation of rising and descending stair flights	N/A	N/A
D2.5	Open access ramps and balconies	N/A	N/A
D2.6	Smoke lobbies	N/A	N/A
D2.7	Installations in exits and paths of travel	Noted	Noted
D2.8	Enclosure of space under stairs and ramps	Applies	<p>The space below the required non-fire isolated stairway leading from the mezzanine area must not be enclosed to form a cupboard unless -</p> <ul style="list-style-type: none"> <li>- The enclosing walls and ceilings have an FRL of not less than 60/60/60, and</li> <li>- any access doorway to the enclosed space is fitted with a self-closing -/60/30 fire door.</li> </ul> <p>Capable of complying</p>
D2.9	Width of stairways	Applies	1m complies.
D2.10	Pedestrian ramps, Also reference Part D3 and AS1428.1	N/A	N/A
D2.11	Fire isolated passageways	N/A	N/A
D2.12	Roof as open space	N/A	N/A
D2.13	Treads and risers	Applies	Capable of complying
D2.14	Landings	Applies	Capable of complying
D2.15	Thresholds	Applies	Capable of complying
D2.16	Balustrades	N/A	N/A
D2.17	Handrails	Applies	Capable of complying
D2.18	Fixed platforms, walkways, stairways and ladders	N/A	N/A
D2.19	Doorways and doors	Applies	<p>All doors serving or forming part of a required exit swing in the direction of egress complying with the clause.</p> <p>The proposed automatic sliding exit doors must be able to be opened manually under a force of not less than 110N if there is a malfunction or failure of the power source and as they lead directly to road or open space must open automatically if there is a power failure to the door.</p> <p>Capable of complying</p>

D2.20	Swinging doors	Applies	Exit doors swing in the direction of egress. Complies
D2.21	Operation of latch	Applies	Lever downward action latching devices to be provided to all exit swing doors. Capable of complying
D2.22	Re-entry from fire isolated exits	N/A	N/A
D2.23	Signs on doors	N/A	N/A

Item	Description	Status	Comments
D2.5	Open access ramps and balconies	N/A	N/A
D2.6	Smoke lobbies	N/A	N/A
D2.7	Installations in exits and paths of travel	Noted	Noted
D2.8	Enclosure of space under stairs and ramps	Applies	<p>The space below the required non-fire isolated stairway leading from the mezzanine area must not be enclosed to form a cupboard unless -</p> <ul style="list-style-type: none"> <li>- The enclosing walls and ceilings have an FRL of not less than 60/60/60, and</li> <li>- any access doorway to the enclosed space is fitted with a self-closing -/60/30 fire door.</li> </ul> <p>Capable of complying</p>
D2.9	Width of stairways	Applies	1m complies.
D2.10	Pedestrian ramps, also reference Part D3 and AS1428.1	N/A	N/A
D2.11	Fire isolated passageways	N/A	N/A
D2.12	Roof as open space	N/A	N/A
D2.13	Treads and risers	Applies	Capable of complying
D2.14	Landings	Applies	Capable of complying
D2.15	Thresholds	Applies	Capable of complying
D2.16	Balustrades	N/A	N/A
D2.17	Handrails	Applies	Capable of complying
D2.18	Fixed platforms, walkways, stairways and ladders	N/A	N/A
D2.19	Doorways and doors	Applies	<p>All doors serving or forming part of a required exit swing in the direction of egress complying with the clause.</p> <p>The proposed automatic sliding exit doors must be able to be opened manually under a force of not less than 110N if there is a malfunction or failure of the power source and as they lead directly to road or open space must open automatically if there is a power failure to the door.</p> <p>Capable of complying</p>
D2.20	Swinging doors	Applies	<p>Exit doors swing in the direction of egress.</p> <p>Complies</p>
D2.21	Operation of latch	Applies	<p>Lever downward action latching devices to be provided to all exit swing doors.</p> <p>Capable of complying</p>
D2.22	Re-entry from fire isolated exits	N/A	N/A
D2.23	Signs on doors	N/A	N/A

SECTION E	SERVICES AND EQUIPMENT		
PART E1	FIRE FIGHTING EQUIPMENT		
E1.3	Fire Hydrants	Applies	<p>A hydrant system with two external hydrant landing valves is to be provided to the perimeter of the building.</p> <p><b>Note:</b> The hydrant system is to be provided with the following in accordance with AS2419.1-2005;</p> <ul style="list-style-type: none"> <li>• An adequate block plan is to be displayed which illustrates the flow rates, landing valves, isolation valves and the height above ground level at the most disadvantaged landing valve;</li> <li>• The hydrant and landing valves are to be located a minimum of 10m from the building;</li> <li>• Landing valves are to be fitted with 65mm storz fittings;</li> <li>• The hydrant system is required to have backflow tested annually.</li> </ul> <p>Capable of complying</p>
E1.4	Hose reels	Applies	<p>The building is to be provided with a fire hose reel system. An indicative plan of the fire hose reel locations has been provided for your assistance.</p> <p>The hose reels system is to comply with this clause and the installation standard of AS2441.1-2005.</p> <p><b>Note:</b> Adequate signage is to be provided.</p> <p>Capable of complying</p>
E1.5 and Specification E1.5 – Fire Sprinkler Systems	Sprinklers	N/A	<p>The use does not permit a hazard that would require this installation.</p>
E1.6	Portable fire extinguishers	Applies	<p>Portable fire extinguishers are to be provided within the building to cover Class A, B and E hazards in accordance with this Clause and AS2444-2001.</p> <p><b>Note:</b> Adequate signage is to be provided.</p> <p>Capable of complying</p>
E1.8 and Specification E1.8 – Fire Control Centres	Fire control centres	N/A	N/A

E1.9	Fire precautions during construction	Applies	Portable fire extinguishers are to be provided on the construction site.
E1.10	Provision for special hazards	N/A	The use does not permit a hazard that would require this installation.

Item	Description	Status	Comments
<b>PART E2</b>	<b>SMOKE HAZARD MANAGEMENT</b>		
E2.1	Application of part	Noted	Noted
E2.2 and Specification E2.2a – Smoke Detection and Alarm Systems; Specification  NSW E2.2b – Smoke Exhaust Systems; Specification  E2.2c – Smoke and Heat Vents	General requirements	N/A  N/A  N/A	N/A  N/A  N/A
E2.3	Provision for special hazards	N/A	The use does not permit a hazard that would require this installation.
<b>PART E3</b>	<b>LIFT INSTALLATIONS</b>		
E3.2	Stretcher facility in lifts	N/A	N/A
E3.3	Warning against use of lifts in fire	N/A	N/A
E3.4	Emergency lifts	N/A	N/A
E3.5	Landings	N/A	N/A
E3.6	Facilities for people with disabilities	N/A	N/A
E3.7	Fire service controls	N/A	N/A
E3.8	Aged care buildings	N/A	N/A
<b>PART E4</b>	<b>EMERGENCY LIGHTING, EXIT SIGNS AND WARNING SYSTEMS</b>		
E4.2	Emergency lighting requirements	Applies	The building is to be provided with emergency lighting in accordance with this clause and AS2293.1-2005.  <b>Note:</b> An indicative emergency lighting plan has been prepared for your assistance.  Capable of complying.
E4.5	Exit signs	Applies	The building is to be provided with exit signage in accordance with this clause and AS2293.1-2005.  <b>Note:</b> An indicative emergency exit lighting plan has been prepared for your assistance.  Capable of complying.
E4.6	Direction signs	Applies	The building is to be provided with directional exit signage in accordance with this clause and AS2293.1-2005.  <b>Note:</b> An indicative emergency exit lighting plan has been prepared for your assistance.  Capable of complying.

Item	Description	Status	Comments
E4.7	Class 2 and 3 buildings and Class 4 parts: exemptions	N/A	N/A
E4.9	Sound systems and intercom systems for emergency purposes	N/A	N/A

**Legend:**

N/A	= Not applicable
Applies	= Applicable for project
Complies	= Compliant
Capable	= Capable of Compliance with design
Non compliant	= Design does not comply with Deemed-to-Satisfy provisions of BCA

#### 4.0 CONCLUSION

The proposed development generally complies with the deemed-to-satisfy provisions of the Building Code of Australia (BCA).

However, the report identifies several areas where additional information and modification of plans will be required to satisfy the deemed-to-satisfy provisions of the BCA.

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#### Reviewed by

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## APPENDIX A

### FIRE SAFETY SCHEDULE

Fire Safety Measures	Existing Standard of Performance	Proposed Standard of Performance
Emergency lighting		BCA E4.2, E4.4 & AS/NZS2293.1 - 2005
Exit signs		BCA E4.5, E4.6, E4.8 & AS/NZS2293.1 – 2005
Fire doors (located in space below non-fire isolated stairway leading to mezzanine)		BCA D2.8 & AS1905.1-2005
Lightweight construction (surrounding space beneath non-fire isolated stairway leading to mezzanine)		BCA C1.8, D2.8 & Spec C1.8
Fire hydrant systems		BCA E1.3 & AS2419.1 – 2005
Required automatic sliding exit door (main entry & showroom and service pickup exits)		BCA D2.19 and Manufacturers specifications
Hose reel system		BCA E1.4 & AS2441 – 2005
Portable fire extinguishers		BCA E1.6 & AS2444-2001