

## Lacrosse Building Fire

673 La Trobe Street, Docklands on

25 November 2014



Photo: CITYSCOPE

Photo Prior To Fire



Photo Post Fire

Giuseppe Genco

**Municipal Building Surveyor**

City of Melbourne

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## Executive Summary

The Lacrosse building, situated at 673 La Trobe Street Docklands, is a twenty three (23) storey mixed-use building which includes fifteen levels of apartments. Levels six to twenty-one were affected by fire and many more were affected by water damage. There are approximately fifteen apartments per level.

A fire took place in the early hours of the morning of 25 November 2014. The fire at the Lacrosse building is a first in Melbourne in that it directly affected approximately 450 to 500 people who required immediate evacuation and accommodation. In addition the fire spread vertically and was not contained in the room or area of fire origin. Fortunately in this incident there were no fatalities or serious injuries.

The fire and subsequent investigation raise a number of questions relating to:

- The compliance of the building to the Building Code of Australia (BCA);
- The number of occupants contained within the building;
- The external wall cladding system used and whether it has been approved and accredited.

The objective of current building legislation (the Building Act and Building Regulations) is to keep people safe and to regulate minimum building standards. The spread of the fire in this incident brings into question the ability of building legislation, including the regulatory process, to minimise the impact of such an event. The Act and Regulations also provide a process of how the MBS can bring the building into conformity with the Act and the BCA.

Inspections after the fire raised questions about materials used on the external façade wall. A post incident analysis (PIA) has been undertaken by the Melbourne Metropolitan Fire Brigade (MFB) which identified that the external wall between the balcony and bedroom was **not** non-combustible. This is contrary to the prescriptive requirements of the Building Code of Australia (BCA) for Type A construction.

A review of the documentation lodged by the Private Building Surveyor with Council has highlighted the following:

- That the documentation does not provide sufficient detail to determine if the wall was designed to be non-combustible or not,
- The occupancy permit was limited to approximately 36 persons per floor for levels 6-21,
- There is no evidence within the fire engineering design report as to whether this wall was considered to be not non-combustible.
- No specific documentation lodged by Private Building Surveyor with Council, proving that the wall system was approved or accredited.

It was observed during the inspection that some apartments were being utilised as multiple accommodation units on a commercial basis, with some apartments containing 6 to 8 beds. An increase in the density of population without heightened warning systems may lead to the MFB being caught unaware for the extent of occupants in case of evacuation and the potential for the occupants to not evacuate in time.

The principal legislation dealing with fire safety, basic amenities and sustainability, is contained in Building legislation. Planning and Health are involved however, more so with the impact of amenities on surrounding properties and registration plus cleanliness of rooming houses.

In assessing the steps involved in the approval process and also the use of the building, containing more people than anticipated per floor and the use of short term commercial accommodation, it is considered that the current regime of the Building Act and Building Regulations plus BCA does not manage well complex buildings and the way they are used today.

In addition, the ability for the MBS to bring buildings into compliance is cumbersome, requiring in this case, the serving of notices on 300+ property owners – a consequence of the enforcement provisions of Part 8 of the Act where directions are required against each individual owner.

The key areas highlighted that are recommended for review are:

- The product accreditation process is not widely utilised in Australia and the constant introduction of new range of products being used by the building industry each year suggests the policing of these products is unchecked.
- The use of non-accredited products within the building industry which may go largely unchecked.
- Clearer definition is required of what constitutes the use of a Class 2 apartment building and a Class 3 commercial accommodation building (or part thereof) and whether the technical regulations cater for their respective use. In particular where multiple apartments have occupant numbers higher than one would consider the norm for apartment dwellings.
- Method of how the design parameters which are assumed by fire engineers for alternative solutions are clearly transferred onto occupancy permits. In particular in this case design parameters such as occupant characteristics and reliance on prescriptive requirements.
- The relevance of an occupancy permit which was issued prior to subdivision of a building is questionable, particularly in relation to occupancy numbers and the ability to ensure compliance with the Building Act 1993.
- Review Part 8 of the Building Act 1993, taking into consideration the Sub-division Act, how buildings are currently being occupied, and how the enforcement provision can be improved.
- Provision of Warranty insurance for apartment buildings, and the type of warranty insurance taking into consideration the increase in higher density living.

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## 1.0 PURPOSE

The purpose of this report is to provide details of inspections and actions taken by the Municipal Building Surveyor's office as a result of fire in the Lacrosse Apartments, on the 25 November 2014. As a result of further testing of a building component this report will also comment on and highlight shortfalls in the current Building Regulatory Framework during the approval process and also subsequent process required to make the building compliant.

## 2.0 DEFINITIONS

'The Act'	Building Act 1993
'Regulations'	Building Regulations 2006
'NCC'	National Construction Code
'BCA'	Building Code Australia being in this case Volume 1 of the NCC
'DtS'	Deemed to Satisfy Solution prescribed in the BCA
'PBS'	Private Building Surveyor
'MBS'–	Municipal Building Surveyor
'MFB'	Metropolitan Fire Brigade
'RBS'	Relevant Building Surveyor
'EO'	Emergency Order pursuant to S102 of the Act
'BN'	Building Notice pursuant to S106 of the Act
'BO'	Building Order S111 of the Act

## 3.0 BACKGROUND

### 3.1 BUILDING REGULATORY FRAMEWORK

Australia's Building Regulatory Framework varies from state to state, as a result of the Building legislation remaining a residual process not subject to total Federal jurisdiction

Building legislation development in each state and territory has evolved over many decades with each developing their own administrative processes and technical provisions. In the 1970's a concerted effort was made to develop as a first step, a National Technical Building Code. This culminated in the development of the Building Code of Australia (BCA) in 1988 (1<sup>st</sup> Ed) and 1990 (2<sup>nd</sup> Ed). In order for the BCA to become legislation each State and Territory was required to reference it as its technical requirements.

The current version of the BCA is now incorporated under the National Construction Code (NCC) series. With Volume 1 of the BCA dealing with Class 2-9 buildings (apartments, commercial, industrial and public buildings). Apartment buildings are Class 2 and hotels are Class 3.

Concurrently in the late 1980's there was a similar process which was embarked upon to develop a National Model Building Act. Parts of this 'Model Building Act' have been implemented in various states and territories with mixed adoption. The principles of the Model Building Act were incorporated into the Building Act 1993 here in Victoria. One of the main initiatives was the introduction of a privatised system for the issue of building permits, inspection regime, and issue of occupancy permits.

In Victoria, the Building Act 1993 was introduced in 1993, which in turn currently calls up the Building Regulations, which references the BCA which in turn references Australian Standards. As a hierarchical process it is accepted that to resolve any inconsistencies between documents the Act can override the regulations which in turn can override the NCC/BCA and Australian Standards.

An extract of the Act objectives is contained below.

### **Building Act 1993- Objectives**

#### ***Objectives of Act***

*(1) The objectives of this Act are—*

- (a) to protect the safety and health of people who use buildings and places of public entertainment;*
- (b) to enhance the amenity of buildings;*
- (c) to promote plumbing practices which protect the safety and health of people and the integrity of water supply and waste water systems;*
- (d) to facilitate the adoption and efficient application of—*
  - (i) national building standards; and*
  - (ii) national plumbing standards;*
- (e) to facilitate the cost effective construction and maintenance of buildings and plumbing systems;*
- (f) to facilitate the construction of environmentally and energy efficient buildings;*
- (g) to aid the achievement of an efficient and competitive building and plumbing industry.*

*(2) It is the intention of Parliament that in the administration of this Act regard should be had to the objectives set out in subsection (1).*

### 3.2 REGULATORY PROCESS (Building Permit-Occupancy Permit)

The Act and Regulations together provide the mechanism and processes to be followed in order to ensure the objectives of the Act are achieved. The principal process of ensuring construction meets the objectives of the Act is to require:

- Buildings to be designed and documented in accordance with BCA, Building Regulations, Building Act and other regulatory requirements
- Building documentation to be assessed and approved by RBS with a building permit issued prior to construction. Documents must show compliance with the BCA, Building Regulations and Building Act.
- Building to be built in accordance with approved documents and that the construction is inspected at key stages (typically footing, frame, final);
- Any variation to the building which will impact on regulatory matters requires a variation to the documentation approved under the building permit to be submitted to the RBS for approval prior to construction;
- An inspection is undertaken at the final stage with documents provided to the RBS for key components of the building e.g. test reports on the sprinklers systems, etc. An occupancy permit is issued or certificate of final inspection (depending upon the development), is to be issued by the RBS.

In Victoria a private building permit process was introduced in 1994. This allowed registered private building surveyors (PBS) to undertake the functions previously undertaken by Council. Owners can either engage a PBS or the Municipal Building Surveyor (MBS) to undertake the above functions.

If the owner decides to engage a PBS the Act also requires that PBS to

- Notify the relevant council of their appointment (s. 80 of the Act)
- Lodge documentation with council contained under r. 302, r. 305 and Schedule 2 of the Act
- Undertake inspections at mandatory inspection stages and
- Lodge occupancy permit and documentation as required in, s. 72, s. 73, and r. 1103 with Council.

In assessing the documentation, the designer and RBS must ensure the material and the building systems proposed complies with the relevant clauses of the BCA. This is explained in more detail below under BCA requirements.



## 3.3 BCA REQUIREMENTS

### 3.3.1 General

The BCA is referenced in r. 109 of the regulations and sets out the technical requirements and acceptable building solutions for design and construction. The BCA is a performance based document which specifies that proposed building solutions must comply with the performance requirements to show compliance. Part A0.1 to A0.10 details the BCA structure and methods of assessment to show compliance with the performance requirements.

The building solutions allowed for in the BCA are “Deemed to Satisfy” solution (DtS) or an “Alternative Solution”. The DtS incorporates prescriptive and in some cases traditional construction methods. The Australian Standards are typically referenced as DtS solutions in the BCA which empowers the Australian Standards to be embodied as regulations.

The BCA requires an ‘Alternative Solution’ to be assessed in accordance with one of the Assessment Methods contained under Part A0.9 of the BCA.

For a material or building system to be used as an Alternative Solution, Part A0.9 (a) requires that

- a) Evidence to support that the use of a material, form of construction or design meets a *Performance Requirement* or a *Deemed-to-Satisfy Provision* as described in **A2.2**.

### 3.3.2 Material and Building Systems conformity

Where a material or building system does not comply with the DtS provisions it must be demonstrated to comply with ‘Alternative Solutions’ provisions.

Part A2.2 details what is considered evidence of suitability that a material or form of construction complies with the BCA. (refer to Appendix E). This clause is the relevant clause for building systems and lists that a method suitable for compliance is a Certificate of Conformity or a Certificate of Accreditation. These are defined in the BCA and are provided below.

**Certificate of Accreditation** means a certificate issued by a State or Territory accreditation authority stating that the properties and performance of a building material or method of construction or design fulfil specific requirements of the BCA.

**Certificate of Conformity** means a certificate issued under the ABCB scheme for products and systems certification stating that the properties and performance of a building material or method of construction or design fulfil specific requirements of the BCA.

The regulations under r. 110 nominate Building Regulatory Advisory Committee as the relevant state authority for the issue of a Certificate of Accreditation by the State.

## 4.0 COUNCIL RESPONSIBILITIES

Part 12 – Division 5 – ‘Roles of Councils’ under the Act, provides provisions for Council to Administer building provision in its municipality. Section 213 of the Act requires Council to appoint a Municipal Building Surveyor.

Section 212 from Part 12-Division 5, of the Act states that Council are responsible for the administration and enforcement of Parts 3, 4, 5, 7 and 8 of the Act and the building regulations within its municipal district.

These Parts of the Act cover the following:

Part 3- Building Permits

Part 4- Inspection of Building Work

Part 5- Occupation of Buildings and Places of Public Entertainment

Part 7- Protection of Adjoining Property

Part 8- Enforcement of safety and building standards

The Australian Institute of Building Surveyors (AIBS) has recently questioned the extent of the obligations of Council with regards to how to meet its responsibilities under the Act, as a result of the Victorian Auditor General’s report. It is the view of the MBS of the City of Melbourne that it is not clearly defined.

Part 8 of the Act gives authority to the MBS to undertake enforcement provisions under the Act. Predominantly the enforcement provisions provided in the Act are directed to the owner of the property, other than an Emergency Order and Building Order Stop Work which allows the option of serving it to the occupier. The PBS has similar powers (except for emergency orders), however, only for permits that they issue.

The role and responsibility of the PBS/RBS after the occupancy permit (OP) has been issued is not clear in the legislation. However the PBS does not have the authority to deal with existing buildings.

Part 12 of the Regulations sets out the regime for listing of essential safety measures within the building and lists the obligations of the owners for their maintenance. Essential safety measures in this case are predominantly fire safety measures and include obvious ones such as sprinklers, however some less obvious measures such as, ensuring no breach of fire rated walls, floors etc. are also essential safety measures.

Current legislation does not stipulate as to how long after the Occupancy Permit has been issued that the responsibility to ensure compliance with the building regulations transfers from PBS to MBS. It is generally considered that once it becomes apparent that there is a problem with a building it is Council and the MBS’s responsibility to take the necessary action to ensure the safety of the occupants and public and compliance of the building. In many simple cases where the issue is detected soon there-after the completion of the building the MBS may refer it to the PBS to resolve (depending on the urgency of the issue), as they would have the capacity to undertake enforcement action. However as an ultimate safety net the MBS may intervene depending on circumstances.

The tools available to the MBS, to undertake enforcement action are contained within Part 8 of the Act and include: emergency orders, building notice-building order process, building order minor works, stop work orders.

## 5.0 LACROSSE BUILDING

### 5.1 Building Description

The Lacrosse building is a 23 storey multi-use building with a rise in storey of 23 with an effective building height of 58.7 metres. The building consists of predominantly of Class 2 (Residential apartment) occupation with Class 6 (retail) and Class 7a (car park) at the lower levels. As defined within the BCA, this type of construction requires fire resistance level of Type A (the highest level of fire resistance construction required). The building has a sprinkler system installed plus other essential safety measures commensurate for a building of this type. As is becoming increasingly common, fire engineered solutions providing alternative solutions, were utilised in this building. These are listed on the Occupancy Permit (refer to Appendix B).

### 5.2 Building Permit Documents Lodged with Council

The Building Permits and subsequent Occupancy Permit were issued by a PBS. There were multiple staged building permits issued by the Gardner Group from 21 May 2010 to 7 December 2011. The details are listed below.

<b>Dates of Relevant Building Permits:</b>	<b>Building Permit Numbers to which this Occupancy Permit relates:</b>
21 May 2010	16541/100133/1
4 June 2010	16541/100133/2
18 June 2010	16541/100133/1 Amended
18 June 2010	16541/100133/2 Amended
17 August 2010	16541/100133/3
27 September 2010	16541/100133/4
28 January 2011	16541/100133/5
18 March 2011	16541/100133/6
6 June 2011	16541/100133/7
7 December 2011	16541/100133/7 Amended

The building has alternative solutions approved for the building permit and occupancy permit which includes: reduction in fire rated construction in some building elements; increased travel distance to exits; removal of fire rated construction to GPOs; discharge of exits internally; external sprinkler protection to overhangs, balconies and the like deleted; Occupant warning system in lieu of Early Warning Intercommunication System (EWIS), height of rooms in car park reduced; provision for laundry trough removed. The list of alternative solutions and better detail is specified on the Occupancy Permit.

The Occupancy Permit (No. 14166F6a) was issued for the building on 13 June 2012 as outlined in Appendix B.

### **5.3 BCA requirements for external walls**

The above building pursuant to Clause C1.1 and Table C1.1 of BCA is required to be Type A construction. Pursuant to Specification C1.1 Subsection 3.1 (b) of the BCA external walls are required to be non-combustible as a deemed to satisfy solution.

The definition of non-combustible pursuant to Part A1.1 is

*Non-combustible means—*

*(a) applied to a material — not deemed combustible as determined by AS 1530.1 — Combustibility Tests for Materials; and*

*(b) applied to construction or part of a building — constructed wholly of materials that are not deemed combustible.*

## **6.0 ACTIONS UNDERTAKEN BY MUNICIPAL BUILDING SURVEYOR'S OFFICE**

### **6.1 Inspection**

As a result of the fire that occurred on the 25 November 2014 an inspection of the building was undertaken in the early hours of the morning by the Municipal Building Surveyor and his office. The MBS was alerted by the MFB and requested to attend.

The point of 'Fire Origin' is believed to be on the balcony of apartment 805. The fire spread vertically, spreading downwards to apartment 605 and upwards and affected all apartments above designated as apartment No. 5 on each level, up to apartment 2105. It was observed that on some apartment balconies large amount of household items were being stored, creating a higher fire load. This fire caused extensive fire damage to fifteen apartments and subsequently water damage to many more. We understand the MFB post incidence analysis (PIA) will deal with this aspect more in depth.

Observations and inspection results noted by the MBS during the inspection after the fire are as follows:

- Fifteen apartments had extensive fire, smoke and water damage. This included discharge of sprinklers, building occupant warning system melted and the loop for the system disrupted; structural damage to external wall, doors, balcony balustrades and decorative panels.
- Other apartments had extensive water damage or infiltration to plaster, carpets and cupboards.

- The main corridor in the proximity of the fire affected apartments was also damaged by water ingress
- A number of the two bedroom apartments had six to eight beds. In two instances the living room had been converted into a bedroom with a make shift curtain rod separator with curtains. See photos Appendix C
- The balconies were being used for storage, and were not what one would normally expect on a balcony, e.g. mattresses, cupboards and other furniture.
- The sprinkler system did not extend to the external balcony of the fire affected apartments or other apartments.
- The separating external wall in the fire affected apartments, between bedroom 2 and the balcony was constructed of lightweight wall construction comprising of; steel studs, plasterboard, fibreglass insulation, sisalation, steel battens and aluminium cladding on sheeting. The wall construction appeared to not be non-combustible. The wall had penetrations comprising of; stormwater drain (SWD) pipe, electrical cabling, and copper piping within the cavity. The SWD pipe did have fire collars around it; however they did not work effectively in some circumstances.

The above wall extended beyond the concrete balcony by approximately 400mm, with the aluminium cladding product bridging between levels on the external part of the concrete slab. Glassed sliding doors leading to the balcony were severely damaged due to the heat; there is a question as to whether they were compliant with Fire Engineering report.

- Smoke alarms in many of the multiple occupied apartments were disengaged, covered or disconnected.
- The Building occupant warning system was fire affected and the loop was disrupted to sounders in bedrooms of each apartment which was fire affected.
- The feature metal decorative panels to the external part of the building had partly failed in the fire affected apartments in particular at their joints. Thus creating a safety issue for the public below.

Appendix C provides photographic details of some issues identified above.

We understand the MFB will make specific comments with regards to some of the above in their 'Post Incident Analysis' (PIA) report. The MFB have also obtained a sample of wall cladding material for testing. The findings of the testing have determined that the material and wall cladding system is **not** non-combustible when tested in accordance with the Australian Standard AS1530.1.

The aluminium cladding system and material is commonly used in many commercial type constructions, typically low to medium rise. The typical product used is a product known as 'Alucobond'. It was later revealed that the aluminium cladding product is known as 'Alucobest', and not Alucobond (refer MFB report).

## **6.2 Emergency Order**

It was determined as a result of the inspection following the fire (see above) that the building was unsafe to occupy due to:

- Parts of the building being severely damaged by fire and water, structural damage of non-loadbearing walls plus ceilings, balcony balustrades, architectural features and glazed external doors and windows damaged.
- The essential safety measures in the building were made inoperable due to either having been discharged and or damaged.

As with all fires there were/are a large number of apartments that suffered from various degrees of fire, smoke and water damage. Those apartments that did not suffer this fate had their fire safety systems made inoperable due to the fire affecting the centralised systems.

As a result an emergency order (EO) pursuant to s.102 of the Act was issued on the owners' corporation and a copy provided to the owners corporation managers, Platinum Strata P/L.

The primary focus of the EO was to; enable the cordoning off of dangerous parts of the building, for the building essential safety measures to be brought back in line, facilitate for limited access for residents to obtain their belongings under escorted and controlled conditions in the interim and allow Make Safe workers to undertake necessary make safe work that would permit the building/part of building to be occupied, where it was safe to do so.

The EO set out a course of action to facilitate the recovery process and eventually the re-occupation of part of the building. The EO was complied with the following actions;

- Fire-affected apartments were cordoned off with fire rated construction
- Essential safety measures were repaired and re-activated and tested for compliance
- The MFB was placed on heightened alert to allow for quicker response in particular if wall cladding material is defective.
- The architectural-decorative panels which were unsecured were removed.

The EO is a form of direction to deal with immediate issues and is typically not there to manage the rectification of longer term issues. It was recognised that the fire-affected apartments would require partial/substantial rebuilds and that this would be the subject of a building notice-order process.

## **7.0 NEXT STEPS FOR THE MBS**

### **7.1 Actions Taken**

It is recognized that in order for works to be undertaken that they will take time, and that short to medium term solution needs to be considered to ensure the safety of the occupiers and the public in the interim.

The building in its current state has been made temporarily safe with the following actions taken to comply with the Emergency Order, issued by the MBS and action taken by MFB

- Fire affected apartments have been cordoned off and fire separated from the building (building notices have been issued by the MBS for these apartments);
- Essential (fire) safety measures such as sprinklers, smoke detection and early emergency warning systems are now operable;
- The MFB has assigned greater resources to immediately respond to any fire alarm at the building

## **7.2 Actions to be Taken –Short Term**

Other actions to be taken to assist in keeping the building safe are to:

- Highlight to occupiers the need to keep their balconies clear of household storage items
- Highlight to the occupiers the importance of ensuring that their smoke alarms are operating
- Check essential safety measures are being maintained on a three month basis.

## **7.3 Actions - Medium term**

Actions to be undertaken by the MBS and CoM will be directed by what actions legislation and the processes set by legislation, using the tools that are available to us.

As a result of the CSIRO report commissioned by the MFB it has been determined that the external wall cladding to the building (Alucobest) is **not** non-combustible as required by Part CP1, CP2 inter alia Clause C1.1 and Specification C1.1 part 3.1(b). As a result of this the potential risk of the same or similar circumstances arising is increased in this building

A further range of inspections will be required of the building and depending on access to premises will determine the timing. A building notice pursuant to s. 106 of the Act will then be issued by the MBS, to the owners of the property and to the owner's corporation. The Act requires the issuing of the building notice to the owners, in this case in excess of 300 notices will be required to be issued, with many of the owners overseas or interstate. This is a large-scale process taking into consideration the whole building notice- order process as prescribed in Part 8 of the Act.

The building notice is a show cause notice which will highlight the issue at hand and propose a method of resolving that issue. It provides the opportunity for the owner to consider the proposal or put forward an alternative proposal which will meet the performance requirements of the BCA.

Once representation/submission has been made a building order will be issued directing the owner of the property as to what actions are required.

## 8.0 DISCUSSION

### 8.1 Building Use

The occupancy permit for the above building stipulates that the permitted use of the apartments on the upper floors, in particular levels 6 to 21 is for Residential Apartments. The typical occupancy for each floor set at 36 persons. There are 15 apartments per floor, which would give the average occupancy of 2.4 residents per two bedroom apartments.

Most modern multi-storey apartments have alternative solutions with regards to fire safety systems, sometimes involving multiple BCA clauses. The importance of the fire engineer's design parameters, including occupant characteristics, not being met could lead to unacceptable outcomes.

The ongoing suitability of the occupancy permit is also complicated by the subdivision act. When the building was approved there was one developer and owner, since its completion there is upwards of 300 owners. There is no requirement to review or revise the OP when subdivision occurs. The responsibility of management of the building especially the shared fire safety measure is sometimes unclear as a result of this. .

The MFB highlighted on the night of the fire that the number of occupants for the building far exceeded their expectations.

As a number of the apartments had occupants ranging in 6-8 beds per apartment, the increase in density per floor creates undesirable conditions, for the MFB in evacuating occupiers. Furthermore it also increases potential delays in the safe self-evacuation ability of occupiers in the apartments, who may be hindered by bottlenecks.

There are currently discussions within the regulatory areas with regards to the use of apartments and the trend of providing student accommodation with beds being let per bed and what is typically a two bedroom apartment holding only 2-4 persons now accommodating 6-8 occupants. This raises the question of the safety of occupants of those apartments where a larger number are occupied in this manner and the ability of the building to cope with the increased density. Of particular concern is where an alternative solution is utilised to gain a dispensation on the extent of some essential safety measure or other fire safety measures, with the Fire engineer designing the building to a specific number of occupants.

Fire engineering designs are very specific to a building and very specific to its use.

There are also situations where apartments are being used for short term commercial accommodation, with the basic presumption by fire engineers that building occupants are familiar with their surround i.e. either owner occupiers or long term tenants. This complicates a common consideration utilised by fire engineers in determining the minimum requirements for fire safety in that it may impact on speed with which people are able to recognise a warning and to evacuate in a timely manner.

The current legislation makes this part of the occupancy permit, which specifies the maximum occupancy number per floor, almost impossible to police, monitor or require compliance with. Increasingly apartments that are being let as part of a commercial operation, often referred to as 'short-term accommodation'. Some individuals or companies rent apartments on long leases,



furnishing them, then renting them out either short-term or on a bed by bed basis. This is facilitated via the use of sites such as AirBnB, Wotif and other internet sites on which owners or small operators can advertise and facilitate bookings.

The owner's corporation and its managers do not have the powers or authority to question the use of the apartments to this degree or able to restrict the access to apartments. In cases where details of the apartments being let in this manner are available and owner's corporation rules specifically exclude commercial ventures or apartments being used in this manner, enforcement is undertaken through court action to VCAT, which is costly and can extend the time to resolution.

There is also a lack of clarity in the BCA in the definition being unclear as to what classification a short stay commercial accommodation would fall under, would it be a class 2 (residential apartment) or class 3 (residential part of hotel).

The difficulty within the Act and the BCA is that, even if you could classify the building as Class 3 then the onus of proof is difficult. Access rights require a minimum of 24 hours, by which time the owner or leasee would most likely have removed beds, screens etc. in order to show that it compliant with the legislation.

The experience of the MBS office at the City of Melbourne is that when complaints are received of this occurrence, utilising the processes within the Act, and providing the necessary 24 hours' notice only alerts people to the inspection. With stalling tactics, the owner or occupier often have cleared out additional residents and their beds momentarily, until after the inspection, then have them reoccupy.

## **8.2 Documents Lodged with Council**

The responsibility of the PBS/RBS is to lodge with Council a copy of the building permit plus all its associated documentation to prove that the building can be built showing compliance with the Act, Regulations and BCA. Council's role in this matter is one of keeping a register and also that of a record keeper.

A search of Council record was undertaken with the building permit and occupancy permit information retrieved. A schedule of the documentation is provided in Appendix D.

The aim of researching the documentation is to aide in determining the extent of compliance of the building with the Act, Regulations and NCC.

### **Issues with Documents Lodged:**

- Issue One: A research of the documentation indicates that there is insufficient details of the wall in the documentation to prove that the wall between the bedroom facing externally and the balcony, that it is non-combustible or what its construction consists of.
- Issue Two: There is no evidence that an inspection had highlighted this issue and for that matter as to whether the wall was considered by the fire engineer in their assessment.

Issue Three: The product identified by the MFB indicates that it is a product called Alucobest. Alucobond Plus is an accredited product. Both products look similar in appearance and are not able to be identified by simple visual inspection, in particular from the external appearances. Product specification was not provided for the use of Alucobest product in the documents lodged.

It must be noted that although the documents lodged with Council did not contain details of the above wall construction, the information may be contained with building permit information held by the RBS. This will be a matter for the VBA to investigate as they have the authority to undertake this type of investigation.

### **8.3 Review of Fire Engineering Report**

The MFB will undertake a review and make specific comment if necessary with regards to the Fire Engineering Report.

The deemed to satisfy provisions was covered previously in Part 5.3 above.

### **8.4 Product Specification and Accreditation**

Product accreditation in Australia is hit and miss, with many of the new products being supplied and installed without proper accreditation or review. Common products which may have been accredited are being replicated in part and provided without equivalent accreditation.

Although there is an Accreditation process provided by the Australian Building Codes Board (Codemark) and also one by the Building Regulatory Advisory Committee (BRAC) the process of requesting this information and or providing the information to the relevant building surveyor or supervising architect is rarely done. Taking into consideration the complexity of building today and the variety of building products and methodology it has become almost impossible to police.

This issue has been previously raised in reinforcing rods and wire and also structural steel. With these products it was acknowledged that once the material has reached the site it is too late. The steel industry's only recourse was to distinguish its products from other similar products with stamping.

The MFB has identified in this case that the product used in the construction of the lightweight wall was a product called Alucobest. This product does not have technical specifications readily available on its website for supply in Australia. From a visual inspection after installed it is not possible to distinguish Alucobest from Alucobond. It is noted on the technical specifications for Alucobond Plus that a CodeMark Certificate of Conformity from the Australian Building Codes Board (ABCB) exists (refer to Appendix E).

### **8.5 Product Substitution**

Product substitution on building sites has been known to occur. The due process under contractual requirements is for the builder or sub-contractor to make application to the supervising architect or project manager to change a specified material. A request for variation is usually sought, and a

revision to the building permit would be required if it is an essential safety measure or method of construction. The change of the external wall cladding, which is required to be non-combustible construction, would require a variation to the building permit.

Documents lodged with Council by PBS/RBS with regards to building permits and occupancy permits, issued by the Gardner group, show no evidence that a revision was considered with regards to this building methodology.

Further investigation is required by the Victoria Building Authority with regards to this matter if this situation has occurred. Investigative powers of Council or MBS do not extend to compelling builders or private building surveyors to respond to this line of question.

## **8.6 Recovery Process**

Due to the number of residents affected, the incident controller in this case the MFB, enacted the Emergency Management Act and activated the Municipal Emergency Resource Officer (MERO) and in turn requested the Municipal Recovery Manager be alerted to set up a recovery centre.

As this process was the first of this kind to have been enacted by the City of Melbourne it appeared to work well. As with all aspects of emergency management there were areas that can be improved and that will be the subject of a review by City of Melbourne.

Of importance a couple of points that have been raised previously in defining when the MRC is opened up and also what is the definition of recovery. The recovery centre was opened up at Etihad Stadium which is in proximity to the building and with the aide of the Owners Corporation managers information was dispersed to owners and occupiers.

In conjunction with the Owners Corporation Management, their insurers and Make Safe builders the MBS office worked with all to provide assistance and guidance through process. Meetings were attended to answer questions about the processes and what will happen next. In this case the briefings held with Owners Corporation Management, their insurance assessors and other parties with the MBS were crucial so that questions from occupiers were answered as best as possible.

Currently there are 15 apartments that are fire affected and another 80 un-occupiable due to water damage up to mid December 2014.

As there are more and more apartment buildings being built and the urban push to establish these vertical villages increases, the probability of a similar situation occurring is increasing. Not only in Melbourne central but also many suburban municipalities. The questions raised here can be and are applicable to multiple Councils, in particular when you consider the number of people that are affected by one incident.

The role of insurance, similar to bushfire affected properties will also play a large part in what can and cannot be done for recovery.

## **8.7 Notices and Order Process**

The Act in requiring the action to be directed to the owner does not recognise the Owner's Corporation having responsibility for the shared services or its responsibility to act on behalf of owners when an incident like this occurs. It places an impost on local government and the office of the MBS to undertake and manage a substantial amount of files which can result in errors, easily making the process invalid. Similarly it will generate substantial amount of angst amongst owners, not knowing what to do. This places the MBS office in a compromised circumstance of having to provide almost consultative advice about the process unnecessarily.

On face value, it may be viewed by some that for the CoM this is not a large impost, however to firstly identify the owner of the apartments, which may require title searches, and if a company is the owner, which is the case in many situations may also involve a company search. The cost of this is born by Council and also its ratepayers.

In many cases the owners may rely on the Owners Corporation managers to take charge and respond plus take the necessary actions however, this will involve obtaining individual owners consent from each property owner.

The building notice and order requirements contained within s. 106 and s. 111 of the Act are simplistic and are not written to cater for large, complex building or existing older building. Today's complex buildings and use of buildings often requires detailed review and assessments of the building to be undertaken prior to the direction given. The prescribed structure of the Notices-Orders are more suited to where a building permit has been issued for a domestic construction and during the course of construction the non-compliance works have been observed and direction given to bring back into compliance with the permit documentation.

The emergency orders also have their limitations in particular with s. 103(2), where it limits the ability to prohibit occupation for 48 hours. This then requires subsequent EOs to be issued every 48 hours, even though the building may be unsafe. If a nightclub has defective safety systems then prohibiting their use for this small duration of time does not even allow the time for contractors to come in and undertake the works. The incentive for owners or operators to undertake the work is negated as they just need to wait out the time.

As highlighted above in the 'Next Step' the utilization of the Notices- Order process will make this a large-scale process, having to issue building notices then building orders to over 300 owners, which will stretch resources. This is only one building within the City of Melbourne, and highlights the difficulty experienced by the MBS office in dealing with large and complex buildings.

## **8.8 Insurance**

As the BN and BO will be directed at the owner of the building which is the individual owners, a critical question that will be raised is, 'Who pays? In particular as the construction of the building and the occupancy permit was issued in 2012

The current domestic building contract act 1995 directs that for domestic construction up to rise in storey of 3, domestic builder warranty insurance is required. This is currently what is described as insurance of last resort, i.e. that the builder has to be deceased or bankrupt or similar. This is

different to an older government funded scheme which required insurance for all domestic buildings, which included this type of building and it was an insurance of first point of call. However in this case due to the size of building it is not required to be covered by the current warranty type insurance.

This is an issue that the regulators and government need to review and revisit, especially if the method of resolving this issue will rely on the courts, which will mean that the actual time to bring the building into compliance will be further frustrated.

## **9.0 CONCLUSION**

The fire that occurred at the Lacrosse building was well managed during the course of the emergency and all parties involved came together and dealt with the issues at hand. Occupants were alerted and evacuated, systems worked with no fatalities or serious injuries, temporary accommodation was set up and provided by all agencies and emergency building issues that could be dealt with were done so within good time frames to allow partial occupation under controlled circumstances.

The fire intensity and how it spread vertically through the building caused further investigation into why was it not contained. Inspection of the building, after the fire brought focus upon the external wall cladding which was identified and sent for testing by the MFB. The test results from the CSIRO contained within the PIA, has confirmed that the wall cladding system (Alucobest) is not non-combustible. This raised further questions of where did the regulatory system go wrong in preventing this from occurring. Is it accreditation of product, is it the standards, is it the process of building approval to occupancy permit or is it practitioner failure?

Also highlighted as a result of observations after the fire is the issue of occupancy numbers within apartments and possible increased density. Is this a problem for the future and are our building codes and standards designed to accommodate this increase in density or short term use. Also does our regulatory framework have the adequate mechanisms to police and control these functions, if there is a need to do so?

In further considering the regulatory system required to bring the building into compliance it highlights that the provisions of the Act and Regulations are not suited to dealing with large, complex and existing buildings and how we are using these buildings today. This results in frustration and an additional burden for local government and property owners.

A flow on question back to the regulatory framework will also be, who pays for the fix or should there have been insurance to cover this.

The City of Melbourne should advocate that there be a review of the Building Act 1993, building regulations and the process contained to enable our building regulatory framework to cope not only with current complex buildings but also existing buildings and possible future building product or systems developments. As an example, the concept of prefabricated modules is being experimented with, which depending on where they are manufactured may throw into question what standards they are following and how do we ensure that they are compliant with our standards.

## APPENDIX A – BUILDING PERMIT-STAGE 7



BUILDING SERVICES CONSULTANTS

GARDNER GROUP PTY LTD Suite 15, 574 Plummer Street  
Port Melbourne Victoria 3207 Australia P 03 9682 2400 F 03 9682 2593 www.gardner.com.au

### TRANSMITTAL ADVICE

BD10/1011

**PROJECT:** LACROSSE APARTMENT DEVELOPMENT -  
STAGE 7: ALL ARCHITECTURAL AND SERVICES  
WORKS TO COMPLETION  
673 - 683 LATROBE STREET,  
DOCKLANDS VIC 3008

**REFERENCE:** 014166

**TO:** L.U. SIMON BUILDERS PTY LTD

**ATTENTION:**

**FROM:**

**DATE:** 12 December 2011

#### Method of Transmittal

- ☒ Mail ☐ Courier  
☐ Hand Delivered ☐ Other

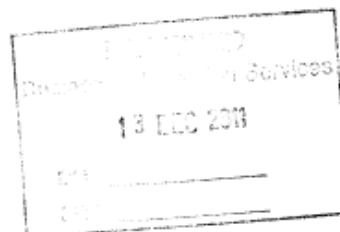
#### Reason for Transmittal

- ☒ Records ☐ Approval  
☐ Information ☐ Comment

#### Description of Document

Dino,

Please find enclosed Amended Stage 7 Building Permit and other associated documents for the above mentioned project.



**Copy to Council:** (\$34.00 Lodgement Fee Enclosed)

**Copy to Owner:** (Original Building Permit Only)

**Attention:** BUILDING DEPARTMENT  
City of Melbourne

**Attention:**

Please quote our reference number on all return correspondence

ACN 058 178 262 ABN 40 688 770 739



Planning Permit No. **2007/0622A**  
**2007/0622A**

Date of Grant of Planning Permit **8 APRIL 2008**  
Date of Grant of Amended Planning Permit **24 MAY 2010**

**Building Classification**

Part of Building **WHOLE**

BCA Classification **2, 6 & 7a**

Use **RETAIL, CARPARK,  
RESIDENTIAL**

**Building Details**

Stage of Work Permitted

**STAGE 7: ALL ARCHITECTURAL & SERVICES WORKS TO COMPLETION**

Total Floor Area of New Building Work

**N/A**

Ownership

**PRIVATE**

Allotment Area

**N/A**

External Wall Material

**MASONRY**

No of Storeys

**N/A**

Frame Material

**CONCRETE**

Cost of Building Work for previous Stage(s) **\$29,818,687.57**

No of Dwellings Demolished

Cost of Building Work for this Stage **\$66,690,725.43**

No of New Dwellings

Building Levy applicable to this permit **\$85,364.10**

No of Existing Dwellings

Total value of Building Work

**\$96,509,413.00**

Floor Material

**CONCRETE**

Roof Cladding Material

**N/A**

**Inspection Requirements**

The mandatory inspection notification stages are as follows. **Gardner Group must be contacted for inspection bookings**

- ☒ Prior to placing a footing (eg foundation/pre slab);
- ☒ Prior to pouring all insitu reinforced concrete (eg slab or trench steel, columns, beams, etc);
- ☒ Completion of framework (steel, timber etc); and
- ☒ Final, upon completion of all building work

**Occupation or Use of Building**

- ☐ A Certificate of Final Inspection is required prior to the occupation or use of this building
- ☒ An Occupancy Permit is required prior to the occupation or use of this building
  - ☒ whole If an occupancy permit is required, the permit is required for the whole/part of the building in respect of which the building work is carried out.
  - ☐ part

**Commencement and Completion**

This building work must commence by:

**7 DECEMBER 2012**

This building work must be completed by:

**21 MAY 2013**

**Conditions of Building Permit**

Refer to Annexure B for a list of conditions which apply to this Building Permit.

**Relevant Building Surveyor**

Name

Registration No

Signature

Date of Issue of Stage 1 Building Permit	<b>21 MAY 2010</b>
Date of Issue of Stage 2 Building Permit	<b>4 JUNE 2010</b>
Date of Issue of Amended Stage 1 Building Permit	<b>18 JUNE 2010</b>
Date of Issue of Amended Stage 2 Building Permit	<b>18 JUNE 2010</b>
Date of Issue of Stage 3 Building Permit	<b>17 AUGUST 2010</b>
Date of issue of Stage 4 Building Permit	<b>27 SEPTEMBER 2010</b>
Date of issue of Stage 5 Building Permit	<b>28 JANUARY 2011</b>
Date of issue of Stage 6 Building Permit	<b>18 MARCH 2011</b>
Date of issue of Stage 7 Building Permit	<b>6 JUNE 2011</b>
Date of issue of this Amended Stage 7 Building Permit	<b>7 DECEMBER 2011</b>



**Annexures**

Annexure A	Approved Documents
Annexure B	Building Permit Conditions
Annexure C	Building Surveyor's Comments
Annexure D	Essential Safety Measures Maintenance Requirements

- Note 1: Under regulation 317 the person in charge of the carrying out of building work on an allotment must take all reasonable steps to ensure that a copy of this permit and one set of any approved plans, specifications and documents are available for inspection at the allotment while the building work is in progress. They must also take all reasonable steps to ensure that the registration numbers and contact details of the builder and building surveyor and the number and date of issue of this permit are displayed in a conspicuous position accessible to the public before and during the building work to which this permit applies.
- Note 2: Under regulation 318 an owner of a building or land, for which a building permit has been issued, must notify the relevant building surveyor within 14 days after any change in the name or address of the owner or of the builder carrying out the building work. The penalty for non-compliance is 10 penalty units.
- Note 3: Include building practitioners with continuing involvement in the building work.
- Note 4: Include only building practitioners with no further involvement in the building work.

## APPENDIX B- OCCUPANCY PERMIT



BUILDING SURVEYORS | CONSULTANTS

GARDNER GROUP PTY LTD Suite 15, 574 Plummer Street  
Port Melbourne Victoria 3207 Australia P 03 9682 2400 F 03 9682 2533 [www.gardner.com.au](http://www.gardner.com.au)

### TRANSMITTAL ADVICE



PROJECT:	LACROSSE APARTMENT DEVELOPMENT 673 - 683 LATROBE STREET, DOCKLANDS VIC 3008	REFERENCE: 14166
TO:	L.U. SIMON BUILDERS PTY LTD [REDACTED]	
ATTENTION:	[REDACTED]	
FROM:	[REDACTED]	SIGNED: [REDACTED] DATE: 23 JULY 2012

#### Method of Transmittal

- ☒ Mail ☐ Courier  
☐ Hand Delivered ☐ Other

#### Reason for Transmittal

- ☒ Records ☐ Approval  
☐ Information ☐ Comment

#### Description of Document

Dino,

Please find enclosed a copy of the Occupancy Permit and Alternative Solution reports pertaining to the above mentioned project.

Regards,

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

#### Copy to Council:

Attention: BUILDING DEPARTMENT  
City of Melbourne

[REDACTED]  
[REDACTED]

#### Copy to Owner:

Attention: [REDACTED]  
675 LATROBE STREET PTY LTD C/-  
CHARTER HALL

[REDACTED]  
[REDACTED]

Please quote our reference number on all return correspondence

ACN 056 178 262 ABN 40 699 770 739

FORM 6  
Building Act 1993  
BUILDING REGULATIONS 2006  
Regulation 1005

**OCCUPANCY PERMIT**  
Ref No: 14166F6a

**RECEIVED**  
Business Information Services  
02 AUG 2012  
DM#: \_\_\_\_\_  
SR#: \_\_\_\_\_

**Property Details**

Project Description **LACROSSE APARTMENT DEVELOPMENT**  
Address **673 - 683 LATROBE STREET, DOCKLANDS VIC 3008**  
Lot/s **1** LP/PS **431464P** Volume **10494** Folio **618**  
Crown allotment **PART 1D** Section **98** Parish **NORTH MELB** County **-**  
Municipal District **CITY OF MELBOURNE**

**Building Details**

Part of building	Permitted Use	BCA Class	Maximum permissible floor live load	Maximum number of people to be accommodated
Ground floor	Residential lift lobby, carpark, ancillary, plant/services, storage	2, 7a	2.5Kpa (7a)	8
Level 0.5	Residential lift lobby, carpark, plant/services, storage	2, 7a	2.5Kpa (7a) 4Kpa (lift lobby)	61
Level one	Residential lift lobby, carpark, building managers office, amenities, external lift lobby (retail tenancies are excluded from this permit).	2, 7a	2.5Kpa (7a) 4Kpa (lift lobby)	49
Level two	Residential entry lobby, carpark, retail plant, storage, podium (retail tenancies are excluded from this permit).	2, 7a	2.5Kpa (7a) 5Kpa (retail & podium areas) 4Kpa (lift lobby)	35
Level three	Residential apartments inclusive of: Tower: 1-34 North Pod: N35 - N38 South Pod: S39 - S43	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	74 12 16
Level four	Residential apartments 1-15, pavilion, swimming pool, pool deck,	2, 10b	2Kpa (apts & corridors) 4Kpa (lobby & pool deck)	36
Level five	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level six	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level seven	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level eight	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36

Level nine	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level ten	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level eleven	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level twelve	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level thirteen	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level fourteen	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level fifteen	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level sixteen	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level seventeen	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lobbies)	36
Level eighteen	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level nineteen	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level twenty	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lift lobby)	36
Level twenty one	Residential apartments 1-15 inclusive.	2	2Kpa (apts & corridors) 4Kpa (lobbies)	36
Roof level	Plant (Ancillary)	2	0.5Kpa (L4) 1.5Kpa (L22)	N/A

\* Complete this portion only if an occupancy permit is required under Division 1 of Part 5 of the **Building Act 1993**.

#### Alternative Solutions

Alternative Solutions were used to determine compliance with the following Performance Requirements of the BCA that relate to this project:

##### Item 1: BCA Clause F3.1 & FP3.1-- Height of rooms and other spaces

To permit a reduced vertical clearance of 2060mm in lieu of the required 2100mm to carpark space on level 1, and 1450mm beneath car park ramp on level 1.

##### Item 2: BCA Clause F2.1 & FP2.2 Provision of sanitary facilities in Residential buildings

To permit deletion of laundry troughs in the sole occupancy units.

##### Item 3: BCA Spec C1.1 & CP2 Type A Fire resisting construction

To permit the garbage shaft to be lined with a combustible material in lieu of non combustible construction.

## Fire Engineering

**Item 1:** C1.1(Spec C1.1) CP2, CP8 Reduction levels required to non load bearing building elements and compartmentation have been reduced to 60 minutes for residential areas. The provision of non combustible construction to services shafts in lieu of having an FRL.

**Item 2:** C1.1 (c) CP2, CP8, Shaft walls are required to have fire resistance levels in accordance with Type A construction which has been negated for the building.

**Item 3:** C1.1 CP12, CP2, Shaft walls between apartment envelopes and bounding corridors has been negated.

**Item 4:** C1.1 CP1, CP2, Fire rating to retail area to be 90 minutes.

**Item 5:** C1.1 CP1, CP2, CP8 The provision of fire rated construction to GPO's to be deleted.

**Item 6:** C1.1 (Spec C1.1), C3.15, CP1, CP2, CP8 Smoke treatment to service penetrations through structure in lieu of fire rated treatment.

**Item 7:** C2.14, DP4, DP5, EP2.2 Corridor lengths to exceed 40m without provision

**Item 8:** C3.8, CP2, CP4, CP8, DP5, Doors to fire isolated stairway at the residential floors to be solid core in lieu of having FRL -/60/30.

**Item 9:** C3.11, CP2, CP4, CP8 Doors to apartment entries to be self closing solid core in lieu of having an FRL -/60/30.

**Item 10:** S1.7(b) & (c), DP4, DP5 Stairwells discharges internally in lieu of being direct to open space.

**Item 11:** D1.4, DP4, DP5, DP6 Distance of travel from sole occupancy unit entry doors to the nearest exit or a point of choice to alternate exit not permitted to exceed 6m. Travel distance with the proposed layouts to a point of choice to alternate exit is approx. as follows:

Floor	Travel Distance
Level L03	40m
Level L04	16m
Level L05	16m
Level L06	16m
Level L07	16m
Level L08	16m
Level L09	16m
Level L10	16m
Level L11	16m
Level L12	16m
Level L13	16m
Level L14	16m
Level L15	16m
Level L16	16m
Level L17	16m
Level L18	16m
Level L19	16m
Level L20	17m
Level L21	17m

Floor	Travel Distance
Level L00	20m to a point of choice and total travel of 45m to the nearest exit. 40m to a point of choice and 60m to the nearest exit from Storeroom 2 (grids G/9)
Level L0.5	20m to a point of choice and total travel of 50m to the nearest exit. 35m to a point of choice and 83m to the nearest exit from the Bicycle Store (grids G/9)
Level L01	20m to a point of choice and total travel of 40m to the nearest exit. 57m to a point of choice and 70m to the nearest exit from grid M/13.
Level 02	40m to a point of choice and total travel of 50m to the nearest exit.

**Item 13:** E1.5, EP1.4 External sprinkler protection to overhangs, balconies and the like to be deleted (MFB notification required).

**Item 14:** E1.5, EP1.4 Hybrid sprinkler system to carpark wherein sprinkler coverage is addressed directly to fuel source i.e. car bays. This results in deletion of dedicated sprinkler range pipes over driveways/carriage routes (MFB notification required).

**Item 15:** E2.2, EP2.2 Pressurisation fans to be temperature rated has been negated. Cabling to fans (smoke management) to be non fire rated.

**Item 16:** E2.2, EP2.1, EP4.3 Audible alert arrangements under GFA designed to achieve the outcomes required by EP2.1. Alert/occupant warning system not subject to strict code application subject to occupants receiving early warning within apartments/bedroom areas. Provision for occupant warning system in lieu of EWIS.

**Item 17:** E2.2, EP1.3, EP2.2, EP2.1, EP4.1, EP4.2, EP4.3 Smoke management sub-system based design outcomes to meet the performance criteria of EP2.2

#### Building Appeals Board Determinations

**Item 1:** BCA Clause D2.13 & DP1 Goings & Risers

To permit the external podium stair to have 19 risers in lieu of the prescribed maximum of 18 risers.

**Item 2:** BCA Clause D2.13 & DP1 Goings & Risers

To permit the external podium stair to have tread dimensions of 900mm in lieu of the prescribed maximum dimension of 355mm.

**Item 3:** BCA Clause D2.13 & DP1 Goings & Risers

To permit the external stair (stair 13) to have tread dimensions of 565mm & 1055mm in lieu of the prescribed maximum dimension of 355mm.

#### Reporting Authorities

The following bodies were reporting authorities for the purposes of the application for this permit in relation to the matters set out below:

##### City of Melbourne

Item No:	Item No:	Regulation	Status
1	To permit the construction of a new multi storey building on an allotment that is in an area liable to flooding and uncontrolled overland drainage	802	Approved

##### Metropolitan Fire Brigade

Item No:	Matter Reported on:	Regulation	Status
1	BCA Clause E1.8 Fire Control Centres: To permit the location of the fire control room to be accessed from Latrobe Street.	1003	Approved
2	BCA Clause E1.3 To permit the location and arrangement of booster assembly on Latrobe Street	1003	Approved
3	BCA Clause E1.3 To permit the location of the fire pump room as shown on the approved drawings.	1003	Approved
4	BCA Clause E1.5 To permit the location of the sprinkler control valves sets as shown on the approved drawings.	1003	Approved
5	BCA Clause E1.5 To permit the locations of the hydrant ring main within stairwells which has a fire rated enclosure but does not comply as a fire isolated stair with respect to discharge, and to allow the hydrant ring main to be provided within a stairwell.	1003	Approved
6	BCA clause E1.3 To permit fire hydrant coverage shortfalls as shown on the approved drawings.	1003	Approved
7	BCA Clause E1.4 To permit fire hose reel coverage shortfalls as shown on the approved drawings.	1003	Approved
8	BCA Clause E1.3 To permit the location of hydrants and hose reels as shown on the approved drawings.	1003	Approved
9	BCA Clause E1.3 To permit the installation of a magflow water meter on the fire service not withstanding the requirements of AS2419	1003	Approved
10	BCA Clause E1.3 To permit a combined sprinkler hydrant service.	1003	Approved
11	BCA Clauses E.12 & E13 To permit a Grade 2 water supply in lieu of Grade 1 supply	1003	Approved

12	BCA Clauses E1.2 & E1.5 To permit the working pressure of the fire services ring main to be increased from 1000Kpa to 1200Kpa	1003	Approved
13	BCA Clause E.1.4 To permit the deletion of fire hose reels throughout the residential floors as shown on the approved drawings.	1003	Approved
Notification item:	Deletion of Sprinklers: To advise of the deletion of sprinklers to external soffits, canopies and the like.	1003	Accepted
Notification item:	BCA Clause E1.5 Car Park Sprinkler Protection: To advise of the deletion of the dedicated sprinkler protection to vehicular ramps and aisle ways to the car park levels in lieu of providing such dedicated protection prescribed under AS2118.1	1003	Accepted

#### Conditions

Occupation is subject to the following conditions:

1. Essential safety measures must be maintained in accordance with the maintenance requirements set out in Annexure A of this permit.

#### Approved location for display of Occupancy Permit

The approved location for display of this permit for the purposes of regulation 1007 is in the Building Managers Office

#### Suitability for Occupation

The parts of the building to which this permit applies are suitable for occupation.

#### Building Permit Details

Building Permit Numbers to which this Occupancy Permit relates:	Dates of Relevant Building Permits:
16541/100133/1	21 MAY 2010
16541/100133/2	4 JUNE 2010
16541/100133/1 Amended	18 JUNE 2010
16541/100133/2 Amended	18 JUNE 2010
16541/100133/3	17 AUGUST 2010
16541/100133/4	27 SEPTEMBER 2010
16541/100133/5	28 JANUARY 2011
16541/100133/6	18 MARCH 2011
16541/100133/7	6 JUNE 2011
16541/100133/7 Amended	7 DECEMBER 2011

#### Relevant Building Surveyor

Signature of Relevant Building Surveyor

Name of Relevant Building Surveyor

Registration No.

Date of Final Inspection:

Date of Issue:



13 JUNE 2012

13 JUNE 2012

## Annexure A

### ESSENTIAL SAFETY MEASURES MAINTENANCE REQUIREMENTS

Reference No.: 14166F6a

Essential Safety Measures will be required to be maintained under conditions of the Occupancy Permit for this project. The following essential safety measures are required to be maintained to the prescribed frequency and levels of performance:

#### ESSENTIAL SAFETY MEASURES – BUILDING FIRE INTEGRITY

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Building elements required to satisfy prescribed fire resistance levels	Section C, D1.12 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Annual inspection for damage, deterioration, or unauthorised alteration
Materials and assemblies required to satisfy prescribed fire hazard properties	C1.10 & C1.10A	Annual inspection for damage, deterioration, or unauthorised alteration
Elements required to be non-combustible, provide fire protection, compartmentation or separation	C2.5 to C2.14, C3.3, C3.11, D1.7 – D1.8, E1.3 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Annual inspection for damage, deterioration, or unauthorised alteration
Wall-wetting sprinklers (including doors and windows required in conjunction with wall-wetting sprinklers)	C3.4, C3.8, C3.11, D1.7, D1.8 G3.8 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	As per AS 1851 – 2005 Section 2 if Sprinkler system installed or every six months to ensure compliance, no damage or deterioration and water supply availability
Fire doors (including sliding fire doors and their associated warning systems) and associated self-closing, automatic closing and latching mechanisms	C2.12 to C2.13, C3.4 to C3.8, C3.10 to C3.11 D1.7 to D1.8, D1.12 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Every three months as per AS 1851 – 2005 Section 17 check operation of handles, closers and electronic strikes
Solid core doors and associated self-closing, automatic closing and latching mechanisms	C3.11 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Annual inspection for damage, deterioration, and check operation of closers, handles and electronic strikes.
Fire-protection at service penetrations through elements required to be fire-resisting with respect to integrity or insulation, or to have a resistance to the incipient spread of fire	C3.12, C3.13, C3.15 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Every six months as per AS1851 – 2005 inspection for damage, deterioration, or unauthorised alteration.
Fire protection associated with construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation	C3.16	Every six months as per AS1851 – 2005 inspection for damage, deterioration, or unauthorised alteration.
Smoke doors and associated self-closing, automatic closing and latching mechanisms	Specification C2.5, D2.6 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Every three months as per AS1851 – 2005. Check operation of closers, handles and electronic strikes.



# **ESSENTIAL SAFETY MEASURES – MEANS OF EGRESS**

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Paths of travel to exits	D1.6 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Inspection every 3 months to ensure there are no obstructions and no alterations
Discharge from exit (including paths of travel from open spaces to the public roads to which they are connected)	D1.7, D1.9 to D1.11, D2.12, Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Inspection every 3 months to ensure there are no obstructions and no alterations
Exits (including fire-isolated stairways and ramps, non-fire isolated stairways and ramps, stair treads, balustrades and handrails associated with exits, and fire-isolated passageways)	D2.2 to D2.3, D2.8 to D2.11inc., D2.13, D2.16 to D2.17 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Inspection every 3 months to ensure there are no obstructions and no alterations
Smoke lobbies to fire-isolated exits	D1.7, D2.6 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Annual inspection for damage, deterioration, or unauthorised alteration
Doors (other than fire or smoke doors) in a required exit, forming part of a required exit or in a path of travel to a required exit, and associated self-closing, automatic closing and latching mechanisms	D1.6, D2.19 to D2.21, D2.23 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Inspection every three months to ensure doors are intact, operational and fitted with conforming hardware.

# **ESSENTIAL SAFETY MEASURES – SIGNS**

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Signs warning against the use of lifts in the event of fire	E3.3	Annual inspection to ensure the warning sign is in place and legible
Signs, intercommunication systems, or alarm system on doors of fire-isolated exits stating that re-entry to storey is available	D2.22 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Annual inspection to ensure the warning sign is in place and legible
Signs alerting persons that the operation of doors must not be impaired	D2.23 Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)	Annual inspection to ensure the warning sign is in place and legible

#### ESSENTIAL SAFETY MEASURES – LIGHTING

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Exit signs (including direction signs)	D1.12, E4.5, E4.6, E4.8, AS/NZS 2293.1	Every 6 months to AS 2293.2-2005
Emergency lighting	E4.2, E4.4, AS/NZS 2293.1	Every 6 months to AS 2293.2-2005

#### ESSENTIAL SAFETY MEASURES – FIRE FIGHTING SERVICES AND EQUIPMENT

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Fire hydrant system (including on-site pump set and fire-service booster connection)	E1.3, AS 2419.1  Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Weekly to AS1851 – 2005 Section 4 where pumps are installed or six monthly to AS1851 – 2005 Section 4.
Fire hose reel system	E1.4, AS 2441  Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)  Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Every six months to AS1851 – 2005 Section 14.
Sprinkler system	E1.5, H1.2, G3.8, AS 2118.1  Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)  Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Weekly to AS1851 – 2005 Section 2
Portable fire extinguishers	E1.6, AS 2444  Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)  Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Every six months to AS1851 – 2005 Section 15.4
Fire control centres (or rooms)	E1.8  Refer Thomas Nicolas Fire Engineering Report No. F07141.5 (V1)  Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Annual inspection to ensure compliance of construction and contents with BCA
Provisions for special hazards	E1.10  Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Inspection regime to be developed in consultation with designer utilising appropriate Australian Standards, manufacturer specifications, etc.

#### ESSENTIAL SAFETY MEASURES – AIR HANDLING SYSTEMS

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Automatic air pressurisation systems for fire-isolated exits	E2.2 Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Quarterly and as prescribed in AS1851 – 2005 Section 18.
Zone smoke control system	E2.2 Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Quarterly and as prescribed in AS1851 – 2005 Section 18.
Automatic smoke exhaust system	E2.2 Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Quarterly and as prescribed in AS1851 – 2005 Section 18.
Automatic smoke and heat vents (including automatic vents for atriums)	E2.2 Refer MFB Regulation 309 Consent & Report No. 1100282 Dated 29 March 2011	Quarterly and as prescribed in AS1851 – 2005 Section 18.
Air handling systems that do not form part of a smoke hazard management system and which may unduly contribute to the spread of smoke	E2.2	Quarterly and as prescribed in AS1851 – 2005 Section 18.
Miscellaneous air-handling systems covered by Sections 5 and 11 of AS/NZS 1668.1 serving more than one fire compartment	E2.2	Quarterly and as prescribed in AS1851 – 2005 Section 18.
Carpark mechanical ventilation system	F4.11, AS 1668.2	Frequency as nominated by manufacturer on label attached to equipment in accordance with AS1851 – 2005 Section 18

#### ESSENTIAL SAFETY MEASURES – AUTOMATIC FIRE DETECTION AND ALARM SYSTEMS

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Smoke and heat alarm system	Clause 3 of Specification E2.2a	As prescribed in AS1851 – 2005 Section 7. Monthly inspection to test operation. Replace battery or unit as necessary.
Smoke and heat detection system	Clause 4 of Specification E2.2a	Monthly as prescribed in AS1851 – 2005 Section 6

**ESSENTIAL SAFETY MEASURES – OCCUPANT WARNING SYSTEMS**

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Emergency warning and intercommunication system	E4.9, Clause 6 of Specification G3.8	Monthly to AS1851-2005 Section 10
Building occupant warning system	Clause 8 of Specification E1.5, Clause 6 of Specification E2.2a	Monthly as prescribed AS1851 – 2005 section 9

**ESSENTIAL SAFETY MEASURES – LIFTS**

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Stretcher facilities in lifts	E3.2	Annual inspection to ensure compliance of facilities with BCA
Emergency lifts	E3.4	As per requirements of AS 1735 Periodic inspection as per manufacturers specification, however no less than annual inspection
Passenger lift fire service controls	E3.7	Periodic inspection as per manufactures specification, however no less than annual inspection.

**ESSENTIAL SAFETY MEASURES – STANDBY POWER SUPPLY SYSTEMS**

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Standby power supply system	E3.4, Clause 6 of Specification G3.8	Every six months test to ensure auxiliary power is operable. For diesel engines – test as prescribed in AS 1851 - 2005 based on proving electrical load in lieu of flow/ pressure for pump sets

**ESSENTIAL SAFETY MEASURES – ACCESS FOR MAINTENANCE**

Essential Safety Measure to be inspected or tested	BCA or other provisions to which essential safety measure has been installed and is to operate	Frequency and type of maintenance required
Access for maintenance of all plant, equipment and components as required by BCA Part I2.	J8.2, I2.2	Annual inspection to ensure access is provide and components of services are maintained to perform to a standard not less than they were originally required to achieve.

**ESSENTIAL SAFETY MEASURES – MECHANICAL VENTILATION**

<b>Essential Safety Measure to be inspected or tested</b>	<b>BCA or other provisions to which essential safety measure has been installed and is to operate</b>	<b>Frequency and type of maintenance required</b>
Air conditioning systems	F4.5, AS 1668.2-1991, BCA E2.2	Quarterly to AS 1851 – 2005, AS 3666 - 1995

## APPENDIX C- PHOTOGRAPH OF INSPECTION 25 NOVEMBER 2014

	
<p>Living room cordoned off to create additional bedroom</p>	
	
<p>Multiple Beds in two bedroom apartment.</p>	





Wall between bedroom and balcony. Construction lightweight wall with steel studs, aluminium type external cladding plasterboard to internal. Material stored on balcony.



External wall at upper height



View of damaged wall and smoke detectors made inoperable. Others were covered over.



Photo of base of wall and penetrations plus overhang past balcony edge



## APPENDIX D- SCHEDULE OF DOCUMENTS LODGED WITH COUNCIL.

CoM Reference No.	DM reference	Documentation Type	Reference No.	Date of Issue	Other Descriptor
BD10-1011-P1	DM:5802644	Section 80	14166	13/05/2010	
"	DM:5806303	Section 80	14166	19/05/2010	
"	DM:5824096	Building Permit - Stage 1	16541/100133/1	21/05/2010	Level 00 & Level 0.5 ;
"	n/a	Additional Docs for Stage 1			Application for a Building Permit; Property Enquiry Certificate (28/3/2008); Melbourne Water Flooding letter; Plan of Subdivision - PS434050P ; Annual Contract Works/Plant Equipment Insurance (issued: 29/6/2009, expires 4pm, 30/6/2010) ; Annual Third Party Public Liability Insurance (issued: 29-6-2009, expires: 4pm.30/6/2010) ; Department of Planning and Community Development Planning Scheme Permit Application: #2007/0622A (19/04/2010) ; Report on Environmental Site Assessment.
"	DM:5843371	Building Permit - Stage 2	16541/100133/2	4/06/2010	Level 00 & Level 0.5;
"	n/a	Additional Docs for Stage 2			Application For A building Permit; Certificate of Compliance - Design (1/6/10); Precast Pile Design Submission; Retaining Walls - Continuous Flight Auger Pile Design Submission;
"	DM:5992801	Building Permit - Stage 3	16541/100133/3	17/08/2010	Level 00;
"	n/a	Additional Docs for Stage 3			Application For A building Permit; Certificate of Compliance - Design (4/8/10); Structural Computations Pile Cap Design for Early Work Package (May 2010);

"	DM:5868195	Amended Building permit - Stage 1	16541/100133/1 AMENDED	18/06/2010	
"	DM:5868033	Amended Building permit - Stage 2	16541/100133/2 AMENDED	18/02/2010	

BD10-1011-P2	n/a	Structural Computations for Building Permit - Stage 4		27/09/2010	Works up to Level 1; Structural Computations - Level 0.5 Floor Slab (August 2010) - carried over 4 files: BD10-1011-P2 > BD10-1011-P5
BD10-1011-P3	n/a	Structural Computations for Building Permit - Stage 4		27/09/2010	Works up to Level 1; Structural Computations - Level 0.5 Floor Slab (August 2010) - carried over 4 files: BD10-1011-P2 > BD10-1011-P5
BD10-1011-P4	n/a	Structural Computations for Building Permit - Stage 4		27/09/2010	Works up to Level 1; Structural Computations - Level 0.5 Floor Slab (August 2010) - carried over 4 files: BD10-1011-P2 > BD10-1011-P5
BD10-1011-P5	n/a	Structural Computations for Building Permit - Stage 4		27/09/2010	Works up to Level 1; Structural Computations - Level 0.5 Floor Slab (August 2010) - carried over 4 files: BD10-1011-P2 > BD10-1011-P5

BD-10-1011-P6	n/a	Structural Computations for Building Permit - Stage 4			Structural Computations - Level 1 Floor Slab (August 2010) - carried over 2 files: BD10-1011-P6 > BD10-1011-P7
BD-10-1011-P7	n/a	Structural Computations for Building Permit - Stage 4			Structural Computations - Level 1 Floor Slab (August 2010) - carried over 3 files: BD10-1011-P6 > BD10-1011-P7 ; Structural Computations - Level 0.0 Floor Slab (August 2010) carried over 2 files BD10-1011-P7> BD10-1011-P8

BD-10-1011-P8	n/a	Structural Computations for Building Permit - Stage 4			Structural Computations - Level 0.0 Floor Slab (August 2010) carried over 2 files BD10-1011-P7> BD10-1011-P9 Stops at page 11 of 23 and continues page 12 of 23 onwards at the back of file BD10-1011-P9.
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BD10-1011-P9	6057459	Building Permit - Stage 4	16541/100133/4	27/09/2010	Stage 4: Structural works up to Level 4
"	N/A	Additional Docs for Stage 4			Application for a Building Permit ; Certificate of Compliance-Design (13/9/10)
"	6291309	Building Permit - Stage 5	16541/100133/5	28/01/2011	Stage 5: Structural from Level 2-19
"	N/A	Additional Docs for Stage 5			Application for a Building Permit ; Department of Planning and Community Development Planning Scheme Permit application No. 2007/0266A ; Certificate of Compliance-Design 29/11/10, 6/10/10, 13/10/10, 11/11/10, 8/12/10, 28/1/11, 29/11/10, 23/12/10, 24/1/11 ; ON CD: Computations Level 2 Roof ; ON CD: Computation L1-L3
"	6291309	Building Permit - Stage 6	16541/100133/6	18/03/2011	Stage 6: Structural Works from Level 20-ROOF & Level 4 only
"	n/a	additional Docs for Stage 6			Application for a building permit ; Certificate of Compliance (Amended) on 2/12/11 ; Certificate of Compliance-Design (10/3/11) ON CD: Computations Level 2 ; ON CD: Computations Level 1-3
"	6744489	Building Permit - Stage 7	16541/100133/7	2/06/2011	Stage 7: All Works To Completion
"	n/a	additional docs for Stage 7			Structural Computations - Steel Work (Amended) Application for a Building Permit ; MFB Report NO: 1100282 ; Fire Engineering Report ; On CD: Arch Specs, Fire Engineering, Services Specs ;
"	n/a	Structural Computations for Building Permit - Stage 4			Structural Computations - Level 0.0 Floor Slab (August 2010) carried over 2 files BD10-1011-P7> BD10-1011-P9 continues page 12 of 23 onwards at the back of file BD10-1011-P9.

		continued..			
"	6892829	Building Permit - Stage 7 Amendment	16541/100133/7 (amendment)	7/12/2011	Stage 7: All Architectural and Services Works to Completion

BD10-1011-P10	7333835	Occupancy Permit	14166F6a	13/06/2012	Relates to Building Permits: 16541/100133/1-7 & Amended Permits for Stage 1,2 & 7 Part of Building: Ground Floor > Level 21 & Roof includes Essential Safety Measures ;
"	n/a	Alternative Building Solutions under the Performance Provisions of BCA 2009			Graduate certificate of performance based building and fire codes
"	n/a	inspection record	16541/100133 Stages 1-7		
"	n/a	Additional docs for Occupancy Permit	`		Application for occupancy Permit ; Fire Safety System Report (May 2012) ; Certificate of Electrical Safety
"	7230362	Certificate of Final Inspection	14166F7a	7/06/2012	Level 1 & Level 2 (RETAIL)
"	n/a	Additional docs for Certificate of Final Inspection			

# APPENDIX E- BCA EXTRACT

## PART **A0** APPLICATION

### **A0.1 Adoption**

The dates of adoption of the Building Code of Australia (Volume One) are shown in the “History of BCA Adoption” division at the end of this Volume.

### **A0.2 BCA Volumes**

- (a) The Building Code of Australia consists of two volumes, Volume One and Volume Two.
- (b) This is Volume One of the Building Code of Australia which contains the requirements for—
  - (i) all Class 2 to 9 buildings; and
  - (ii) access requirements for people with a disability in Class 1b and 10a buildings; and
  - (iii) certain Class 10b structures including access requirements for people with a disability in Class 10b *swimming pools*.
- (c) Volume Two contains the requirements for—
  - (i) Class 1 and 10a buildings (other than access requirements for people with a disability in Class 1b and 10a buildings); and
  - (ii) certain Class 10b structures (other than access requirements for people with a disability in Class 10b *swimming pools*); and
  - (iii) Class 10c *private bushfire shelters*.

**A0.3 BCA Structure** The structure of the BCA comprises the following as shown in **Figure A0.3**:

- (a) The *Objectives*.
- (b) The *Functional Statements*.
- (c) The *Performance Requirements* with which all *Building Solutions* must comply.
- (d) The *Building Solutions*.

### **Figure A0.3 — BCA Structure**

### **A0.4 Compliance with the BCA**

A *Building Solution* will comply with the BCA if it satisfies the *Performance Requirements*.

### **A0.5 Meeting the Performance Requirements**

Compliance with the *Performance Requirements* can only be achieved by—

- (a) complying with the *Deemed-to-Satisfy Provisions*; or
- (b) formulating an *Alternative Solution* which—
  - (i) complies with the *Performance Requirements*; or
  - (ii) is shown to b **Figure A0.3 — BCA Structure**

### **A0.4 Compliance with the BCA**

A *Building Solution* will comply with the BCA if it satisfies the *Performance Requirements*.

### **A0.5 Meeting the Performance Requirements**

Compliance with the *Performance Requirements* can only be achieved by—

- (a) complying with the *Deemed-to-Satisfy Provisions*; or
- (b) formulating an *Alternative Solution* which—
  - (i) complies with the *Performance Requirements*; or
  - (ii) is shown to be at least *equivalent* to the *Deemed-to-Satisfy Provisions*; or
- (c) a combination of (a) and (b).

## **A0.6 Objectives and Functional Statements**

The *Objectives* and *Functional Statements* may be used as an aid to interpretation.

## **A0.7 Deemed-to-Satisfy Provisions**

A *Building Solution* which complies with the *Deemed-to-Satisfy Provisions* is deemed to comply with the *Performance Requirements*.

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## **A0.8 GENERAL PROVISIONS A0.8 Alternative Solutions**

- (a) An *Alternative Solution* must be assessed according to one or more of the *Assessment Methods*.
- (b) An *Alternative Solution* will only comply with the BCA if the *Assessment Methods* used to determine compliance with the *Performance Requirements* have been satisfied.
- (c) The *Performance Requirements* relevant to an *Alternative Solution* must be determined in accordance with **A0.10**.

## **A0.9 Assessment Methods**

The following *Assessment Methods*, or any combination of them, can be used to determine that a *Building Solution* complies with the *Performance Requirements*:

- (a) Evidence to support that the use of a material, form of construction or design meets a *Performance Requirement* or a *Deemed-to-Satisfy Provision* as described in **A2.2**.
- (b) *Verification Methods* such as—
  - (i) the *Verification Methods* in the BCA; or
  - (ii) such other *Verification Methods* as the *appropriate authority* accepts for determining compliance with the *Performance Requirements*.
- (c) Comparison with the *Deemed-to-Satisfy Provisions*.
- (d) *Expert Judgement*.

## **A0.10 Relevant Performance Requirements**

In order to comply with the provisions of **A1.5** (to comply with Sections A to J inclusive) the following method must be used to determine the *Performance Requirement* or *Performance Requirements* relevant to the *Alternative Solution*:

- (a) Identify the relevant *Deemed-to-Satisfy Provision* of each Section or Part that is to be the subject of the *Alternative Solution*.
- (b) Identify the *Performance Requirements* from the same Sections or Parts that are relevant to the identified *Deemed-to-Satisfy Provisions*.
- (c) Identify *Performance Requirements* from other Sections and Parts that are relevant to any aspects of the *Alternative Solution* proposed or that are affected by the application of the *Deemed-to-Satisfy Provisions*, that are the subject of the *Alternative Solution*.
- (d) is shown to be at least *equivalent* to the *Deemed-to-Satisfy Provisions*; or
- (e) a combination of (a) and (b).

## **A0.6 Objectives and Functional Statements**

The *Objectives* and *Functional Statements* may be used as an aid to interpretation.

## **A0.7 Deemed-to-Satisfy Provisions**

A *Building Solution* which complies with the *Deemed-to-Satisfy Provisions* is deemed to comply with the *Performance Requirements*.

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## **A0.8 GENERAL PROVISIONS A0.8 Alternative Solutions**

(a) An *Alternative Solution* must be assessed according to one or more of the *Assessment Methods*.

(b) An *Alternative Solution* will only comply with the BCA if the *Assessment Methods* used to determine compliance with the *Performance Requirements* have been satisfied.

(c) The *Performance Requirements* relevant to an *Alternative Solution* must be determined in accordance with **A0.10**.

## **A0.9 Assessment Methods**

The following *Assessment Methods*, or any combination of them, can be used to determine that a *Building Solution* complies with the *Performance Requirements*:

(a) Evidence to support that the use of a material, form of construction or design meets a *Performance Requirement* or a *Deemed-to-Satisfy Provision* as described in **A2.2**.

(b) *Verification Methods* such as—

(i) the *Verification Methods* in the BCA; or

(ii) such other *Verification Methods* as the *appropriate authority* accepts for determining compliance with the *Performance Requirements*.

(c) Comparison with the *Deemed-to-Satisfy Provisions*.

(d) *Expert Judgement*.

## **A0.10 Relevant Performance Requirements**

In order to comply with the provisions of **A1.5** (to comply with Sections A to J inclusive) the following method must be used to determine the *Performance Requirement* or *Performance Requirements* relevant to the *Alternative Solution*:

(a) Identify the relevant *Deemed-to-Satisfy Provision* of each Section or Part that is to be the subject of the *Alternative Solution*.

(b) Identify the *Performance Requirements* from the same Sections or Parts that are relevant to the identified *Deemed-to-Satisfy Provisions*.

(c) Identify *Performance Requirements* from other Sections and Parts that are relevant to any aspects of the *Alternative Solution* proposed or that are affected by the application of the *Deemed-to-Satisfy Provisions*, that are the subject of the *Alternative Solution*.

## PART A2 ACCEPTANCE OF DESIGN AND CONSTRUCTION

### A2.1 Suitability of materials

Every part of a building must be constructed in an appropriate manner to achieve the requirements of the BCA, using materials and construction being fit for the purpose for which they are intended including the provision of access for maintenance.

### A2.2 Evidence of suitability

(a) Subject to **A2.3** and **A2.4**, evidence to support that the use of a material, form of construction or design meets a *Performance Requirement* or a *Deemed-to-Satisfy Provision* may be in the form of one or a combination of the following:

(i) A report issued by a *Registered Testing Authority*, showing that the material or form of construction has been submitted to the tests listed in the report, and setting out the results of those tests and any other relevant information that demonstrates its suitability for use in the building.

(ii) A current *Certificate of Conformity* or a current *Certificate of Accreditation*.

(iii) A certificate from a *professional engineer* or other appropriately qualified person which—

(A) certifies that a material, design, or form of construction complies with the requirements of the BCA; and

(B) sets out the basis on which it is given and the extent to which relevant specifications, rules, codes of practice or other publications have been relied upon.

(iv) A current certificate issued by a product certification body that has been accredited by the Joint Accreditation System of Australia and New Zealand (JAS-ANZ).

(v) \*\*\*\*\*

(vi) Any other form of documentary evidence that correctly describes the properties and performance of the material or form of construction and adequately demonstrates its suitability for use in the building.

(b) Evidence to support that a calculation method complies with an ABCB protocol may be in the form of one or a combination of the following:

(i) A certificate from a *professional engineer* or other appropriately qualified person which—

(A) certifies that the calculation method complies with a relevant ABCB protocol; and

(B) sets out the basis on which it is given and the extent to which relevant specifications, rules, codes of practice and other publications have been relied upon.

(ii) Any other form of documentary evidence that correctly describes how the calculation method complies with a relevant ABCB protocol.



## APPENDIX F – ACCREDITATION OF ALUCOBOND –TECHNICAL DATA

ALUCOBOND® Type			ALUCOBOND® PE	ALUCOBOND® PLUS	ALUCOBOND® A2					
Panel Thickness	Standard	Unit	3mm	4mm	6mm	3mm	4mm	6mm	3mm	6mm
Aluminium skin thickness		mm	0.5							
Core			Virgin LDPE	70% Mineral Filling	93% Mineral Filling					
Weight		kg/m <sup>2</sup>	4.5	5.5	7.3	5.9	7.6	10.8	5.9	10.8
Section Modulus Z	DIN 53293	cm <sup>3</sup> /m	1.25	1.75	2.75	1.25	1.75	2.75	1.25	2.75
Rigidity EI	DIN 53293	kNcm <sup>2</sup> /m	1250	2400	5900	1250	2400	5900	1250	5900
Modulus of Elasticity E	EN 1999 1.1	Mpa	70,000							
Alloy	EN 573.3		EN AW 5005A (AlMg1)							
Temper	EN 515		H22 / H42							
Tensile Strength	EN 485.2	MPa	R <sub>m</sub> => 130							
0.2% Proof Stress	EN 485.2	MPa	R <sub>p0.2</sub> => 90							
Elongation	EN 485.2	%	A <sub>50</sub> => 5							
Linear Thermal Expansion	EN 1999 1.1		2.4mm/m at 100 <sup>0</sup> C temperature difference							
Finish			Coil Coated Fluoropolymer (PVDF or FEVE)							
Gloss	EN 13523.2		Finish Dependant - Standard = 30 - 40%							
Pencil Hardness	EN 13523.4		HB - F							
Acoustic Properties:										
Sound Absorption factor a <sub>s</sub>	ISO 354		0.05							
Sound Transmission Loss R <sub>w</sub>	EN ISO 140.3	dB	25	26	27	27	27	27	27	27
Loss Factor d	EN ISO 6721		0.0072	0.0087	0.0138				0.004	
Thermal Properties										
Thermal Resistance R	DIN 52612	m <sup>2</sup> K/W	0.0069	0.0103	0.0172	0.006	0.009	0.0151	0.002	0.005
Thermal Conductivity λ	DIN 52612	W/mK	0.29/mm thickness of	0.33/mm thickness of core	1.00/mm thickness of core					
Heat Transition Coefficient U	DIN 4108	W/m <sup>2</sup> K	5.65	5.54	5.34	5.68	5.58	5.34	5.83	5.71
Temperature Resistance		<sup>0</sup> C	-50 up to +80							
Fire Behaviour										
Australian Fire Classification	ABCB CodeMark Certification		Cert. No. CMA -	Cert. No. CMA - CM40032	Cert. No. CMA - CM40059					
			Type C Construction	Type A & B Construction	Type A & B Construction					
				Mechanical Fixing Only	Mechanical Fixing Only					
			Mechanical & adhesive techniques permitted	Type C Construction	Type C Construction					
				Mechanical & adhesive fixing techniques permitted.	Mechanical & adhesive fixing techniques permitted.					
	AS ISO 9705	Group 3 MaterialSMOGRA 3.198 m <sup>2</sup> /s <sup>2</sup>				Group 1 MaterialSMOGRA		Group 1		
	AS1530.3	Ignitibility = 0 Flame Spread = 0								
		Heat Evolved = 0 Smoke Developed = 0 - 1								

\*ALUCOBOND® is 5005 Marine Grade Alloy approved. Sheet Sizes Widths: 1250mm & 1575mm held in stock. 1000mm, 1500mm and special widths up to 2000mm available as project order. - See more at: <http://alucobond.com.au/product/alucobond-plus/#sthash.zvECfAgb.dpuf>

