STEPHEN GRUBITS & ASSOCIATES

Stephen Grubits & Associates Pty Ltd
ABN 24 075 049 688
PO Box N522, Grosvenor Place NSW 1220
T: +61 2 9247 1444 **E**: sydney@grubits.com.au **W**: www.grubits.com.au

100 Eton Road, Lindfield

LINDFIELD LEARNING VILLAGE

FIRE SAFETY STRATEGY REPORT

REPORT 2018/321 R6.0 DRAFT

REVISION CONTROL

Report No.	Issue Date	Report Details		
2018/321 R6.0 DRAFT	26/06/2019	Description:	DRAFT Report	
		Prepared by:	Andrew Sung (Fire Safety Engineer)	
		Verified by:	Harriet Peel (Senior Fire Safety Engineer)	
		Approved and Issued by:	Carlos Quaglia (Managing Director, C10 - BPB0334)	

EXECUTIVE SUMMARY

This report documents the Fire Safety Strategy for the proposed works for Stage 2 for Lindfield Learning Village located at 100 Eton Road, Lindfield.

Stephen Grubits & Associates Pty Ltd has been appointed by School Infrastructure NSW to assess feasibility of fire-engineered Performance Solutions to address departures from the Building Code of Australia (BCA) Deemed-to-Satisfy (DTS) provisions listed in Table 1.

This Fire Safety Strategy Report is preliminary only and demonstration that the specified Fire Safety Strategy for the building will comply with the identified Performance Requirements will be the subject of a Fire Engineering Assessment and include consultation with FRNSW. This assessment is to be undertaken at a later stage, using fire safety engineering methodologies in accordance with the International Fire Engineering Guidelines. Should the assessment reveal that the proposed systems do not satisfy the performance criteria, additional fire safety systems or modifications to the strategy followed by further assessment would be required.

The building departures outlined in Table 1 have been identified by Modern Building Certifiers in accordance with Building Codes of Australia 2016 Amendment 1 [(1)]. The BCA Assessment prepared by Modern Building Certifiers was preliminary in nature, therefore it is understood that further DTS departures requiring fire engineering input may be required in the future.

Table 1 – Building Departures from the DTS Provisions of the BCA

Item	DTS Provision	Description of Departures from the DTS Provisions	Performance Requirements
1.	Clause C2.8 and Clause C2.9	**Fire Separation:** The storage area within fire compartment B has a floor area greater than 10% of floor area of level 2. The use of this area is Class 7b (storage) which requires building element to achieve an FRL of not less than 240 minutes or the area being fire-separated by a firewall which achieves an FRL of not less than 240 minutes.	CP1 and CP2
2.	Clause D1.4 and Clause D1.5	**Extended Travel Distances:** The following areas exceed the maximum allowable travel distance: • Level 2 Zone J (Storeroom) Travel distance to required exits greater than 40 m with distance between required exits greater than 60 m of up to 80 m; • Level 2 Zone K – Travel distance to a point of choice from GA Store is greater than 20 m of up to 30 m; • Level 2 Zone N – o Travel distance to a point choice exceeds 20 m up to 30 m; and o The overall travel distance beyond the COLA exceeds 40 m (of up to 45 m) to open space. • Level 3 Zone K – Travel distance to required exit exceeds 40 m of up to 45 m; • Level 3 Zone N – o Travel distance to a point choice exceeds 20 m up to 30 m; and	DP4 and EP2.2

[(1)] BCA Design Compliance Report – Lindfield Learning Village, 100 Eton Road, Lindfield prepared by Modern Building Certifiers, issued on 12 June 2019.

Item	DTS Provision	Description of Departures from the DTS Provisions	Performance Requirements
		○ Travel distances to required exit exceeds 40 m of up to 50 m. • Level 4 Zone N – ○ Travel distance to a point of choice exceeds 20 m of up to 30 m; ○ Travel distance to the nearest exit exceeds 40 m of up to 60 m; and ○ Travel distance between alternative exits exceed 60 m of up to 80 m. • Level 5 Zone K – Travel distance to a point of choice exceeds 20 m of up to 36 m.	
3.	Clause D1.10	**Path of Travel:** Required exits that discharge onto external terraces where the path of travel to the public road, necessitates passing underneath covered area (shade sails) as it is not considered to be open to the sky.	DP4
4.	Clause D1.3 and Clause D1.7	**Fire-isolated Stairways:** • Fire-separation (Level 3 Zone J) – There is an existing internal stairway which currently connects four (4) storeys. It is proposed to fire-separate the stairway at Level 3 by a new wall and fire curtain. The whole stairway is required to be contained within a fire-isolated shaft which discharges outside the building. • Discharge from Fire-isolated Stairway (Level 2 Zone K) – The fire-isolated stairway discharges into public corridor before access to required exits that leads to the terrace. The path of travel to open space necessitates access past window and doorway opening. In addition, the terrace will be covered with shade cloth and final egress path is via a stairway underneath the COLA before open space is reached.	CP2, DP4 and DP5

As indicated within the above table, it is considered that Performance Solutions for the identified issues could be developed, having regard to the proposed fire safety measures. The proposed fire safety measures are considered likely to provide a level of fire safety which is equivalent to a BCA compliant design, and include, but are not limited to, the following:

- Limit fire spread within the building;
- Enable occupants to egress the building safely; and
- Facilitate adequate fire brigade intervention.

It is considered that the identified departures from the DTS Provisions of the BCA for Lindfield Learning Village located at 100 Eton Road, Lindfield could be adequately supported by fire-engineered Performance Solutions.

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LIST OF ACRONYMS

AS	Australian Standard
ASET	Available Safe Evacuation Time
BCA	National Construction Code Series Volume One Building Code of Australia, 2016 Amendment 1
DTS	Deemed-to-Satisfy
FER	Fire Engineering Report
FRL	Fire Resistance Level
FRNSW	Fire and Rescue NSW
IFEG	International Fire Engineering Guidelines
RSET	Required Safe Evacuation Time
SGA	Stephen Grubits & Associates Pty Ltd

1. INTRODUCTION

This report documents the Fire Safety Strategy for the proposed works for Stage 2 for Lindfield Learning Village located at 100 Eton Road, Lindfield.

Stephen Grubits & Associates Pty Ltd has been appointed by School Infrastructure NSW to assess feasibility of fire-engineered Performance Solutions to address departures from the Building Code of Australia (BCA) [2] Deemed-to-Satisfy (DTS) provisions listed in Table 1.

This Fire Safety Strategy Report is preliminary only and demonstration that the specified Fire Safety Strategy for the building will comply with the identified Performance Requirements will be the subject of a Fire Engineering Assessment. This assessment is to be undertaken at a later stage, using fire safety engineering methodologies in accordance with the International Fire Engineering Guidelines.

The areas of departures from the DTS provisions of the BCA addressed in this report are related to the following:

- Fire-separation;
- Extended travel distances;
- Path of travel; and
- Fire-isolated stairways.

[2] National Construction Code Series, Volume 1 Amendment 1, Building Code of Australia 2016, Australian Building Codes Board.

2. LIMITATIONS & ASSUMPTIONS

1. The scope of this report is limited to an assessment of the departures from the DTS provisions identified in Table 1. No assessment has been undertaken on any other non-compliances in the building, nor have any other non-compliances been considered in the assessment.

2. This report does not consider property damage to the building as a result of the fire scenarios addressed in this study.

3. The assessment is based on the objectives of the BCA being that of:
   - Occupant life safety;
   - Facilitation of the Fire Brigade intervention; and
   - Protection of adjoining property.

4. Should a change in use or building alterations or additions occur in the future, a re-assessment will be needed to verify consistency with the analysis contained within this report.

5. All of the fire safety systems are assumed to operate as designed unless specifically stated otherwise.

6. This report does not address sections B, F, H, J of the BCA, nor does it address access provisions.

7. This report does not include any consideration of hazard or risk associated with any combustible cladding on the building.

3. DESIGN DOCUMENTATION

The following report has been reviewed for the preparation of this report.

Table 2 – Design Documentation (Report)

Title / Description	Report No.	Revision	Issued By	Issued Date
Lindfield Learning Village (Stage 2) – BCA Assessment Report	-	A	Modern Building Certifiers	6th June 2019

The following drawing sets have been reviewed for the preparation of this report.

Table 3 – Design Documentation (Drawings)

Title / Description	Drawing No.	Revision	Issued By	Issued Date
STAGE 2 – GA PLAN – LEVEL 1 – ZONE N	AR-2-2301N	B	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 1 – ZONE P	AR-2-2301P	F	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 1 – ZONE Q	AR-2-2301Q	E	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 1 – ZONE R	AR-2-2301R	B	DesignInc	03/18/2019
STAGE 2 – GA PLAN – LEVEL 2 – ZONE E	AR-2-2302E	D	DesignInc	24/08/2018
STAGE 2 – GA PLAN – LEVEL 2 – ZONE H	AR-2-2302H	D	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 2 – ZONE J	AR-2-2302J	E	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 2 – ZONE K	AR-2-2302K	E	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 2 – ZONE M	AR-2-2302M	D	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 2 – ZONE N	AR-2-2302N	E	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 2 – ZONE P	AR-2-2302P	E	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 2 – ZONE Q	AR-2-2302Q	D	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 3 – ZONE E	AR-2-2303E	D	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 3 – ZONE H	AR-2-2303H	A	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 3 – ZONE J	AR-2-2303J	D	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 3 – ZONE K	AR-2-2303K	D	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 3 – ZONE M	AR-2-2303M	A	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 3 – ZONE N	AR-2-2303N	D	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 3 – ZONE P	AR-2-2303P	D	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 3 – ZONE Q	AR-2-2303Q	D	DesignInc	14/04/2019
STAGE 2 – GA PLAN – LEVEL 4 – ZONE B	AR-2-2304B	D	DesignInc	21/03/2017
STAGE 2 – GA PLAN – LEVEL 4 – ZONE C	AR-2-2304C	D	DesignInc	21/03/2017
STAGE 2 – GA PLAN – LEVEL 4 – ZONE F	AR-2-2304F	D	DesignInc	30/04/2019
STAGE 2 – GA PLAN – LEVEL 4 – ZONE G	AR-2-2304G	D	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 4 – ZONE H	AR-2-2304H	C	DesignInc	30/04/2019
STAGE 2 – GA PLAN – LEVEL 4 – ZONE J	AR-2-2304J	E	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 4 – ZONE K	AR-2-2304K	E	DesignInc	21/04/2017

STAGE 2 – GA PLAN – LEVEL 4 – ZONE M	AR-2-2304M	C	DesignInc	30/04/2019
STAGE 2 – GA PLAN – LEVEL 4 – ZONE N	AR-2-2304N	D	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 4 – ZONE P	AR-2-2304P	D	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 5 – ZONE A	AR-2-2305A	D	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 5 – ZONE B	AR-2-2305B	D	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 5 – ZONE C	AR-2-2305C	D	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 5 – ZONE D	AR-2-2305D	D	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 5 – ZONE J	AR-2-2305J	E	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 5 – ZONE K	AR-2-2305K	E	DesignInc	21/04/2017
STAGE 2 – GA PLAN – LEVEL 6 – ZONE A	AR-2-2306A	A	DesignInc	24/08/2018
STAGE 2 – GA PLAN – LEVEL 6 – ZONE B	AR-2-2306B	A	DesignInc	24/08/2018
STAGE 2 – GA PLAN – LEVEL 6 – ZONE C	AR-2-2306C	A	DesignInc	24/08/2018
STAGE 2 – GA PLAN – LEVEL 6 – ZONE D	AR-2-2306D	A	DesignInc	24/08/2018

4. BUILDING DESCRIPTION

4.1. GENERAL CHARACTERISTICS

Lindfield Learning Village is situated at the former University of Technology Sydney site at 100 Eton Road, Lindfield. The project consists of converting the existing university buildings to school facilities for students from Year 1 to Year 12, as well as administration and support facility including distant learning. There are three stages to the conversion and construction works, stage 1, 2 and 3. Stage 1 has been completed in early 2019 to accommodate 354 students and 70 staff. This report relates to Stage 2, to expand the school to accommodate more students and staff, up to a student population of 1,050 people. Stage 3 building is expected to be separated from Stage 1 and 2 via two-hour fire-resisting walls, and is not the subject of this report.

4.2. BCA REFERENCE CRITERIA

The following BCA criteria for Stage 2 of the development have been extracted from the BCA Design Compliance Report Revision A prepared by Modern Building Certifiers dated 6 June 2019.

Table 4 – BCA Reference Criteria

Building Classification	Class 5, 7a, 7b and 9b.
Rise in Storeys	6
Type of Construction	Type A
Effective Height	<25 m
Floor Area	22,560 m^2

4.3. OCCUPANT CHARACTERISTICS

Occupants within the building would comprise of students staff, visitors and security personnel. Characteristics are as follows:

- **Staff** and **students** are expected to be awake and fully conscious, and familiar with the building and its layout.
- **Visitors** are expected to be awake and fully conscious, however they may not be familiar with the building and its layout.
- A number of staff, including teachers, are assumed to have emergency training.

5. METHODOLOGY

In accordance with Clause A0.3 of the BCA, the process for formulating a Performance Solution is based on determination of the following:

- The appropriate Assessment Method for assessing the Performance Solution, detailed in Clause A0.5 of the BCA.
- The Performance Requirements relevant to the Performance Solution, in accordance with Clause A0.7 of the BCA.

The methodology adopted in formulating a Performance Solution is that described in the International Fire Engineering Guidelines [3]. The Guidelines provide guidance for the design of performance-based solutions for the BCA in order to achieve acceptable levels of safety so as to achieve compliance with the identified BCA Performance Requirements.

The fire safety engineering design process detailed in the Guidelines follows the general engineering design philosophy where an objective is identified, measurable performance objectives are established as expressions of that objective and solutions are analysed using appropriate techniques in order to measure the attainment of the performance objectives.

The specific method of analysis adopted for each Performance Solution is detailed in the relevant section of this report. The analysis and its outcomes will be included in the Fire Engineering Assessment, to be completed at a later date.

[3] International Fire Engineering Guidelines, Edition 2005, Australian Building Codes Board.

6. PROPOSED FIRE SAFETY STRATEGY

The building departures from the Deemed-to-Satisfy (DTS) provisions of the Building Code of Australia (BCA) have been identified to Stephen Grubits & Associates by Modern Building Certifiers, and are provided in Table 5. Having regard to the departures from the DTS Provisions of the BCA, the general fire safety strategy for Lindfield Learning Village located at 100 Eton Road, Lindfield will be based on suitable fire safety measures in order to:

- Limit fire spread within the building;
- Limit spread of smoke within the building;
- Enable safe occupant egress; and
- Facilitate adequate fire brigade intervention.

Based on the objectives above, the proposed Fire Safety Strategy by Stephen Grubits & Associates (SGA) relating to the potential Performance Solutions is detailed in Table 5.

Table 5 – Proposed Fire Safety Strategy

Item	DTS Provisions	Descriptions	Proposed Fire Safety Strategy
1.	Clause C2.8 and Clause C2.9	**Fire Separation:** The storage area within fire compartment B has a floor area greater than 10% of floor area of level 2. The use of this area is Class 7b (storage) which requires building element to achieve an FRL of not less than 240 minutes or the area being fire-separated by a firewall which achieves an FRL of not less than 240 minutes. Performance Requirements CP1 and CP2	A Performance Solution may be provided through a quantitative analysis having regard to the provision of sprinkler system and smoke detection system compared to the egress time for occupants. Some minor upgrade works to certain elements within the building may be required to support the Performance Solution. A Performance Solution in combination with some minor upgrade works is likely to be capable of demonstrating that a reduced FRL in some circumstances will meet the relevant Performance Requirements of the BCA. Where a reduced FRL cannot be justified via a Performance Solution, then the relevant element will be upgraded to comply with the DTS Provisions of the BCA.
2.	Clause D1.4 and Clause D1.5	**Extended Travel Distances:** The following areas exceed the maximum allowable travel distance: • Level 2 Zone J (Storeroom) Travel distance to required exits greater than 40 m with distance between required exits greater than 60 m of up to 80 m; • Level 2 Zone K – Travel distance to a point of choice	The exit travel distances will be assessed quantitatively. Fire and smoke modelling results is to be utilised to provide ASET/RSET comparison on the tenability of occupants. The Performance Solution is to include the use of the fire safety systems in the proposed building such as reduced spacing of smoke detectors to provide earlier warning to occupants, and permit safe egress.

		from GA Store is greater than 20 m of up to 30 m; • Level 2 Zone N – ○ Travel distance to a point choice exceeds 20 m up to 30 m; and ○ The overall travel distance beyond the COLA exceeds 40 m (of up to 45 m) to open space. • Level 3 Zone K – Travel distance to required exit exceeds 40 m of up to 45 m; • Level 3 Zone N – ○ Travel distance to a point choice exceeds 20 m up to 30 m; and ○ Travel distances to required exit exceeds 40 m of up to 50 m. • Level 4 Zone N – ○ Travel distance to a point of choice exceeds 20 m of up to 30 m; ○ Travel distance to the nearest exit exceeds 40 m of up to 60 m; and ○ Travel distance between alternative exits exceed 60 m of up to 80 m. • Level 5 Zone K – Travel distance to a point of choice exceeds 20 m of up to 36 m. Performance Requirements DP4 and EP2.2	
3.	Clause D1.10	**Path of Travel:** Required exits that discharge onto external terraces where the path of travel to the public road, necessitates passing underneath covered area (shade sails) as it is not considered to be open to the sky. Performance Requirement DP4	A Performance Solution can be prepared through qualitative analysis with the provision of the following: • The covered area is purely a circulation space and does not contain any combustibles; • The covered area (shade sails) are made of non-combustible material and does not form flaming droplets when affected by fire. In such instance, it may provide safe path of egress for occupants passing underneath the sails and

			would not impact on fire fighters entering the building. • The perimeter of the sails is open to the sky and smoke would be able to vent out effectively.
4.	Clause D1.3 and Clause D1.7	**Fire-isolated Stairways:** • Fire-separation (Level 3 Zone J) – There is an existing internal stairway which currently connects four (4) storeys. It is proposed to fire-separate the stairway at Level 3 by a new wall and fire curtain. The whole stairway is required to be contained within a fire-isolated shaft which discharges outside the building. • Discharge from Fire-isolated Stairway (Level 2 Zone K) – The fire-isolated stairway discharges into public corridor before access to required exits that leads to the terrace. The path of travel to open space necessitates access past window and doorway opening. In addition, the terrace will be covered with shade cloth and final egress path is via a stairway underneath the COLA before open space is reached. Performance Requirements CP2, DP4 and DP5	• Level 3 Zone J – As part of the proposed strategy, the subject stairs located within Level 3 Zone J would be provided with a fire curtain which will activate on fire trip to provide a fire barrier. This would essentially connect 3 storeys instead of 4 storeys in the event of a fire, and therefore be comparable to a Deemed-to-Satisfy design. Additional measures to ensure the performance of this system would include obstruction sensors. • Level 2 Zone K – Further, for the fire-isolated stairway discharging into public corridor located within Level 2 Zone K, it is proposed to provide a fire-isolated lobby at the discharge point before exiting the building via an adjacent fire compartment. Openings such as windows along the path of egress may require protection (e.g. drenchers). Alternatively, fire doors within the fire-isolated lobby may be provided with small windows to visualise adjacent fire compartments to take the appropriate egress path. Further, the shade cloth and the COLA could be assessed similarly to the provisions mentioned in Item 3. Based on the above, a Performance Solution could be prepared through qualitative analysis.

As indicated within the above table, it is considered that Performance Solutions for the identified issues could be developed, having regard to the proposed fire safety measures. The proposed fire safety measures are considered to provide a level of fire safety which is equivalent to a BCA compliant design, and include, but are not limited to, the following:

- Limit fire spread within the building;
- Enable occupants to egress the building safely; and
- Facilitate adequate fire brigade intervention.

Demonstration that this fire safety strategy achieves compliance with the relevant Performance Requirements of the BCA will be undertaken as part of the fire engineering assessment at a later date, using fire safety methodologies in accordance with International Fire Engineering Guidelines. Further technical details of the proposed fire safety measures would be provided with the Fire Engineering Brief

(FEB) and Fire Engineering Report (FER) to be developed during the design development phase of the project.

Once the Development Approval has been received, consultation with Fire and Rescue NSW (FRNSW) will be undertaken by way of completing and submitting the Fire Engineering Brief Questionnaire (FEBQ).

It is not envisaged that any significant modifications to the plans would be required to satisfy the Performance Solutions.

7. SUMMARY

It is considered that the identified departures from the DTS Provisions of the BCA for the proposed Stage 2 works of Lindfield Learning Village at 100 Eton Road, Lindfield could be adequately supported by Performance Solutions to demonstrate compliance with Performance Requirements CP1, CP2, DP4, DP5 and EP2.2 of the BCA.

The feasibility of the proposed Performance Solutions has been examined considering the design documentation listed in Section 3 of this report. Any design changes may affect the recommendations made in this report.

Demonstration that the specified Fire Safety Strategy for the building will comply with the identified Performance Requirements will be the subject of a Fire Engineering Assessment which would include consultation with FRNSW. This assessment is to be undertaken a later stage, using fire safety engineering methodologies in accordance with the International Fire Engineering Guidelines. Should the assessment reveal that the propose systems do not satisfy the performance criteria, additional fire safety systems or modifications to the strategy followed by further assessment would be required.

8. REFERENCES

International Fire Engineering Guidelines, Edition 2005, Australian Building Codes Board.

National Construction Code Series, Volume 1 Amendment 1, Building Code of Australia 2016 Amendment 1, Australian Building Codes Board.

National Construction Code Series, *Guide to Volume 1, Building Code of Australia 2016 Amendment 1,* Australian Building Codes Board.

APPENDIX A. PERFORMANCE REQUIREMENTS

CP1 *A building must have elements which will, to the degree necessary, maintain structural stability during a fire appropriate to-*

(a) the function or use of the building; and

(b) the fire load; and

(c) the potential fire intensity; and

(d) the fire hazard; and

(e) the height of the building; and

(f) its proximity to other property; and

(g) any active fire safety systems installed in the building; and

(h) the size of any fire compartment; and

(i) fire brigade intervention; and

(j) other elements they support; and

(k) the evacuation time.

CP2 *(a) A building must have elements which will, to the degree necessary, avoid the spread of fire-*

(i) to exits; and

(ii) to sole-occupancy units and public corridors; and

(iii) between buildings; and

(iv) in a building.

(b) Avoidance of the spread of fire referred to in (a) must be appropriate to-

(v) the function or use of the building; and

(vi) the fire load; and

(vii) the potential fire intensity; and

(viii) the fire hazard; and

(ix) the number of storeys in the building; and

(x) its proximity to other property; and

(xi) any active fire safety systems installed in the building; and

(xii) the size of any fire compartment; and

(xiii) fire brigade intervention; and

(xiv) other elements they support; and

(xv) the evacuation time.

DP4 *Exits must be provided from a building to allow occupants to evacuate safely, with their number, location and dimensions being appropriate to-*

(a) the travel distance; and

(b) the number, mobility and other characteristics of occupants; and

(c) the function or use of the building; and

(d) the height of the building; and

(e) whether the exit is from above or below ground level.

DP5 *To protect evacuating occupants from a fire in the building exits must be fire isolated, to the degree necessary. appropriate to-*

(a) the number of storeys connected by the exits; and

(b) the fire safety system installed in the building; and

(c) the function or use of the building; and

(d) the number of storeys passed through by the exits; and

(e) fire brigade intervention.

EP2.2 *(a) In the event of a fire in a building the conditions in any evacuation route must be maintained for the period of time occupants take to evacuate the part of the building so that-*

(i) the temperature will not endanger human life; and

(ii) the level of visibility will enable the evacuation route to be determined; and

(iii) the level of toxicity will not endanger human life.

(b) The period of time occupants take to evacuate referred to in (a) must be appropriate to-

(i) the number, mobility and other characteristics of the occupants; and

(ii) the function or use of the building; and

(iii) the travel distance and other characteristics of the building; and

(iv) the fire load; and

(v) the potential fire intensity; and

(vi) the fire hazard; and

(vii) any active fire safety systems installed in the building; and

(viii) fire brigade intervention.