BUILDING INNOVATIONS AUSTRALIA

BCA 2015

INDICATIVE COMPLIANCE REPORT

FOR DA LODGEMENT

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Liverpool, NSW

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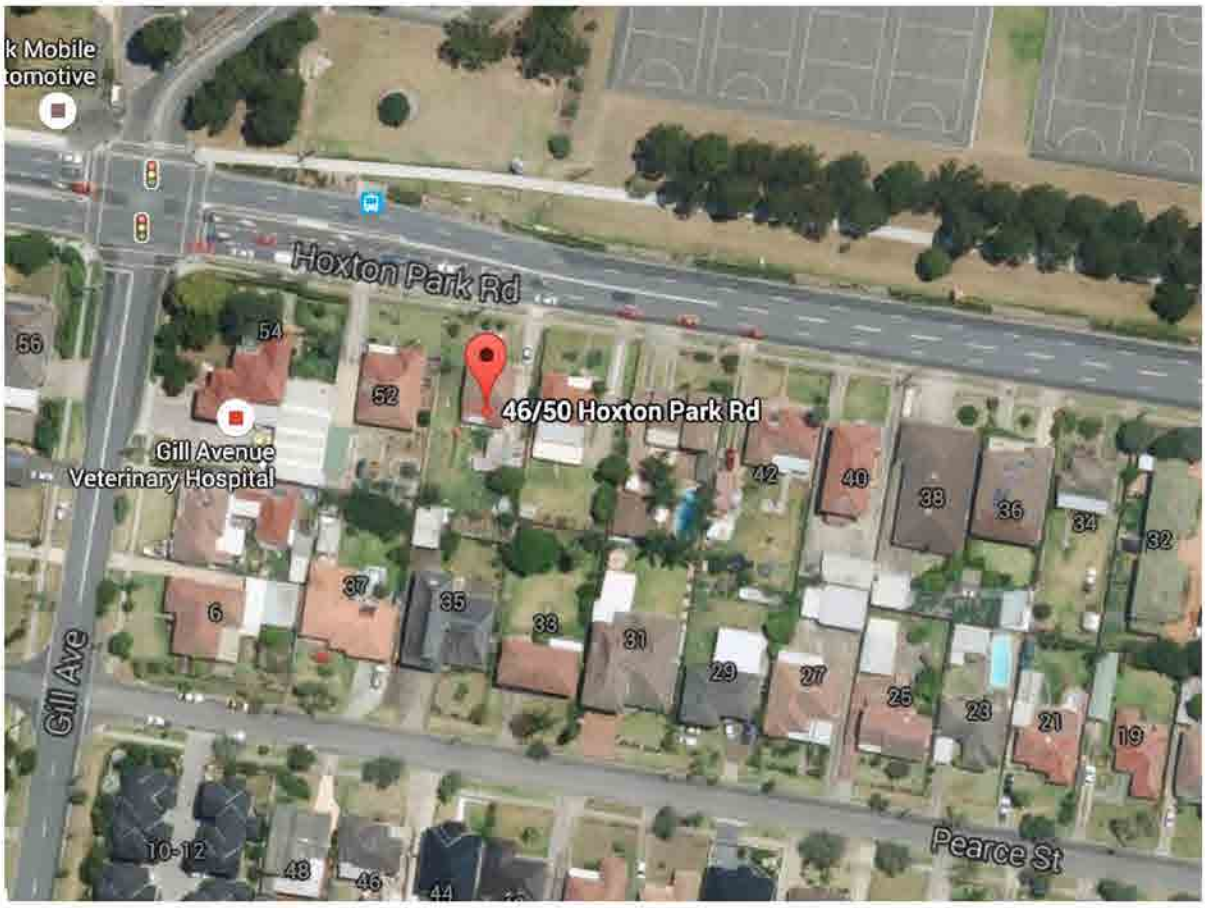
1.0. INTRODUCTION

1.1. Location and Description

This report is prepared in preparation of a Development Application (DA) lodgement and is for assessment purposes, it comprises a National Building Code of Australia 2015 (NBCA) assessment of the proposed residential flat building as required under Clause 145 of the Environmental Planning and Assessment Regulations.

The development incorporates the construction of a 5 storey residential flat building comprising of thirty (30) residential apartments and associated storage and parking spaces located within the basement ground level.



1.2. Report Purpose

The purpose of this report is to provide an indicative compliance assessment of the DA design documentation for the proposal, against the current requirements of the BCA.

Demonstrating compliance with the BCA is not a prescribed head of consideration under Section 79C of the Environmental Planning & Assessment Act 1979. It is noted however that Council has an obligation to consider whether the DA proposal, as lodged, is indicatively capable of complying with the BCA - without significant modification to those plans for which approval is sought.

This report will demonstrate that there will be no additional requirements, resulting from prescribed application of the BCA, for any significant design changes that would necessitate the submission of an application under Section 96 of the Environmental Planning and Assessment Act 1979.

As such, and to pre-empt the Certifying Authority's role under clause 145 of the Environmental Planning & Assessment Regulation 2000, we have undertaken a preliminary assessment of the development against the provisions of the BCA applicable to the lodged Development Application.

1.3. AS4299-1995 Adaptable Housing

Reference is made within this report to adaptable housing, however a formal access consultant should be engaged to undertake a final detailed assessment against AS4299.1995. As listed under AS4299-1995 Adaptable Housing the objectives for adaptable housing are as follows:

OBJECTIVES

1. That housing be designed and constructed or altered in a way which satisfies the performance requirements for adaptable housing enumerated in Clause below.
2. That housing is designed in such a way that later alterations to suit individual requirements will be achievable at minimal extra initial cost.
3. That housing be designed in such a way that it will easily adapt to suit the widest possible range of lifetime needs. This will include the needs of people with physical disabilities (including people who use wheelchairs, people with disabilities who are ambulant, and people with manipulatory disabilities); people with sensory disability (vision, hearing) and people with intellectual disability.
4. The initial design will allow for visibility through an accessible path of travel to the living room and toilet.

PERFORMANCE REQUIREMENTS

1. Adaptable housing units shall be designed and
2. constructed to meet the following requirements:
    (a) **Visibility** To be visitable by people who use wheelchairs, in that there must be at least one wheelchair accessible entry and path of travel to the living area and to a toilet that is either accessible or visitable.
    (b) **Avoidance of level changes** To have no steps and to avoid level changes where possible.
    (c) **Manoeuvrability** This shall include the following:
        i. To provide space sufficient to manoeuvre a wheelchair within a living area, the kitchen and an accessible path of travel linking these areas.
        NOTE: Although not required for visibility, the kitchen is included as an initial spatial requirement for manoeuvrability, as there is significant expense involved in changing the kitchen layout at a later date.
        ii. To provide space sufficient to manoeuvre a wheelchair within a bedroom, a bathroom and a toilet or to provide a design and details whereby after adaptation there will be sufficient space to manoeuvre a wheelchair within these facilities and an

accessible path of travel linking these facilities to the entry, living and kitchen areas.

(d) **Ease of adaptation** If the design for adaptation requires further demolition of walls then these walls shall be non load-bearing and free of electrical and plumbing services.

(e) **Ease of reach** To provide electrical controls, taps, and some shelves and cupboards at levels to suit people who use wheelchairs.

(f) **Future laundry facilities** To provide laundry facilities that after adaptation will be accessible to people who use wheelchairs. Those laundry facilities may be external to the adaptable housing unit, providing a wheelchair accessible path of travel is available from the adaptable housing unit to the laundry facilities.

NOTES: There are no set design solutions, but a huge variety of ways of adapting a design to meet these criteria is possible. Designers are encouraged to use imaginative design within these broad parameters. An example of an adaptable house design is shown in Appendix C.

POTENTIAL FOR ADAPTATION

1. To obtain certification as an adaptable housing unit, 'as built' drawings showing the housing unit in its pre-adaptation and post-adaptation stages shall be provided. A description of how the adaptation is to be achieved shall also be provided.

1.4. Basis of Report

This report is based upon and limited to:

- An assessment of design documentation referenced in Appendix B of this report.
- The Deemed-to-Satisfy provisions of the National Building Code of Australia 2015 including the NSW variations where applicable.

1.5. Referenced Documents

The following documentation was relied upon when preparing this report:

- Assessment of design documentation referenced in Appendix B of this report.
- The performance and deemed-to-satisfy provisions of the National Building Code of Australia 2015 incorporating the NSW Appendices where applicable.
- Guide to the National Building Code of Australia.
- Disability (Access to Premises — Buildings) Standards 2010.
- Environmental Planning & Assessment Act 1979.
- Environmental Planning & Assessment Regulation 2000.

1.6. Limitations and Exclusions

The limitations and exclusions of this report are as follows:

- The plans are assessed indicatively to the extent necessary to proceed to construction certificate stage whereby assessment will be undertaken pursuant to Part 4A of the Environmental Planning and Assessment Act 1979. This means that the design has been assessed to be able to comply with the BCA (i.e. the submitted plans are consistent with the BCA but certain design details may not be specified at this stage due to the plans and specifications being at pre DA stage).

- This Report does not address issues in relation to the following:
  a) The structural adequacy of the building including the Fire Resistance Levels (FRL's) of any building elements (unless specifically referred to).
  b) The design, maintenance or operation electrical, mechanical, hydraulic or fire protection services.
  c) Environmental Planning and Assessment Act and Regulations (unless specifically referred to).
  d) Local Government Act and Regulations.
  e) Occupational Health and Safety Act and Regulations.
  f) WorkCover Authority requirements.
  g) Requirements of other Regulatory Authorities including, but not limited to, Telstra, Sydney Water, Electricity Supply Authority, RTA, Council and the like.
  h) Disability Discrimination Act (DDA) other than minimum requirements under the Disability (Access to Premises — Buildings) Standards 2010. DDA is a Case by Case Assessment, this building will comply with the set items under the Premises Standards.
  i) Construction Safety Act.
  j) Conditions of Development Consent issued by the relevant Local Council.

- This assessment does not incorporate the detailed requirements of the Australian Standards.

- Building Certificates Australia Pty Ltd cannot guarantee acceptance of this report by the Local Council, NSW Fire Brigades or other approval authorities.

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1.7. Legislative Framework

Section 79C of the Environmental Planning and Assessment Act provides the matters of consideration that the consent authority must take into account in the determination of a development application.

Once development consent is granted, and pursuant to Clause 145 of the Environmental Planning and Assessment Regulations 2000, a certifying authority must not issue a construction certificate for building work unless:

(a1) the plans and specifications for the building include such matters as each relevant BASIX certificate requires, and

(a) the design and construction of the building (as depicted in the plans and specifications and as described in any other information furnished to the

certifying authority under clause 140) are not inconsistent with the development consent, and

(b) the proposed building (not being a temporary building) will comply with the relevant requirements of the Building Code of Australia (as in force at the time the application for the construction certificate was made).

Compliance with the National Building Code of Australia

The BCA is a performance based document whereby compliance can be achieved by satisfying the deemed to satisfy requirements or by formulating an alternative solution to address the relevant performance requirements.

As indicated above, the requirements of the Environmental Planning and Assessment Regulations 2000 requires all new building works to comply with the relevant requirements of the BCA (as in force at the time the application for the construction certificate was made).

This means that the plans and documentation submitted with the *construction certificate* (CC) application must demonstrate full compliance with the relevant provisions of the Building Code of Australia.

Clause 143 Fire protection and structural capacity

If your development incorporates a Change of Use, Category 1 fire safety measures must be considered and implemented in to the design as applicable:

EP1.3: A fire hydrant system
EP1.4: An automatic fire suppression system
EP1.6: Suitable facilities must be provided to the degree necessary in a building to co-ordinate fire brigade intervention
EP2.1: Sleeping Accommodation, occupants must be provided with automatic warning
EP2.2: Conditions in any evacuation route must be maintained for the period of time occupants take to evacuate
EP3.2: One or more passenger lifts fitted as emergency lifts to serve each floor served by the lifts in a building must be installed to facilitate the activities of the fire brigade and other emergency services personnel

Details of the above will need to be identified on the Building Fire Safety Schedule/Statement as present, if not present; these measures will need to be installed in to the building if applicable.

Clause 144, 144A and 152 Referral of certain plans and specifications to New South Wales Fire Brigades

Under the Environmental Planning and Assessment Regulations Clause 144, Clause 144A has specific requirements for any Fire Engineering which identifies Category 2 fire safety provisions which form part of a building being more than 6,000m² and/or within a Fire Compartment more than 2,000m².

Category 2 means the following provisions of the Building Code of Australia, namely, CP9, EP1.3, EP1.4, EP1.6, EP2.2 and EP3.2 in Volume One of that Code

If this building has a floor area of more than 6,000m^2 or an alternative solution is proposed within a fire compartment more than 2,000m^2, any Alternative Solution which identifies one or more of the above performance provisions, Fire Brigade approval is required in the form of a Clause 144 Approval along with a required Engineering Statement under Clause 144A and following the completion of the building a Clause 152 Report from the Fire Commissioner is required, a final fire safety report for a building means a written report specifying whether or not the Fire Commissioner is satisfied:

(a) that the building complies with the Category 2 fire safety provisions, and
(b) that the fire hydrants in the fire hydrant system will be accessible for use by New South Wales Fire Brigades, and
(c) that the couplings in the fire hydrant system will be compatible with those of the fire appliances and equipment used by New South Wales Fire Brigades.

Fulfilment of BASIX Commitments (Residential only)

Clause 154A of the Environmental Planning and Assessment Regulations 2000 requires a certifying authority to monitor fulfilment of any commitments listed on the BASIX certificate, where the BASIX requires the certifying authority to monitor those commitments.

A certifying authority must not issue an occupation certificate (whether interim or final) for any building resulting from, or any building that becomes a BASIX affected building because of, BASIX affected development or BASIX optional development to which this clause applies, or for any part of such a building, unless each of the commitments whose fulfilment it is required to monitor in relation to the building or part has been fulfilled.

For the purpose of satisfying itself as to the fulfilment of any such commitment, a certifying authority may rely on the advice of any properly qualified person (i.e. Energy Efficiency Consultant).

Special Requirements for Residential Flat Developments

Clause 143A of the Environmental Planning and Assessment Regulations 2000 requires a qualified designer to provide a statement that verifies that the plans and specifications that form part of construction certificate application achieve or improve the design quality of the development having regard to the design quality principles set out in Part 2 of the State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development prior to the issue of a Construction Certificate.

Clause 154A of the Environmental Planning and Assessment Regulations 2000 requires a qualified designer to provide a statement that verifies that the residential flat development achieves the design quality of the development as shown in the plans and specifications having regard to the design quality principles set out in Part 2 of the State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development prior to the issue of an Occupation Certificate.

Disability (Access to Premises — Buildings) Standards 2010

Disability (Access to Premises — Buildings) Standards 2010 has been introduced and is applicable to this building. It is noted that an access consultant may need to be engaged to provide specific comments as to compliance with this standard, however, as this is a new building to BCA 2015, compliance with the Disability (Access to Premises — Buildings) Standards 2010 would inherently comply.

1.8. Terminology

- *Building Code of Australia* - Document published on behalf of the Australian Building Codes Board. The BCA is a uniform set of technical provisions for the design and construction of buildings and other structures throughout Australia and is adopted in NSW under the provisions of the Environmental Planning & Assessment Act & Regulation.

- *Fire Resistance Level (FRL)* - means the grading periods in minutes tested in accordance with AS 1530.4-2005 for the following criteria -
  (a) structural adequacy; and
  (b) integrity; and
  (c) insulation,
  and expressed in that order.

- *Fire Source Feature (FSF)* - the far boundary of a road adjoining the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.

- *Open space* - means a space on the allotment, or a roof or other part of the building suitably protected from fire, open to the sky and connected directly with a public road.

- *Performance Requirements of the BCA* - A Building Solution will comply with the BCA if it satisfies the Performance Requirements. A Performance requirement states the level of performance that a Building Solution must achieve.

  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).

- *Sole occupancy unit* - means a room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier.

2.0. BUILDING DESCRIPTION – PROPOSED DEVELOPMENT

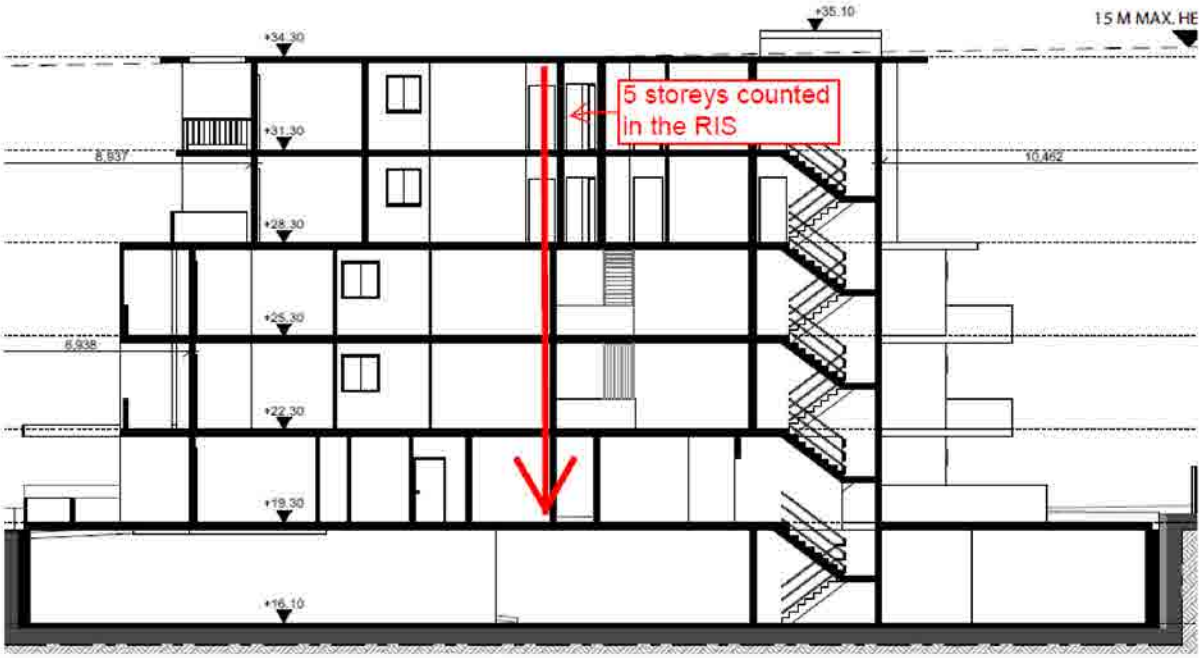
2.1. Building Code of Australia Description

For the purposes of the Building Code of Australia 2015 (BCA) the proposed development may be described as follows.

Note: the basement carpark appears to be located less than 1m for 12m below natural ground level. Further investigation would need to be undertaken to determine if the basement is counted as part of the RIS. This outcome is not expected to effect the contents of this report.

2.2. Rise in Storeys (RIS) (Clause C1.2)

The overall building has a rise in storeys of five (5) as illustrated bellow;
The number of storeys contained is six (6)



2.3. Building Classifications (Clause A3.2)

The proposed building, has been classified as follows.

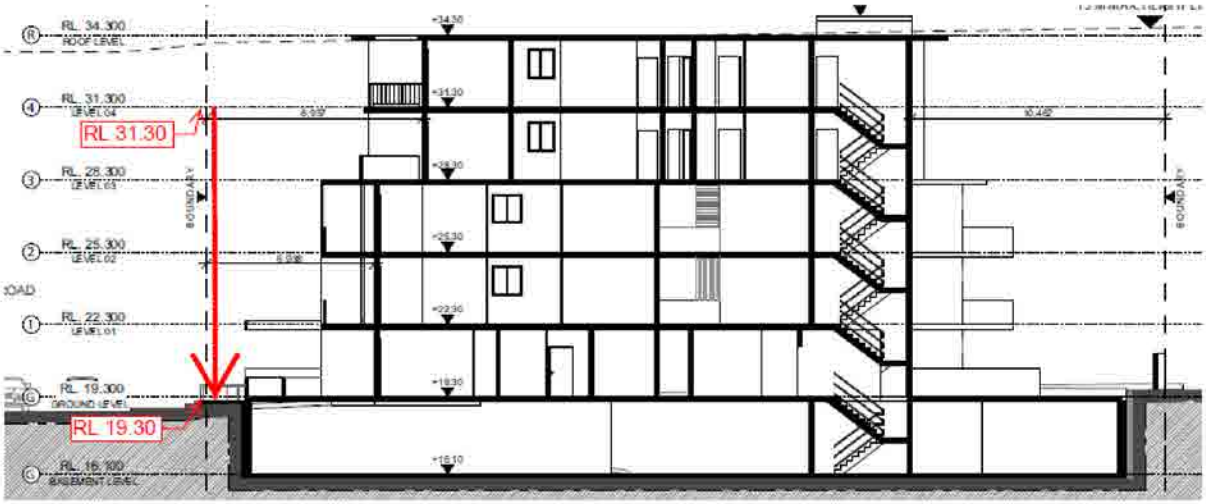
BUILDING LEVELS	CLASSIFICATION	USE	RIS
Basement Floor Level	Class 7a	Carpark	-
Ground Floor Level	Class 2	Residential	1
First Floor Level	Class 2	Residential	2
Second Floor Level	Class 2	Residential	3
Third Floor Level	Class 2	Residential	4

Fourth Floor Level	Class 2	Residential	5

2.4. Effective Height (Clause A1.1)

The building has an effective height (EH) of approximately **12m** when measured from the floor of the topmost storey which is less than 12m.

*Lowest Point taken @ RL19.30 (Approx.)
*Highest Point taken @ RL31.30



2.5. Type of Construction (Table C1.1)

The building is required to be of Type 'A' Construction.

2.6. Floor Area and Volume Limitations (Table C2.2)

The building is subject to maximum floor area and volume limits under Type 'A' Construction of:

- Proposed Class 7a - Maximum Floor Area 5,000m^2
  Maximum Volume 30,000 m^3

The Class 2 portions of the building are not subject to any floor area and volume limitations of C2.2 of the BCA. Table 3 of Specification C1.1 and C3.11 of the BCA regulate compartmentalisation and separation provisions applicable to Class 2 buildings or building portions.

2.7. Fire protection and structural capacity (Clause 143)

If your development incorporates a Change of Use, Category 1 fire safety measures must be considered and implemented in to the design as applicable.

EP1.3: A fire hydrant system (required)
EP1.4: An automatic fire suppression system

EP1.6: *Suitable facilities must be provided to the degree necessary in a building to co-ordinate fire brigade intervention*

EP2.1: *Sleeping Accommodation, occupants must be provided with automatic warning*

EP2.2: *Conditions in any evacuation route must be maintained for the period of time occupants take to evacuate*

EP3.2: *One or more passenger lifts fitted as emergency lifts to serve each floor served by the lifts in a building must be installed to facilitate the activities of the fire brigade and other emergency services personnel*

2.8. Fire Brigade referral (Clause 144)

If this building requires Fire Engineering referral would need to be forwarded to the NSW Fire Brigades under a Clause 144 referral.

3.0. BCA REQUIREMENTS

Noting that the level of documentation at this stage is for a Development Application (DA) assessment purposes, an indicative compliance assessment of the referenced documents identified in Appendix B of this report has been undertaken against the Deemed-to-Satisfy Provisions of the National Building Code of Australia 2015 (BCA).

Outlined below is a summary of the Deemed-to-Satisfy Provisions of the BCA. All Deemed-to-Satisfy clauses that are applicable to the subject building have been referred to below, including a comment adjacent to each clause of the proposal's ability to satisfy each respective clause.

The abbreviations outlined below have been used in the following tables:

N/A	The Deemed-to-Satisfy clause does not apply to the subject Building.
Complies	The relevant provisions of the Deemed-to-Satisfy clause have been demonstrated by the proposed design and existing building features, notwithstanding it is at DA documentation stage.
CRA	'Compliance Readily Achievable'. It is considered that the level of detail included in the DA documentation will not determine strict compliance with the individual BCA clause requirements. However, subject to noting the requirements of each clause, it is considered BCA compliance can be readily demonstrated without significant implication to the approved design. This will occur through progression of documentation to the Construction Certificate stage of the development.
FI	Further information is necessary to determine the compliance potential of the building design.
AS	Alternative Solution with respect to this Deemed-to-Satisfy Provision is possible to satisfy the relevant BCA Performance Requirements.
DNC	Does Not Comply.
DTS	Deemed-To-Satisfy provisions as defined by the National Building Code of Australia 2015.

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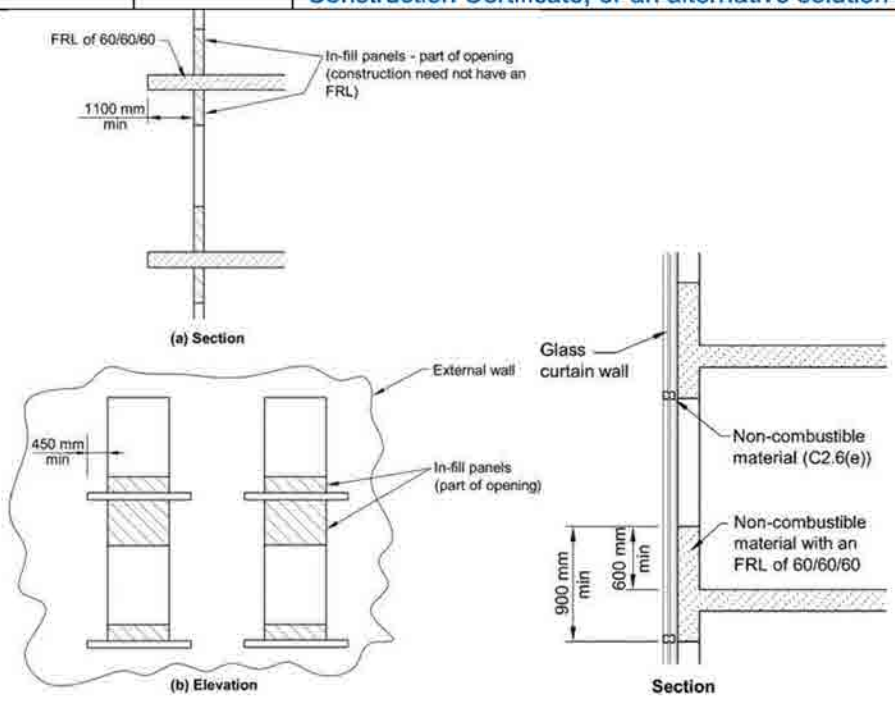
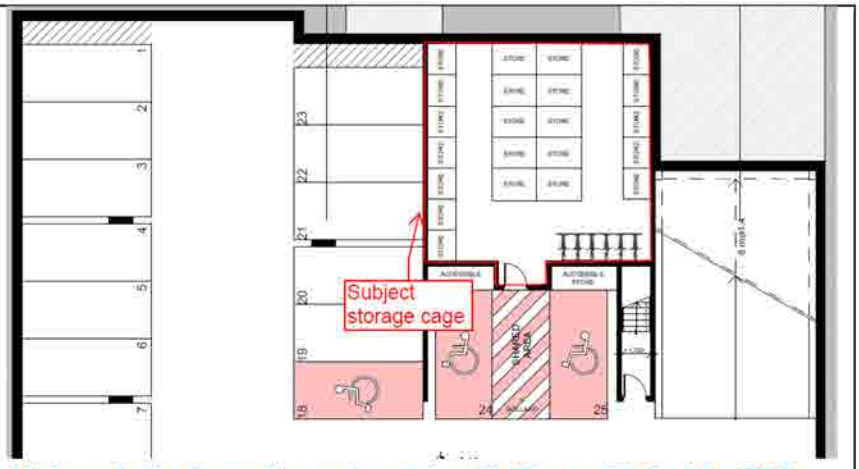
3.1. BCA 2015 Clause by Clause Assessment

SECTION B – STRUCTURE			
Part B1 – Structural Provisions			
Clause	**Description**	**Status**	**Comments**
B1.1	Resistance to actions	CRA	The resistance of a building or structure must be greater than the most critical action effect resulting from different combinations of actions. Structural details and a design certificate will be obtained from a qualified structural engineer prior to the issue of a Construction Certificate.
B1.2	Determination of individual actions	CRA	The magnitude of individual actions must be determined in accordance with Clause B1.2 of the BCA. Structural details and a design certificate will be obtained from a qualified structural engineer prior to the issue of a Construction Certificate.
B1.3	Loads	CRA	The building or structure must resist loads determined in accordance with AS 1170 Parts 1 to 4 as listed in Clause B1.3. Structural details and a design certificate will be required by a qualified structural engineer prior to the issue of a Construction Certificate.
B1.4	Determination of structural resistance of materials and forms of construction	CRA	The structural resistance of materials and forms of construction must be determined in accordance with the relevant Australian Standards in accordance with Clause B1.4 of the BCA. Structural details and a design certificate will be required by a qualified structural engineer prior to the issue of a Construction Certificate.
SECTION C – FIRE RESISTANCE			
Part C1 – Fire Resistance and Stability			
Clause	**Description**	**Status**	**Comments**
C1.1	Type of construction required	CRA	The building is to be erected in Type 'A' fire resisting construction in accordance with Specification C1.1 of the BCA. Refer to 'Appendix' A for the relevant fire resisting requirements. Plans to reflect required FRLs prior to the issue of a Construction Certificate.
C1.1	Type of construction required	Noted	For existing two storey brick building, please specify type of construction at Construction Certificate stage.
C1.2	Calculation of rise in storeys	Noted	The building has an overall rise in storeys of five (5) The building contains six (6) storeys.
C1.3	Buildings of multiple classification	Noted	The building is required to be constructed of Type 'A' fire resisting construction as the classification of the top storey is a Class 2.
C1.4	Mixed types of Construction	Noted	If a fire wall divides the building in accordance with Clause C2.7, the building portions are able to be constructed in differing levels of fire-resistance determined in accordance with Clause C1.1 and C1.3.

C1.5	Two storey Class 2,3 or 9c buildings	N / A	
C1.6	Class 4 parts of buildings	N / A	
C1.7	Open spectator stands and indoor sports stadiums	N / A	
C1.8	Lightweight construction	CRA	Lightweight construction used in a wall system must comply with Specification C1.8. Lightweight construction used as a fire-resisting covering of a steel column or the like, and where the covering is not in continuous contact with the column must have the voids filled to a height of not less than 1.2m above the floor and where the column is liable to be damaged must be protected by steel or other suitable material. If lightweight construction is used in the proposed development, then details demonstrating required FRL and compliance with this clause must be provided prior to the issue of a Construction Certificate.
C1.9	-	-	No provisions
C1.10	Fire hazard properties	CRA	The fire hazard properties of all floor materials, floor coverings, wall and ceiling lining materials must comply with Specification C1.10. The fire hazard properties of all other materials must comply with Specification C1.10. Design certification will be required verifying compliance prior to the issue of a Construction Certificate.
C1.11	Performance of external walls in fire	N / A	Concrete external walls that could collapse as complete panels (eg tilt-up and pre-cast concrete), in a building having a rise in storeys of not more than 2, must comply with Specification C1.11.
C1.12	Non-combustible materials	Noted	Gypsum, metal and laminated non-combustible materials containing combustible components are deemed to be non-combustible.
Part C2 – Compartmentation and Separation			
C2.1	Application of Part	Noted	Clauses C2.2, C2.3 and C2.4 do not apply to a sprinkler protected carpark, open deck carpark or open spectator stand.
C2.2	General floor area limitations	Complies	All parts of the building comply and are within compartment limitations.
C2.3	Large isolated buildings	N / A	
C2.4	Requirements for open spaces and vehicular access	N / A	
C2.5	Class 9a and 9c buildings	N / A	

C2.6	Vertical separation of Openings in external walls	CRA	In a building of Type 'A' construction that is not sprinkler protected, a spandrel must be provided. The spandrel must be not less than 900mm in height, extended not less than 600mm above the upper surface of the intervening floor and be of non-combustible material having an FRL of not less than 60/60/60. Alternatively, a slab or other horizontal construction that projects outwards not less than 1100mm and extends 450mm beyond the opening and be of non-combustible material having an FRL of not less than 60/60/60. Design verification to be provided by architect prior to the issue of the Construction Certificate, or an alternative solution may be required.
			
C2.7	Separation by fire walls	CRA	If a fire walls is used to separate the basement floor level storage areas form the Class 7a carpark areas of the building, the fire walls are to achieve the FRLs required under Table 3 of Specification C1.1 of the BCA. Any openings within the fire wall must not reduce the FRL of the fire wall required by Specification C1.1, except when permitted by the DTS provisions of Part C3.

			 All doors in the fire walls must comply with Clause C3.5 of the BCA. Refer to 'Appendix' A for the relevant fire resisting requirements. Plans to reflect required FRLs prior to the issue of a Construction Certificate.
C2.8	Separation of classifications in the same storey	CRA	The basement carpark is to be separated from the adjoining storage area using either of the following methods which include: • All building elements of the ground floor are to be constructed using the higher FRL presubscribed in Specification C1.1 of the BCA for the Class 7 storage area or • The relevant parts must be separated in that storey by a fire wall having the higher FRL prescribed in Table 3 of Specification C1.1 or Refer to 'Appendix' A for the relevant fire resisting requirements. Plans to reflect required FRLs prior to the issue of a Construction Certificate.
C2.9	Separation of classifications in different storeys	CRA	The floor slab separating the different storeys require an FRL of: • Basement/ground floor FRL 120/120/120; • Ground/first floor FRL 90/90/90; • First/second floor FRL 90/90/90; • Second/third floor FRL 90/90/90; • Third/fourth floor FRL 90/90/90; Refer to 'Appendix' A for the relevant fire resisting requirements. Plans to reflect required FRLs prior to the issue of a Construction Certificate.

C2.10	Separation of lift shafts	CRA	Any lift connecting more than 2 storeys building must be separated from the remainder of the building with material that achieves a FRL appropriate to that storey as required by Table 3 of Specification C1.1 and if required to be an emergency lift of not less than 120/120/120. Any opening in the fire-isolated lift shaft must be protected in accordance with Clause C3.10 of the BCA. Design verification to be provided prior to the issue of the Construction Certificate.
C2.11	Stairways and lifts in one shaft	Complies	A stairway and lift must not be in the same shaft if either the stairway or the lift is required to be in a fire-resisting shaft. Both the stairway & lift appear to be in separate shafts.
C2.12	Separation of equipment	CRA	Equipment that comprises lift motors, lift control panels, central smoke control plant, boilers or batteries must be separated from the remainder of the building by construction with an FRL as required under Specification C1.1 but not less than 120/120/120 and any doorways in that construction protected with a self-closing --/120/30 fire door. Design certification will be required verifying compliance prior to the issue of a Construction Certificate.

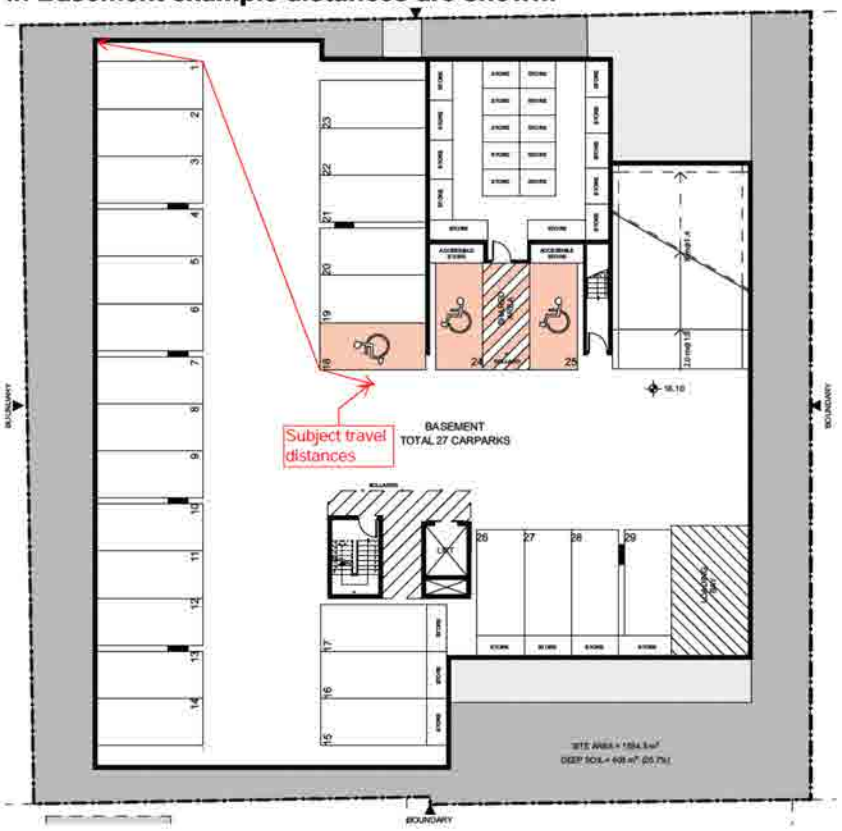
Note: Clause 6.4.2 of As 2419.1-2005 requires that an internal pumproom located within the building shall have the following:

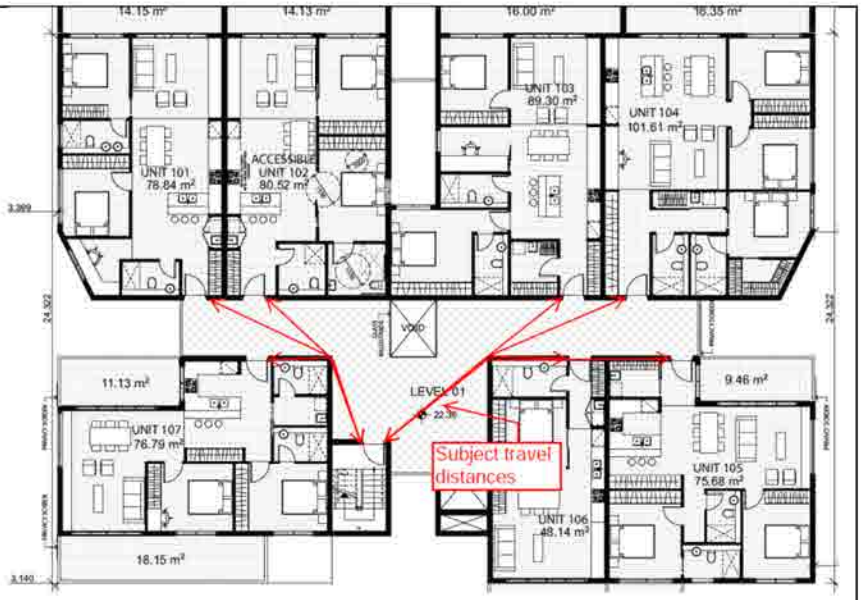
- A door opening to a road or open space, or a door opening to fire-isolated passage or stair which leads to a road or open space; and

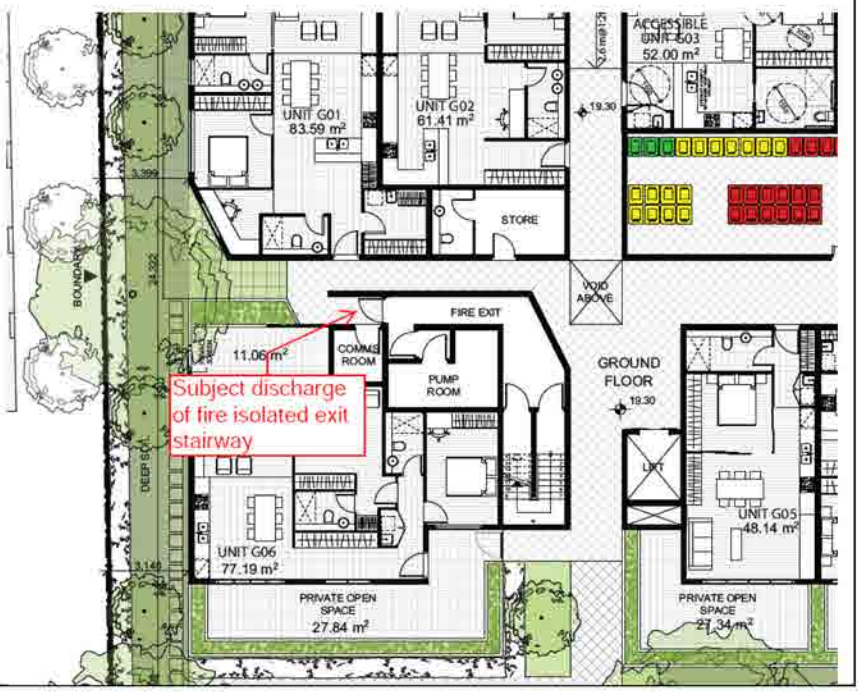
• Except where the building is sprinkler protected in accordance with AS 2118.1, enclosing walls with an FRL not less than that prescribed by the BCA for a firewall for the particular building classifications served by the fire hydrant system.			
C2.13	Electricity supply system	CRA	The following electricity supply equipment: • electrical substation (TBA) • main switchboard which sustains emergency equipment operating in emergency mode (TBA) • electricity conductors which supply substation or main switchboard (TBA) Must be separated from the remainder of the building by construction with an FRL of not less than 120/120/120 and any doorways in that construction protected with a self-closing --/120/30 fire door. Final details verifying compliance can be provided on plans prior to the issue of a Construction Certificate.
C2.14	Public corridors in Class 2 and 3 buildings	N / A	
Part C3 – Protection of Openings			
C3.1	Application of Part	Noted	Concessions and definition of certain openings.
C3.2	Protection of openings in external walls	Complies	All openings throughout the building appear to be located not less than 3m from the side and rear allotment boundaries. **Note: Openings within 3m of an allotment boundary shall be protected in accordance with Clause C3.4 of the BCA.**
C3.3	Separation of external walls and associated openings in different fire compartments	N/A	
C3.4	Acceptable method of protection	CRA	Window openings that are required to be protected are to be protected by wall wetting sprinklers with windows that are automatic closing or permanently fixed in the closed position, --/60/-- fire windows or --/60/60 automatic fire shutters. Other openings that required to be protected are to be protected by internal or external wall-wetting sprinklers or have construction with an FRL not less than --/60/--. Plans to reflect required FRLs and location of openings protected in accordance with Clause C3.4 of the BCA prior to the issue of a Construction Certificate
C3.5	Doorways in fire walls	Noted	To be determined prior to the issue of the Construction Certificate.
C3.6	Sliding fire doors	N / A	
C3.7	Protection of doorways in horizontal exits	Noted	To be determined prior to the issue of the Construction Certificate.

C3.8	Openings in fire isolated exits	CRA	--/60/30 self-closing fire doors are required to doorways providing access to fire isolated passageways. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
C3.9	Service penetrations in fire isolated exits	CRA	Where provided, fire-isolated exits must not be penetrated by any services other than electrical wiring for essential fire service installations, pressurisation ducts with an FRL of -/120/60, or water pipes for fire services are not permissible. *Note: Due care to be taken by services consultants to ensure compliance.* Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
C3.10	Openings in fire isolated lift shafts	CRA	Openings in lift shafts are to be protected by --/60/-- fire doors complying with AS1735.11. Lift indicator panels are to be backed by construction having an FRL of not less than -/60/60 if it exceeds 35,000mm^2 (175mm X 200 mm). Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
C3.11	Bounding construction: Class 2, 3, 4 and 9 buildings	CRA	As this building is Type 'A 'construction, doorways of the Class 2 residential sole occupancy units or rooms not within sole occupancy units which open into the enclosed common corridors or the like are to be fitted with self-closing FRL -/60/30 fire doors. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate. *Please also note 2 points:* *1: Walls within Class 2 and 3 buildings require Sound Ratings under F5. SOU doors are to incorporate an assembly which as an Rw not less than 30 from common areas.* *2: The SOU doors however still need to transmit at least 85 or 100 dB(A) depending on the alarms system selected under Spec E2.2a Clause 6, as part of the Building Occupant Warning System. Occupants within the unit need to hear the buildings alarm system.*
C3.12	Openings in floors for services	CRA	Services passing through floors are to be placed within fire resisting shafts or in accordance with Clause C3.15. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
C3.13	Openings in shafts	CRA	In a building of Type A construction, an opening in a wall providing access to a ventilating, pipe, garbage, or other service shaft must be protected by: • If it is a sanitary compartment - a door or panel which together with its frame, is non-combustible or has an FRL of not less than --/30/30, or • A self-closing --/60/30 fire door or hopper, or • An access panel with an FRL of not less than --/60/30, or

			• If the shaft is a garbage shaft - a door or hopper of non-combustible construction. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
C3.14	-	-	No provisions
C3.15	Openings for service installation	CRA	Where services (e.g. hydraulic, mechanical, plumbing, electrical) penetrate a building element that is required to achieve an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire then that installation must be protected / sealed (e.g. fire collars, fire dampers etc) by material that is identical to tested prototypes and in accordance with AS4072.1 and AS1530.4, and having achieved the required FRL or resistance to the incipient spread of fire or other specified method. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
C3.16	Construction Joints	CRA	Construction joints are to be installed in accordance with a tested prototype in accordance with AS1530.4. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
C3.17	Columns protected with lightweight construction	CRA	Columns must be protected in accordance with the identical tested prototype. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
Specification C1.1–Fire-Resisting Construction			
Spec C1.1	Requirements for Type A construction	CRA	Clause C1.1 requires the building to be constructed as Type A construction in accordance with Part 2, Part 3 and Table 3 of Specification C1.1 of the BCA. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
SECTION D – ACCESS AND EGRESS			
Part D1 – Provision for Escape			
Clause	Description	Status	Comments
D1.1	Application of Part	Noted	Does not apply to the internal parts of a sole occupancy unit in a Class 2, 3 or 4 building.
D1.2	Number of exits required	Complies	Building has effective height less than 25m. Each storey is to have at least one (1) exit. The basement level is provided with two (2) exits.
D1.3	When fire isolated exits are required	CRA	The central stairway serving the basement carpark and residential parts of the building and the north eastern basement carpark stairway is constructed as a fire isolated exit stairway. The stairway designs appear to comply with the requirements of this Clause. Please refer to Clause D1.7 for further details.

D1.4	Exit travel distances	AS	**Basement Carpark Levels** The north western corner of the basement carpark which adjoins carpark space 1 retain a travel distance greater than 20 metres to a point of choice. Compliance can be achieved via a fire engineering alternative solution undertaken prior to the issue of the Construction Certificate. **In Basement example distances are shown:**  **Residential Sole Occupancy Units** **First Floor** The following SOU's retain distances between 6.8 m to 14m to a single exit in lieu of 6m and include: • Unit 101; • Unit 102; • Unit 103; • Unit 104; • Unit 105; • Unit 106; and • Unit 107.

			 **Second Floor** The following SOU's retain distances between 6.8 m to 14m to a single exit in lieu of 6m and include: • Unit 201; • Unit 202; • Unit 203; • Unit 204; • Unit 205; • Unit 206; and • Unit 207. **Third Floor** The following SOU's retain distances between 6.8 m to 14m to a single exit in lieu of 6m and include: • Unit 303; • Unit 304; **Fourth Floor** The following SOU's retain distances between 6.8 m to 14m to a single exit in lieu of 6m and include: • Unit 403; • Unit 404; Compliance can be achieve via undertaking a fire engineering alternative solution prior to the issue of the Construction Certificate.
D1.5	Distances between alternative exits	Complies	Storeys requiring two or more exits have exits distributed within 45m for the class 2 and 60m for the Class 7a parts from one another and are also further than 9m apart. The paths of travel leading to alternative exits must not converge within 6m.

D1.6	Dimensions of exits	CRA	In a required exit or path of travel, the unobstructed height throughout must be not less than 2m, except the unobstructed height of any doorway must be reduced to not less than 1980mm. The unobstructed width of each exit or path of travel to an exit except a doorway must not be less than 1m. The unobstructed width must be measured clear of all obstructions such as handrails, projecting parts of balustrades or other barriers and the like. **Please note: Internal non-fire isolate stairs must incorporate double handrail as required under D3, stairs are to be >1.2m wide to cater for this requirement. The fire isolated exit stairways must incorporate a single hand rail as required by the BCA, the stairs are to be >1.1m wide to cater for the requirement.** **Non-Fire Isolated Stairways** All non- fire isolated stairways serving the building are to be provided with double handrails and tactile indicators as required by AS 1428.1-2009 and Clause D3.3 of the BCA. The unobstructed width between the handrails must be not less than 1m as required by this Clause. Compliance can be achieved via slight redesign or alternatively a fire engineering alternative solution can be undertaken prior to the issue of the Construction Certificate.
D1.7	Travel via fire-isolated exits	CRA / AS	The fire isolated exits stairway discharges within the confined of the building not 2/3 open and the discharge of the fire isolated exit stairway necessitates passing within 6m of external wall openings of the same building. Compliance can be achieved via a fire engineering alternative solution undertaken prior to the issue of the Construction Certificate. 

D1.8	External stairways in lieu of fire-isolated exits	N / A	
D1.9	Travel by Non-fire-isolated Stairways or ramps	Notes	
D1.10	Discharge from exits	CRA	Suitable barriers such as bollards are to be provided to prevent the blockage of exits by vehicles, etc. All external ramps that are used as a path from an exit to a road must have a gradient not steeper than 1:8 at any part. All external paths leading to the road must achieve a minimum unobstructed width not less than 1m. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
D1.11	Horizontal exits	Noted	
D1.12	Non-required stairs, ramps or escalators	Noted	
D1.13	Number of persons accommodated	Noted	
D1.14	Measurement of distance	Noted	
D1.15	Method of measurement	Noted	
D1.16	Plant rooms and lift machine rooms: Concession	N / A	
D1.17	Access to lift pits	CRA	Final details as to the lift shafts and pits are required.
DANGER: LIFTWELL ENTRY OF UNAUTHORISED PERSONS PROHIBITED KEEP CLEAR AT ALL TIMES			(a) where the pit depth is not more than 3 m, be through the lowest landing doors; or (b) where the pit depth is more than 3 m, be provided through an access doorway complying with the following: (i) In lieu of D1.6, the doorway must be level with the pit floor and not be less than 600 mm wide by 1980 mm high clear opening, which may be reduced to 1500 mm where it is necessary to comply with (ii). (ii) No part of the lift car or platform must encroach on the pit doorway entrance when the car is on a fully compressed buffer. (iii) Access to the doorway must be by a stairway complying with AS 1657. (iv) In lieu of D2.21, doors fitted to the doorway must be— (A) of the horizontal sliding or outwards opening hinged type; and (B) self-closing and self-locking from the outside; and (C) marked on the landing side with the letters not less than 35 mm high:

			"DANGER LIFTWELL – ENTRY OF UNAUTHORIZED PERSONS PROHIBITED – KEEP CLEAR AT ALL TIMES"
Part D2 – Construction of Exits			
D2.1	Application of Part	Noted	
D2.2	Fire isolated stairs or ramps	CRA	Stairway or ramps within the fire isolated shaft must be constructed on non-combustible materials and if there is a structural failure within the building, it would not cause structural damage to, or impair the fire resistance of the shaft. Engineering details are to be submitted with the Construction Certificate Documentation.
D2.3	Non-fire-isolated stairways and ramps	CRA	Required stairs that are not required to be within a fire-resting shaft are to be constructed of concrete, steel (6mm), or timber (44mm) of specified minimum dimensions. Engineering details are to be submitted with the Construction Certificate Documentation.
D2.4	Separation of rising and descending stair flights	Complies	
D2.5	Open access ramps and balconies	N / A	
D2.6	Smoke lobbies	N / A	
D2.7	Installations in exits and paths of travel	CRA	Electrical boards and the like are to be located within and enclosed by non-combustible construction or have a fire-protective covering with the doorway suitably sealed against smoke spreading from the enclosure. Design verification is to be provided prior to the issue of the Construction Certificate.
D2.8	Enclosure of space under stairs and ramps	CRA	The space below non fire-isolated stairs must not be enclosed to form a cupboard or similar enclosed space unless the enclosing walls have an FRL of not less than 60/60/60 and any doorway to the enclosed space is fitted with a self-closing --/60/30 fire door. There is to be no form of cupboard or similar enclosed space within any of the fire-isolated stairways. Design verification is to be provided prior to the issue of the Construction Certificate.
D2.9	Width of stairways	Noted	Stairway width is to be measured clear of obstructions such as handrails, projecting parts of balustrades or other barriers and the like and extend to a height of not less than 2m.
D2.10	Pedestrian ramps	CRA	Ramps serving as a required exit must not have a gradient steeper than 1:8. If the ramp is required for disabled access under Part D3 it must comply with AS1428.1. The surface of the ramp must have a non-slip finish. Note: The floor surface of a ramp must have a slip-resistance classification not less than that listed in Table D2.14 of the BCA when tested in accordance with AS 4586-2013.

D2.11	Fire-isolated passageways	CRA	(a) The enclosing construction of a fire-isolated passageway must have an FRL when tested for a fire outside the passageway in another part of the building of— (i) if the passageway discharges from a fire-isolated stairway or ramp — not less than that required for the stairway or ramp shaft; or (ii) in any other case — not less than 60/60/60. (b) Notwithstanding (a)(ii), the top construction of a fire-isolated passageway need not have an FRL if the walls of the fire-isolated passageway extend to the underside of— (i) a non-combustible roof covering; or (ii) a ceiling having a resistance to the incipient spread of fire of not less than 60 minutes separating the roof space or ceiling space in all areas surrounding the passageway within the fire compartment. Final details are to be submitted with the Construction Certificate Documentation.
D2.12	Roof as open space	N / A	
D2.13	Goings and risers	CRA	Stairs are to have risers measuring between 115-190mm and goings between 250-355. Goings and Risers are to satisfy the equation of 2R+G=700(max) and 550(min). Goings and risers are to be consistent throughout in one flight. Any gap between risers must not permit a 125mm sphere to pass through it. Ensure all stairways throughout the building do not contain less than 2 or more than 18 risers. All treads and surfaces with a slip resistant classification are to be fitted with non-slip finish or non-skid strips compliant with the requirements of Table D2.14 when tested in accordance with AS4586-2013 and 30% colour contrasting nosings. Final details are to be submitted with the Construction Certificate Documentation.
D2.14	Landings	CRA	Landings must comply with the requirements of Clause D2.14 of the BCA. Landings must be not less than 750mm long and have a non-slip finish throughout or an adequate non-skid strip near the edge of the landing where it leads to a flight below and 30% colour contrasting nosings. Strips at the edge of the landing with slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586-2013, where the edge leads to a flight below.

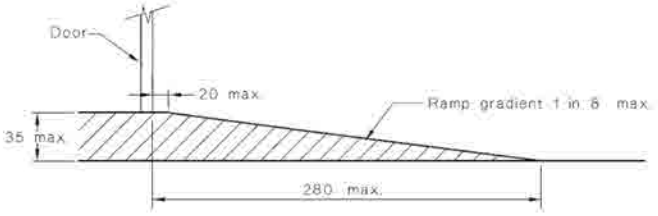
Table D2.14 SLIP-RESISTANCE CLASSIFICATION

Application	Surface conditions	
	Dry	Wet
Ramp steeper than 1:14	P4 or R11	P5 or R12
Ramp steeper than 1:20 but not steeper than 1:14	P3 or R10	P4 or R11
Tread or landing surface	P3 or R10	P4 or R11
Nosing or landing edge strip	P3	P4

Final details are to be submitted with the Construction Certificate Documentation.

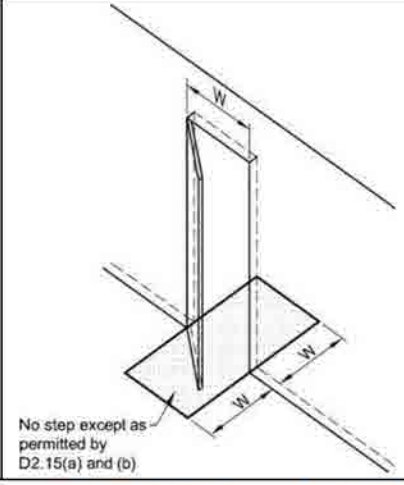
D2.15	Thresholds	CRA	A threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless the door opens to a road or open space, external stair landing or external balcony and the doorsill is not more than 190mm above the finished surface of the ground balcony or the like to which the door opens. Final details are to be submitted with the Construction Certificate Documentation.

Note: If the door is in a path of travel required to be accessible D3, obliviously a step is not allowed.
Note: This applies to all Fire Isolated Exit Doors also including the last exit door to open space.

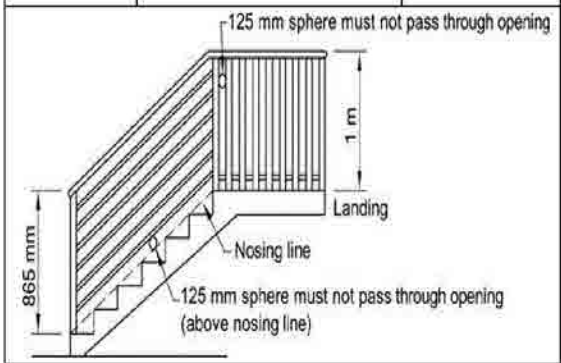


DIMENSIONS IN MILLIMETRES

FIGURE 21 THRESHOLD RAMP



D2.16	Balustrades	CRA	Balustrades complying with Deemed-to-Satisfy provisions of the BCA are to be provided to where the level of the surface below is 1m or more. Balustrades must also be provided where the level of the surface beneath is more than 4m where it is possible for a person to fall through an openable window.



Where the level of the surface below is 4m or more, a balustrade or other barrier must not facilitate climbing of horizontal elements between 150mm and 760mm above the floor.

Any opening in the balustrade must not permit a 125mm sphere to pass through the balusters.

Wire balustrades must be constructed to comply with Clause D2.16 (h) and Tables D2.16a and D2.16b.

			Details demonstrating compliance with this clause must be incorporated into the architectural drawings prior to the issue of a Construction Certificate.
D2.17	Handrails	CRA	Handrails are to be provided to at least one side of stair flights within fire isolated stairs and both side in any other case (See D3) and located not less than 865mm above the nosings of stair treads and the floor surfaces of landings. All internal stairways within the residential SOU's are to include single handrails as required by this Clause. NOTE: Under BCA 2013, handrails to internal SOU's are now also required. Details demonstrating compliance with this clause must be incorporated into the architectural drawings prior to the issue of a Construction Certificate.
D2.18	Fixed platforms walkways, stairways and ladders	CRA	Fixed platforms, walkways, stairways, ladders, landings, handrails, balustrades and any tread or riser in a plant room, lift motor room or the like is to comply with AS1657.
D2.19	Doorways and doors	CRA	Swinging doors are proposed throughout the building. Designer to verify compliance with this Clause prior to the issue of the Construction Certificate.
D2.20	Swinging doors	CRA	The door swings pertaining to the required exits appear to comply with the requirements of this clause. Compliance can be achieved via slight redesign of the existing design prior to the issue of the Construction Certificate.
D2.21	Operation of latch	CRA	The latch of a door in a required exit, forming part of a required exit or in the path of travel is to be readily openable without a key from the side of that faces a person seeking egress. It is to have a single downward action or pushing action and to be located between 900mm and 1100mm from the floor. As this building contains adaptable unit, the SOU door is also required to comply with AS1428.1:2009

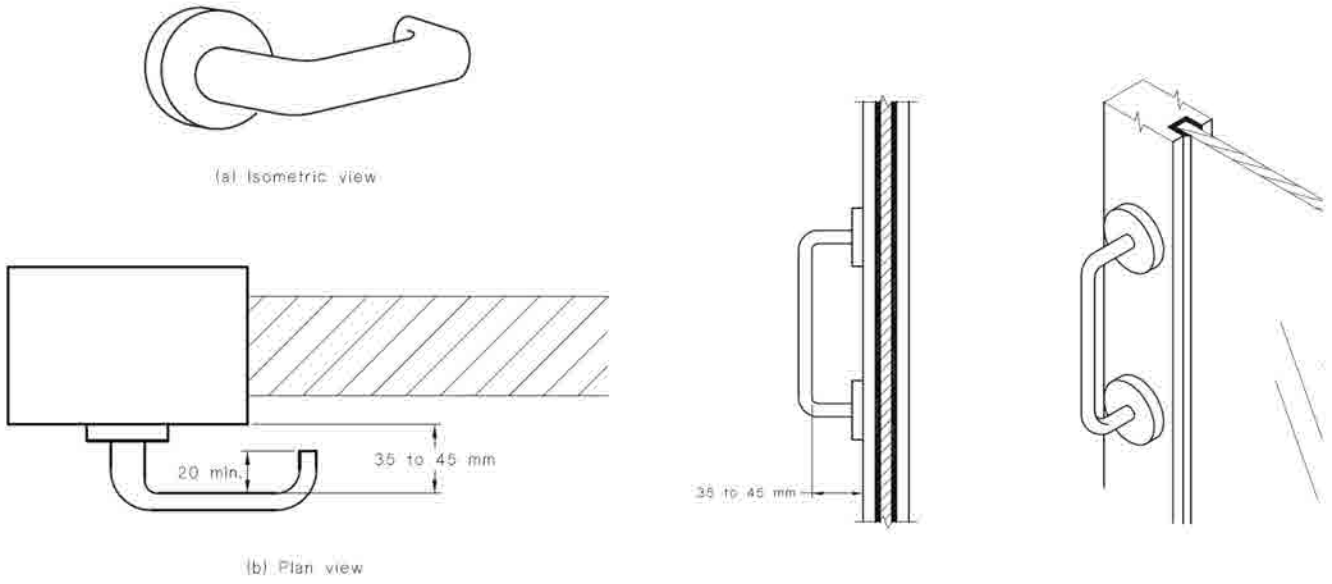


FIGURE 35(A) EXAMPLE OF ACCEPTABLE DOOR HARDWARE FOR HINGED DOORS

D2.22	Re-entry fire-isolated exits	N / A	
D2.23	Signs on doors	CRA	Fire Door and Smoke Door signage is required to be provided to all doors giving access to and egress from the fire isolated stairways. **NOTE: Brail Exit Level Signs are to be Installed at Each Exit Also. D3.6**

Any Fire Door require the standard signage, "Fire Safety Door, Do not Obstruct, Do Not Keep Open etc " along with the EP& A Notice ;

- A Fire Door on a auto-closing or fire trip is to incorporate the following wording:
  "**FIRE SAFETY DOOR—DO NOT OBSTRUCT**"
- A Self-Closing Fire Doors are to incorporate the following wording:
  "**FIRE SAFETY DOOR —DO NOT OBSTRUCT —DO NOT KEEP OPEN**"
- For the last door discharging from a fire isolated exit, (Door opening on to open space/outside)
- "**FIRE SAFETY DOOR—DO NOT OBSTRUCT**".

Along with the required BCA signage, the EPA & A Regulations require a warning notice to be displayed in a conspicuous position adjacent to a doorway providing access to, but not within, that stairway, passageway or ramp:

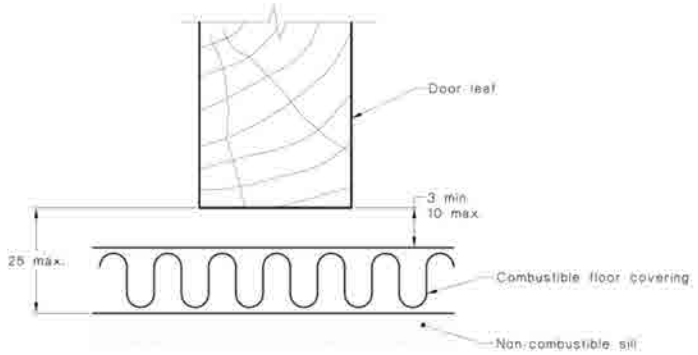
- **OFFENCE RELATING TO FIRE EXITS**
  It is an offence under the Environmental Planning and Assessment Act 1979:
  (a) to place anything in or near this fire exit that may obstruct persons moving to and from the exit, or
  (b) to interfere with or obstruct the operation of any fire doors, or
  (c) to remove, damage or otherwise interfere with this notice.

BUILDING INNOVATIONS AUSTRALIA

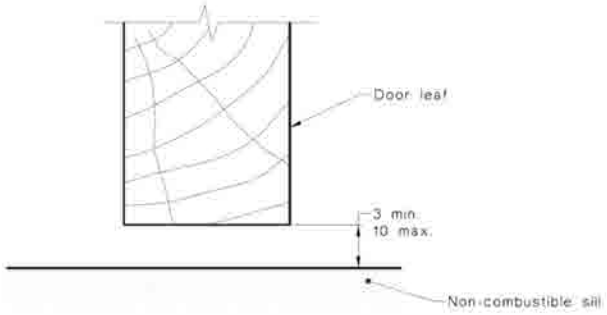
All fire doors and frames are to be tagged in accordance with AS 1905.2005 and a complete door schedule is to be provided at the Occupation Certificate Stage.

FIRE DOOR—TO AS 1905.1—2005
FRL –/60/30
MANUFACTURED BY (COMPANY NAME) PTY LTD
APPLICANT—(NAME) PTY LTD
CERTIFIER—(COMPANY NAME) PTY LTD
DOOR TAG NUMBER—G 123
YEAR OF MANUFACTURE—2005

Clearances under and the side of fire doors are to be in accordance with AS1905.2005



(a) With a combustible floor covering



(b) Without a combustible floor covering

(Company Name)

FIRE DOOR CERTIFICATE

Certificate Number 12345

Project Name: .....

Building Owner: .....

Building Address: .....

The member company nominated certifies that the fire doorsets identified on the attached Schedule have been inspected and labelled as required by the appropriate regulatory authorities in accordance with Australian Standard AS 1905.1 in respect to the Evidence of Compliance at Clause 6.3 and additionally comply in respect to supply, labelling and installation in accordance with the following Australian Standards:

AS 1530.4 Methods for fire tests on building materials, components and structures, Part 4: Fire resistance test of elements of building construction

AS 1905.1 Components for the protection of openings in fire-resistant walls, Part 1: Fire-resistant doorsets

Certified by: ..... Member Company

Name of Certifier: .....

Signature: .....

Date: .....

Doorsets covered by this certificate are to be maintained in accordance with AS 1851 and the manufacturer's instructions.

FIGURE E1 EXAMPLE OF A FIRE DOOR CERTIFICATE

Fire doors—Schedule of Evidence of Compliance—Certificate Number 12345

Project Name: ..... Building Owner: ..... Building Address: .....

Door identification & tag number	Location	Door type	Frame type	Nominal dimensions (mm)			FRL	Facing & edging material type	Lockset & closer type	Miscellaneous (vision panel)	Test ref. opinion	Inspection date & certifier
				Reveal width	Reveal height	Leaf thickness						

When completed, this Schedule is to be attached to and become part of the FIRE DOOR CERTIFICATE, which it supports.
The fire doorsets identified in this Schedule comply with AS 1530.4 and AS 1905.1 with respect to the supply, labelling and installation of the doorset.

D2.24	Protection of Operable Windows	CRA	All window openings throughout the development must be provided with protection, if the floor below the window is 2m or more above the surface beneath is a Class 2 building. Where the lowest level of the window opening is less than 1.7m above the floor, the operable portion of the window must be protected with a device capable of restricting the window opening or a screen with secure fittings. A device or screen must: • Not permit a 125mm sphere to pass through the window opening or screen; • Resist an outward horizontal action of 250N against the window restraining device or screen protecting the opening; and • Have a child restraint release mechanism if the screen or device is able to be removed, unlocked or overridden. A barrier with a height not less than 865mm above the floor is required to an openable window in addition to window protection, when a child resistant release mechanism is required and where the floor below the window is 4m or more above the surface beneath if the window is not provided with protection. The barrier must not permit a 125mm sphere to pass through it and must not contain any horizontal or near horizontal elements between 15mm and 760mm above the floor that facilitate climbing. Details demonstrating compliance with this clause must be incorporated into the architectural drawings prior to the issue of a Construction Certificate.
NSW D2.101	Doors of travel in a P.O.P.E.	N / A	
SECTION D3.3 – ACCESS FOR PEOPLE WITH DISABILITIES			
D3.0	Deemed-to-Satisfy Provisions	Note	Disability (Access to Premises — Buildings) Standards 2010 is to be read in conjunction with the BCA. Compliance with the Access Codes appears to be achieved.
D3.1	General Building Access Requirements	CRA	Buildings and parts of buildings must be accessible as required by Table D3.1, unless exempted by D3.4 Compliance with Part D3 of the BCA is applicable to this building. All common areas are also to facilitate access in accordance with AS1428.1. From a pedestrian entrance required to be accessible to at least 1 floor containing sole-occupancy units and to the entrance doorway of each sole-occupancy unit located on that level and to and within not less than 1 of each type of room or space for use in common by the residents, including a cooking facility, sauna, gymnasium, swimming pool, common laundry, games room, individual shop, eating area, or the like. Where a ramp complying with AS 1428.1 or a passenger lift is installed— **(a) to the entrance doorway of each sole-occupancy unit; and**

			(b) to and within rooms or spaces for use in common by the residents, located on the levels served by the lift or ramp. **General Non-Compliant Areas** Access to the buildings garbage room is a common facility and is required to be accessible. Compliance can be achieved prior to the issue of the Construction Certificate.

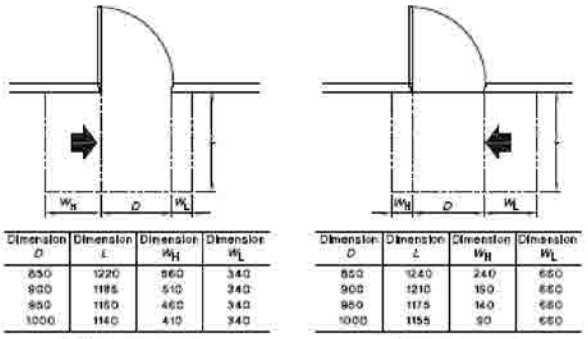
Architects/Designers Note: AS1428.1 is very detailed, please ensure that your design has been checked and rechecked as to full compliance .I.e.:

- *All doors are to be a minimum of a clear opening width of not less than 850 mm and the required circulation spaces around doors to be accessible in accordance with AS 1428.1*
- *Door hardware is to a 'D' grasping style, 20N force to open and close all doors.*
- *Walkways, corridors also must be compliant for dead areas, wheelchair passing and splayed corners.*
- *Doors and doorways need to have 30% luminance contrasting to distinguish door locations,*
- *All Glazing other than windows needs 30% luminance contrasting, The contrasting line shall be not less than 75 mm wide and shall extend across the full width of the glazing panel. The lower edge of the contrasting line shall be located between 900 mm and 1000 mm above the plane of the finished floor level. Any contrasting line on the glazing shall provide a minimum of 30% luminance contrast when viewed against the floor surface or surfaces within 2 m of the glazing on the opposite side.*
- *All stairs excluding the fire isolated stair are to incorporate the required double handrail, downturns, solid treads, colour contrast nosing strips and TGSI's.*

Floor surfaces and junction points are all smooth and comply with slip resistant levels.

All circulation spaces to SOU doors are to be confirmed, several SOU doors appear to meet the set dimensions under AS1428.1.

Please note: D3 requires access just to the SOU door, not within the unit unless the unit is Adaptable.

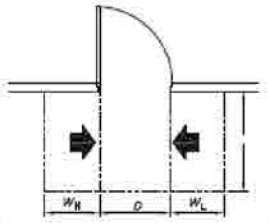


Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1220	560	340
900	1185	510	340
950	1150	460	340
1000	1140	410	340

(a) Hinge-side approach, door opens away from user

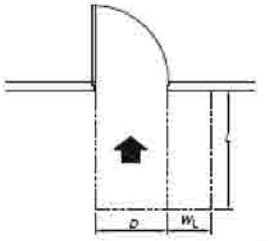
Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1240	240	650
900	1210	150	650
950	1175	140	650
1000	1155	90	650

(b) Latch-side approach, door opens away from user



Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1240	560	650
900	1210	510	650
950	1175	460	650
1000	1155	410	650

(c) Either side approach, door opens away from user



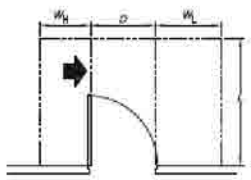
Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1450	0	510
900	1450	0	510
950	1450	0	510
1000	1450	0	510

(d) Front approach, door opens away from user

LEGEND:
D = Clear opening of width of doorway
L = Length
W_H = Width—Hinge side
W_L = Width—latch side
= Direction of approach
= Circulation space

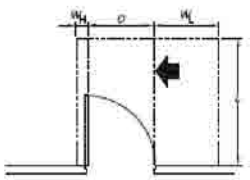
DIMENSIONS IN MILLIMETRES

FIGURE 31 (in part) CIRCULATION SPACES AT DOORWAYS WITH SWINGING DOORS



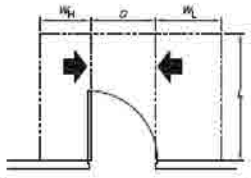
Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1670	660	900
900	1670	610	900
950	1670	560	900
1000	1670	510	900

(a) Hinge-side approach, door opens towards user



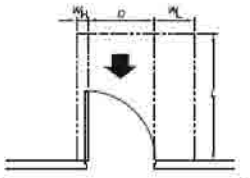
Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1670	110	900
900	1670	110	900
950	1670	110	900
1000	1670	110	900

(b) Latch-side approach, door opens towards user



Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1670	660	900
900	1670	610	900
950	1670	560	900
1000	1670	510	900

(c) Either side approach, door opens towards user



Dimension D	Dimension L	Dimension W_H	Dimension W_L
850	1450	110	530
900	1450	110	530
950	1450	110	530
1000	1450	110	530

(d) Front approach, door opens towards user

LEGEND:
D = Clear opening of width of doorway
L = Length
W_H = Width—Hinge side
W_L = Width—latch side
= Direction of approach
= Circulation space

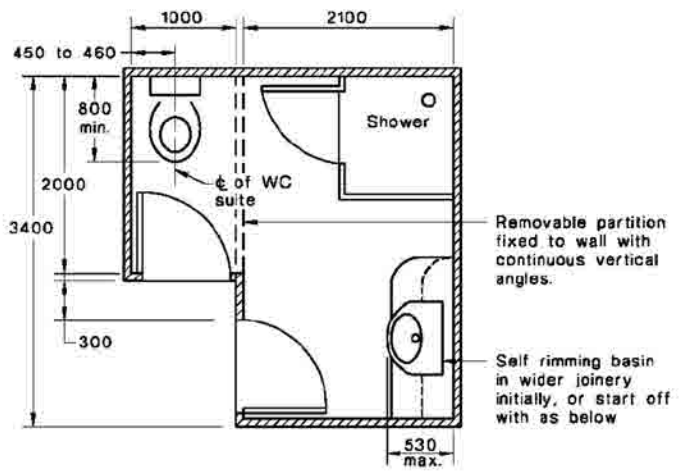
DIMENSIONS IN MILLIMETRES

FIGURE 31 (in part) CIRCULATION SPACES AT DOORWAYS WITH SWINGING DOORS

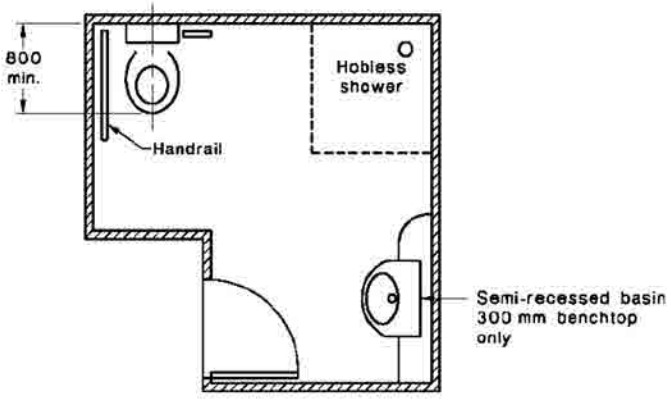
As this building is to incorporate adaptable units under Councils DCP, each adaptable unit is to incorporate two set of plans, one showing the general layout and the other showing the adaptable layout. This is a requirement of AS4299-1995.

Design notes:

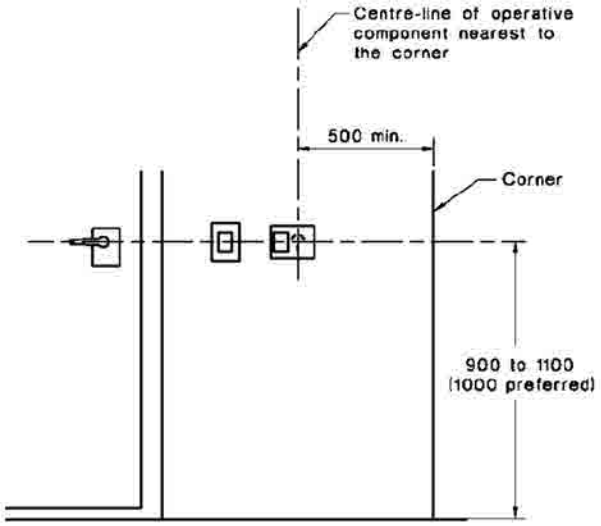
- All window sills to adaptable should try to be 600 - 730mm from the finished floor level.
  Note spandrel protection if windows are below and 1m balustrade matters.
- Power outlets and telephone sockets shall be also adjustable.
- There is a checklist under the Appendix of AS4299-1995

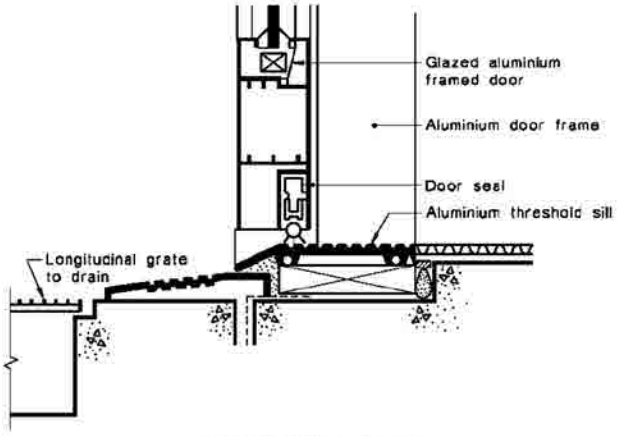


(a) Before adaptation



(b) After adaptation



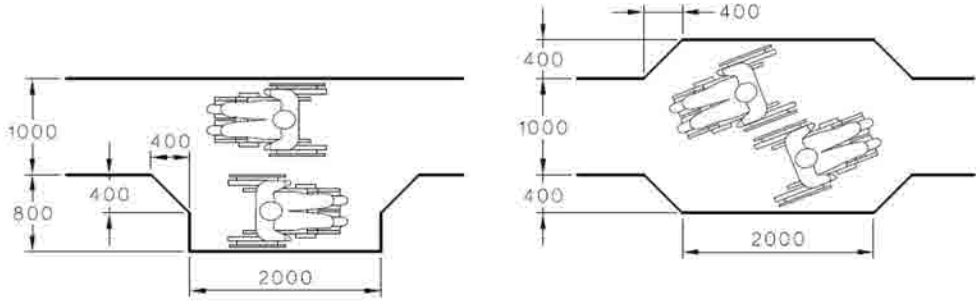


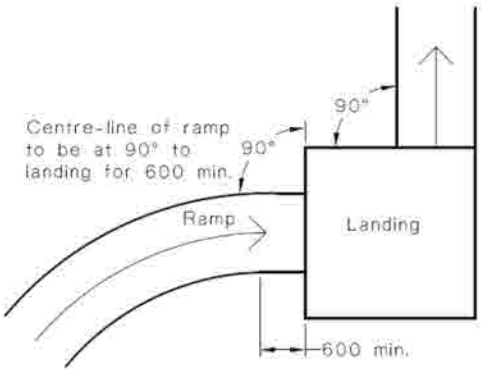
(b) Aluminium-framed door

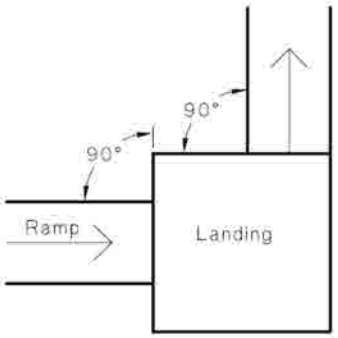
D3.2	Access to Buildings	CRA	An accessway/s has been provided from Principal Pedestrian Entry (PPE) areas. The use of a platform lift in accordance with AS 1735.14 Low-rise platform lift is allowed for this building and is limited to 1m. The residential parts of the building are deemed to have only one entry, the fire isolated exits are for egress purposes only. All doors are to be a minimum of a clear opening width of not less than 850 mm and the required circulation spaces around doors to be accessible in accordance with AS 1428.1 including SOU doors to storey serviced via a lift. All stairs excluding fire isolated stair are to incorporate the required double handrail, downturns, colour contrast nosing strips and TGSI's. Nosing to stairs within the fire isolated passage are to have a colour contrasting strip.

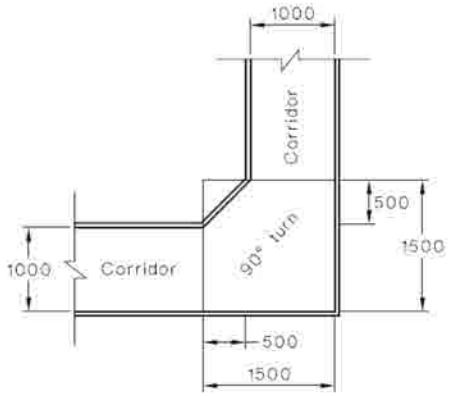
			Final design details of wheelchair access to this part are to be provided at the final Construction Certificate stage.
D3.3	Parts of Buildings to be accessible	CRA	Final details to be provided detailing floor services and materials are to be provided at the Construction Certificate stage or noted on the plans.

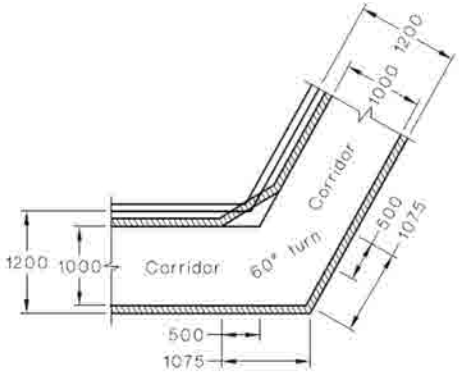
Passing Spaces for Wheelchairs are to be provided in corridors longer than

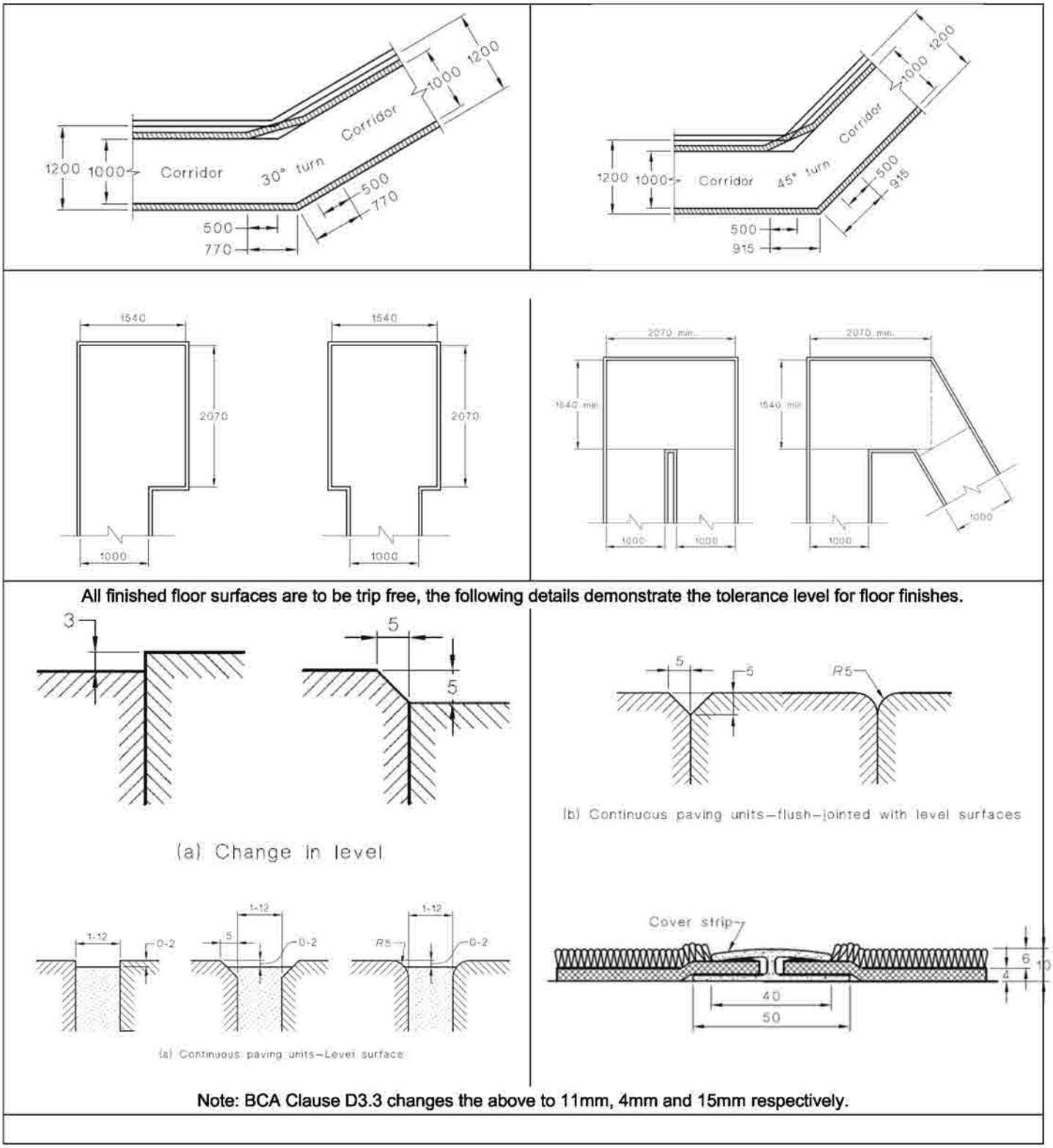


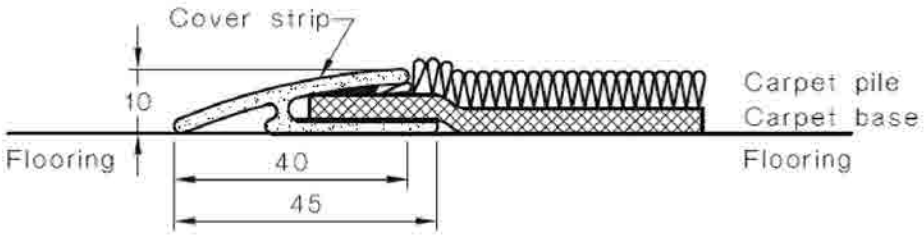









1200
1000
Corridor
30° turn
Corridor
1000
1200
500
770
500
770
1200
1000
Corridor
45° turn
Corridor
1000
1200
500
915
500
915
1540
2070
1000
1540
2070
1000
2070 min.
1540 min.
1000
1000
2070 min.
1540 min.
1000
1000
All finished floor surfaces are to be trip free, the following details demonstrate the tolerance level for floor finishes.
3
5
5
(a) Change in level
5
5
R5
(b) Continuous paving units—flush-jointed with level surfaces
1-12
1-12
0-2
1-12
5
0-2
1-12
R5
0-2
(a) Continuous paving units—Level surface
Cover strip
6
4
10
40
50
Note: BCA Clause D3.3 changes the above to 11mm, 4mm and 15mm respectively.



Note: BCA Clause D3.3 changes the above to 11mm, 4mm and 15mm respectively.

Stairway

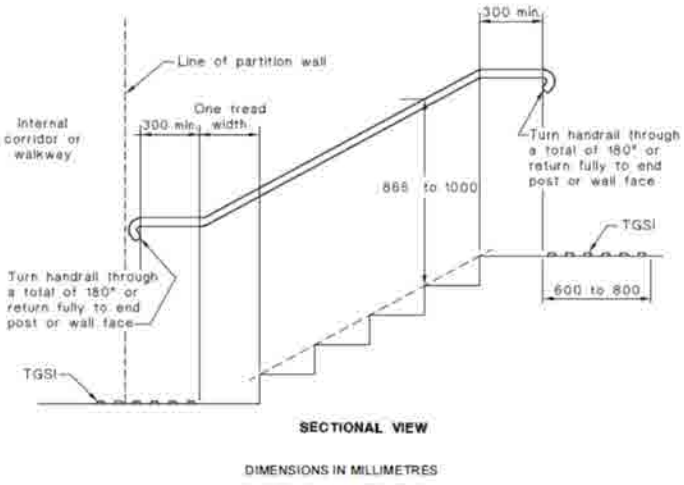


FIGURE 26(B) STAIRWAY LOCATION AND HANDRAIL EXTENSIONS AT END OF STAIRWAY OTHER THAN AT LINE OF BOUNDARY

As Occupants may pass under these stairs, they must be obstructed or have TGSI's installed to warn of over head obstructions.

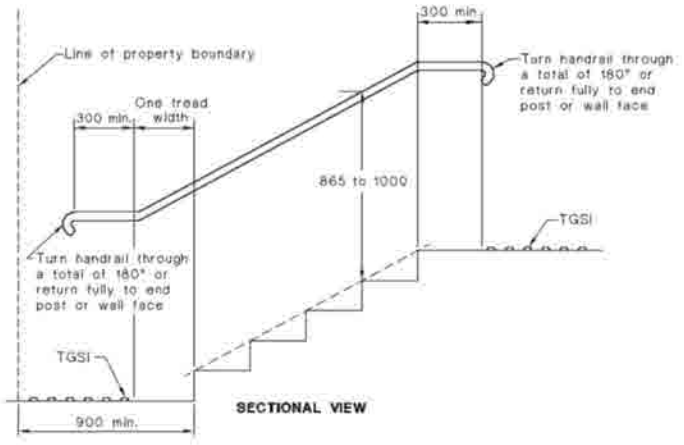
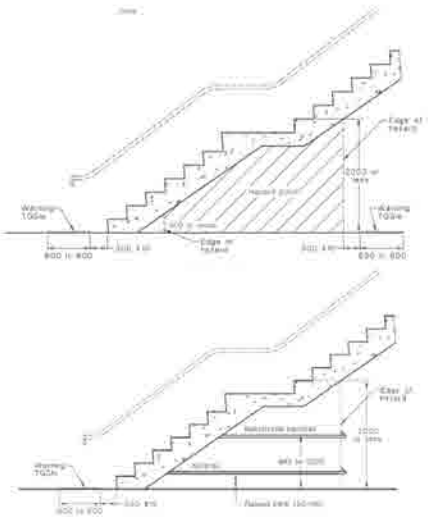
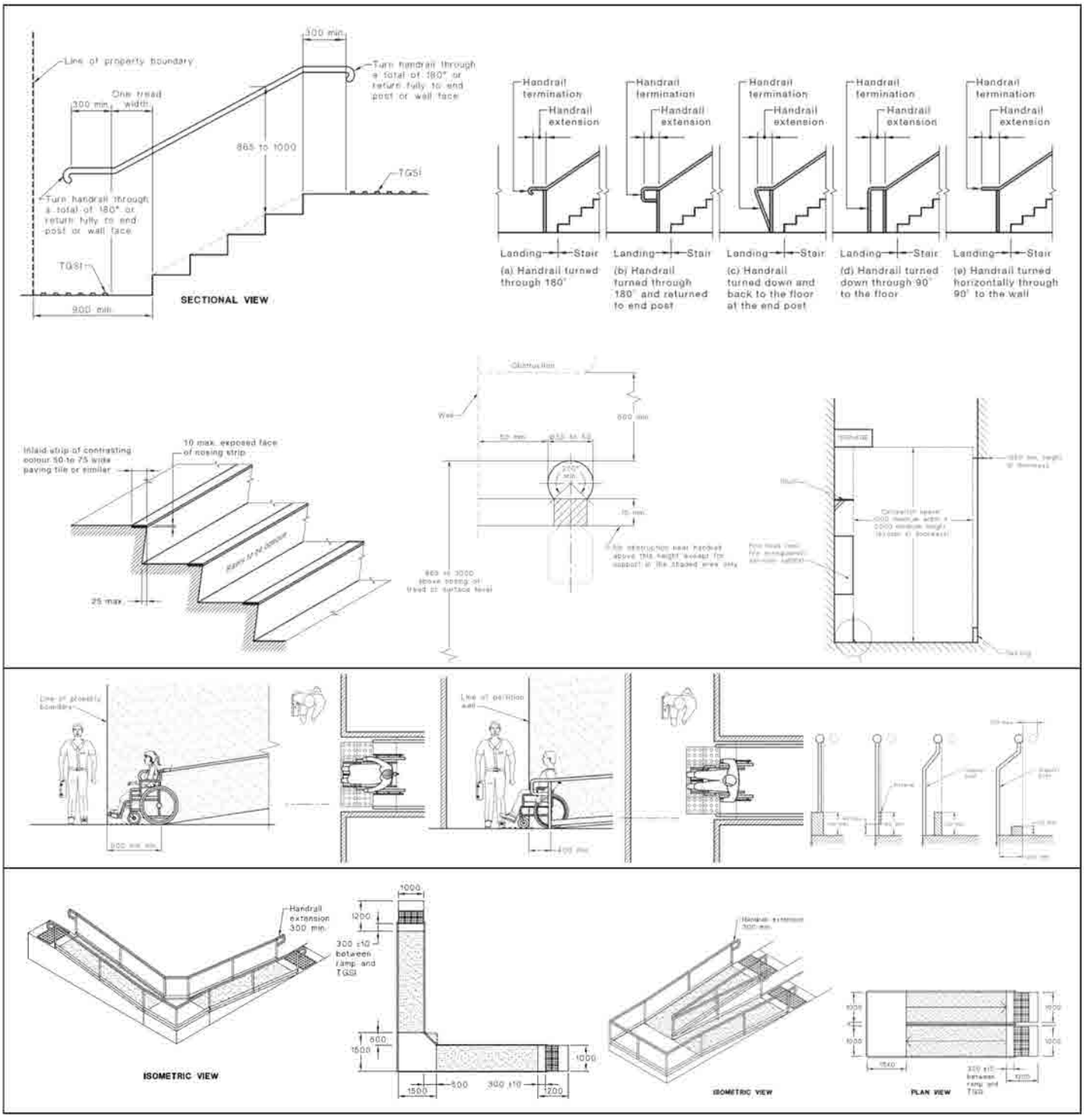


FIGURE 26(A) STAIRWAY LOCATION AND HANDRAIL EXTENSIONS AT BOUNDARY



Tactile or TGSI's are to be installed correctly to all stairs and ramps. These TGSI's are to be re-installed to the correct distance from the noseing and the height from the FFL.

The floor surface is to be cut to allow the TGSI mat to be fixed to the slab and provide the correct height.


300 min.
Line of property boundary
One tread
300 min. width
Turn handrail through a total of 180° or return fully to end post or wall face
865 to 1000
TGSI
Turn handrail through a total of 180° or return fully to end post or wall face
TGSI
900 min.
SECTIONAL VIEW
Handrail termination
Handrail extension
Landing
Stair
(a) Handrail turned through 180°
(b) Handrail turned through 180° and returned to end post
(c) Handrail turned down and back to the floor at the end post
(d) Handrail turned down through 90° to the floor
(e) Handrail turned horizontally through 90° to the wall
Inlaid strip of contrasting colour 50 to 75 wide paving tile or similar
10 max. exposed face of nosing strip
25 max
Wall
600 min
865 to 1000 above nosing of tread or surface level
Line of property boundary
Line of partition wall
900 min
1000
1200
300 ±10 between ramp and TGSI
600
1500
1000
1500
300
300 ±10
1200
Handrail extension 300 min.
ISOMETRIC VIEW
ISOMETRIC VIEW
PLAN VIEW

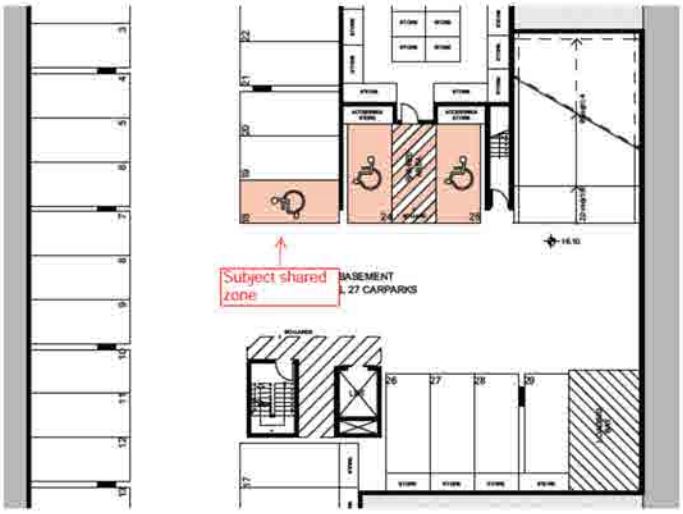
Extraction from Standards Australia Handbook 197:1999

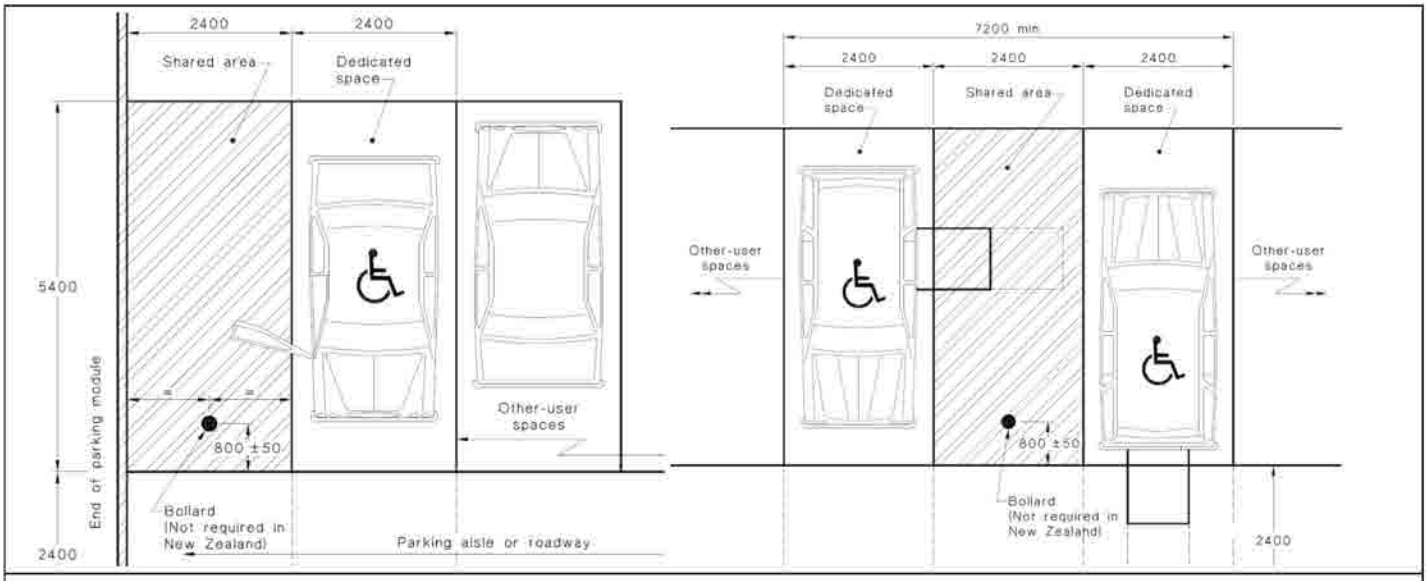
TABLE 3

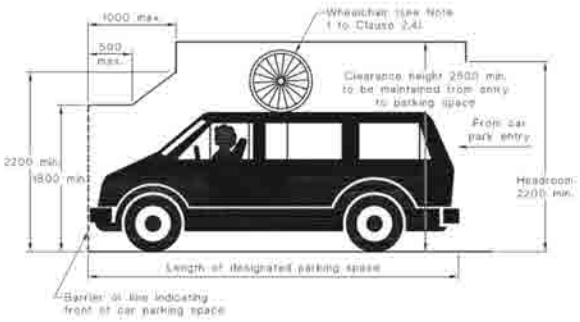
PEDESTRIAN FLOORING SELECTION GUIDE – MINIMUM PENDULUM OR RAMP RECOMMENDATIONS FOR SPECIFIC LOCATIONS

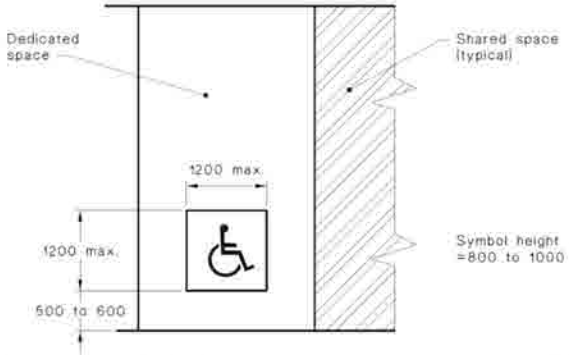
Location	Pendulum	Ramp
External colonnade, walkway and pedestrian crossings	W	R10
External ramps	V	R11
Entry foyers hotel, office, public buildings - wet	X	R10
Entry foyers hotel, office, public buildings - dry	Z	R9
Shopping centre excluding food court	Z	R9
Shopping centre – food court	X	R10
Internal ramps, slopes (greater than 2 degrees) - dry	X	R10
Lift lobbies above external entry level	Z	R9
Other separate shops inside shopping centres	Z	R9
Other shops with external entrances – entry area	X	R10
Fast food outlets, buffet food servery areas	X	R10
Hospitals and aged care facilities – dry areas	Z	R9
Hospital and aged care facilities – ensuites	X	A or R10
Supermarket aisles except fresh food areas	Z	R9
Shop and supermarket fresh fruit and vegetable areas	X	R10
Communal changing rooms	X	A
Swimming pool surrounds and communal shower rooms	W	B
Swimming pool ramps and stairs leading into water	V	C
Toilet facilities in offices, hotels, shopping centres	X	R10
Undercover concourse areas of sports stadium	X	R10
Accessible internal stair nosings (dry) – handrails present	X	R10
Accessible internal stair nosings (wet) – handrails present	W	B or R11
External stair nosings	W	R11

D3.4	Exemptions	Noted	The following areas are not required to be accessible: (a) An area where access would be inappropriate because of the particular purpose for which the area is used, (b) An area that would pose a health or safety risk for people with a disability (c) Any path of travel providing access only to an area exempted by (a) or (b)
D3.5	Accessible Carparking	CRA	Car-parking spaces have been provided to the building which are ancillary to the use. At least 1 accessible car parking space is to be provided per 100 spaces under table D3.5. Yet Council DCP for adaptable Units may require additional spaces.

			The car space still must comply with the space requirements of AS2890.6 form person with a disability. Designer to verify compliance prior to the issue of the Construction Certificate.
			As this building is to incorporate adaptable units, usually each unit is to be allocated a car space being in accordance with AS2890.6 or as per AS4299-1995. If a car space is to be designated as accessible, the entire shared zone should be provided in accordance with AS2890.6. Adaptable car parking space number 18 incorporates a shared zone as part of the driveway which does not comply with the requirements of AS 2890.6. Compliance can be achieved via undertaking an access alternative solution prior to the issue of the Construction Certificate. Bollards are to be provided in accordance with AS 2890.6 prior to the issue of the Construction Certificate. **CAR PARKING** General Private car parking spaces shall be large enough to enable a person with a wheelchair to get in and out of both the car and the parking space. A car parking space width of 3.8 m minimum is necessary to enable a driver to alight, open the passenger side door, and assist a person with a disability into a wheelchair, or for a side-loading ramp. A 3.8 m, minimum width is also required for a driver with a disability to unload a wheelchair and to alight. A roof to the car parking space is desirable. **NOTE**: If it is required to unload the wheelchair within the garage, an internal vertical clearance of 2.5 m is necessary to operate a car roof wheelchair unit. Garages and carports Garages and carports shall have minimum internal dimensions of 6.0 m × 3.8 m. A 2.5 m internal vertical clearance is desirable. A garage may be reduced if a hard surfaced level outside space of minimum dimensions 5.4 m × 3.8 m is provided as a sheltered carpark, or can be provided in the future. Provision for a power operated roller door is desirable. **NOTE**: A level surface includes surfaces with a gradient of up to 1:40.







Each dedicated space shall be identified by means of a white symbol of access in accordance with AS 1428.1 between 800 mm and 1000 mm high placed on a blue rectangle with no side more than 1200 mm, placed as a pavement marking in the centre of the space between 500 mm and 600 mm from its entry point as illustrated.

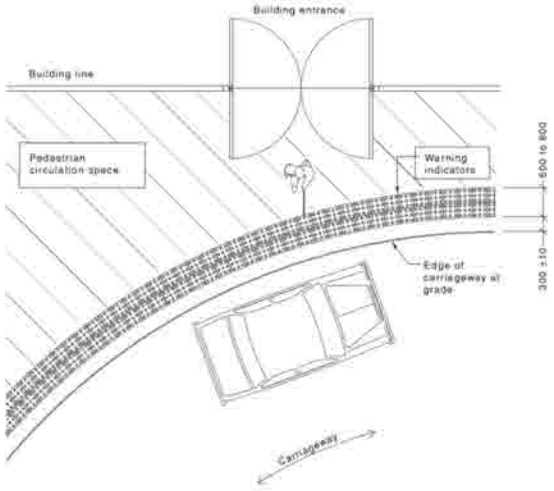
General Compliance with AS2890.1

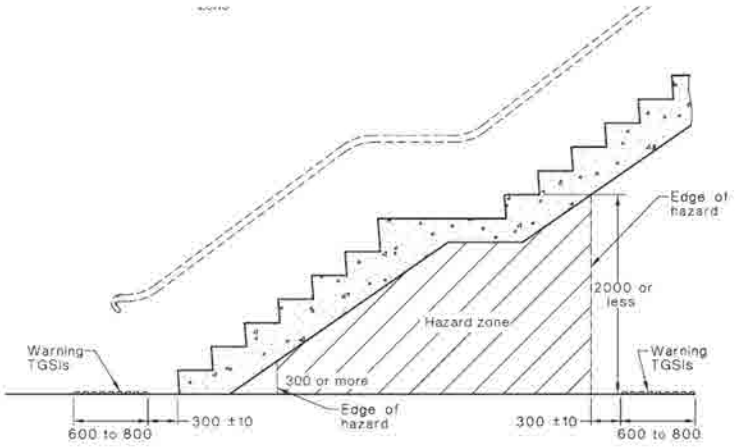
Signage is to be provided to all entrance point to a Carpark where a clearance of 3.0 metres or less (if only cars or light vans are likely to use the facility) or 4.6 metres or less (in all other cases), is provided.

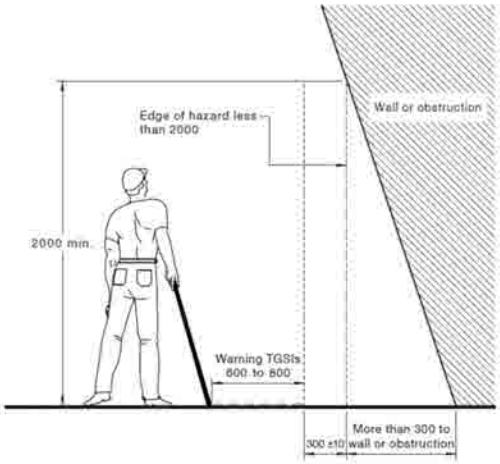
D3.6	Signage Note: BCA Change: 2013 'Exits' must have Brail to identify occupant's location within a building.	CRA	In a building required to be accessible – Braille and tactile signage complying with Specification D3.6 and incorporating the international symbol of access or deadness, as appropriate, in accordance with AS1428.1 must identify each – – Sanitary facility, – Ambulant toilet facility, – Any required accessible carparking space, – Where needed, directional signage to any Carparking space or sanitary facility. – At Each '**Exit**' and which '**Level**' an occupant is at also needs to be in brail. Where a bank of sanitary facilities is not provided with an accessible unisex sanitary facility, directional signage incorporating the international symbol of access in accordance with AS 1428.1 must be placed at the location of the sanitary facilities that are not accessible, to

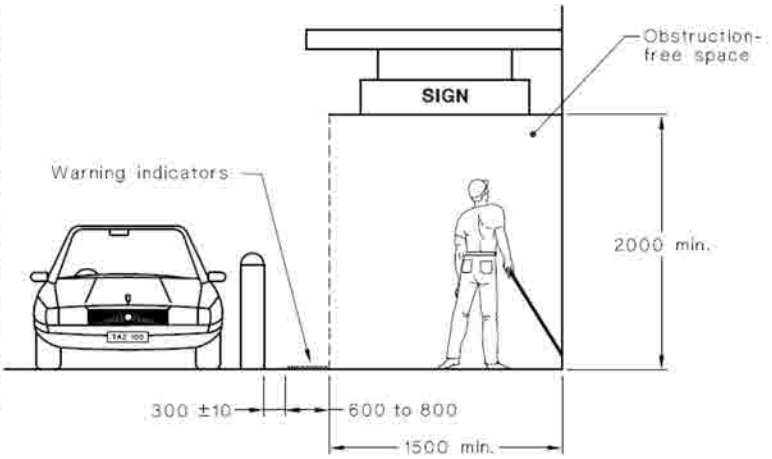
			direct a person to the location of the nearest accessible unisex sanitary facility.

Please consult with your Access Consultant for the appropriate location and required directional signage.

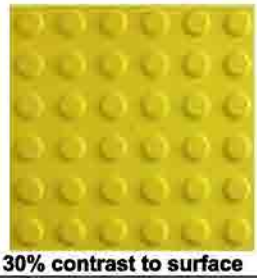
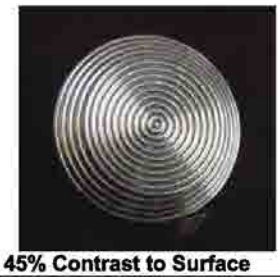
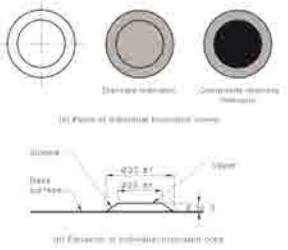








D3.7	Hearing Augmentation	N / A	
D3.8	Tactile Indicators	CRA	For a building required to be accessible, tactile ground surface indicators must be provided to warn people who are blind or have a vision impairment in accordance with this clause. I.e.: - A stairway, other than a fire-isolated stairway, - An escalator, - A passenger conveyor of moving walk, - A ramp other than a fire-isolated ramp, step ramp, kerb ramp or swimming pool ramp,

			- In the absence of a suitable barrier an overhead obstruction less than 2m above floor level, other than a doorway. Tactile ground surface indicators required by (a) must comply with sections 1 and 2 of AS/NZS 1428.4.1
There are three (3) distinct types of TGSI, these each need to be assessed as to the most appropriate based on the surface it is to be applied and lighting conditions. AS1428.4.1 – 2009 clearly provides installation requirements.  **30% contrast to surface**  **45% Contrast to Surface**  **60% Contrast to Surface** 			
D3.9	Wheelchair Seating Spaces in Class 9b Assembly Buildings	N / A	
D3.10	Swimming Pools	N / A	
D3.11	Ramps	Noted	On an accessway – (a) A series of connected ramps must not have a combined vertical rise of more than 3.6m; and (b)A landing for a step ramp must not overlap a landing for another step ramp or ramp
D3.12	Glazing on an Accessway	CRA	On an accessway, where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights, and any glazing capable of being mistaken for a doorway or opening, must be clearly marked in accordance with AS 1428.1. Design verification to be provided on the plans prior to the issue of the Construction Certificate.
SECTION E – SERVICES AND EQUIPMENT			
Part E1 – Fire Fighting Equipment			
Clause	Description	Status	Comments
E1.1	-	-	No Provisions
E1.2	-	-	No Provisions
E1.3	Fire Hydrants	CRA	Fire Hydrant Coverage is required throughout the whole building in accordance with AS 2419.1. The fire hydrant booster system is located within 10m of the external wall of the building and is not proposed to be provided with a shielding wall in accordance with AS 2419.1-2005. Compliance can be achieved via a fire engineering alternative solution undertaken prior to the issue of the Construction Certificate. Final plans and a design certificate from a qualified hydraulic engineer prior to the issue of a Construction Certificate.

			Please note: If variations from AS2419.1 are required, a Clause 188 approval may be required to be submitted to the NSW Fire Brigade for approval, please allocate time for this process if required.

AS2419.1:2005

3.2.2.2 Location External fire hydrants shall be located as follows:

(a) In a position that provides pedestrian access to the building for the fire brigade.

(b) When installed as a feed fire hydrant [See Figure 3.2.2.2(a), (b), (d) and (e)], within 20 m of a hardstand such that when a fire brigade pumping appliance is connected to it—

(i) all portions of the building shall be within reach of a 10 m hose stream, issuing from a nozzle at the end of a 60 m length of hose laid on the ground; and

(ii) a minimum of 1 m of hose shall extend into any room served.

(c) Where installed as an attack fire hydrant [see Figure 3.2.2.2(f)], within 50 m of a hardstand such that when connected directly to the external attack fire hydrant—

(i) all portions of the building shall be within reach of a 10 m hose stream, issuing from nozzle at the end of a 60 m length of hose laid on the ground; and

(ii) a minimum of 1 m of hose shall extend into any room served.

(d) Where installed in a system fitted with a fire brigade booster assembly and having feed fire hydrant performance only [see Figure 3.2.2.2(c)], within 20 m of a fire brigade pumping appliance located on a hardstand. All portions of the building shall be within reach of a 10 m hose stream, issuing from a nozzle at the end of 60 m length of hose laid on the ground with a minimum of 1 m of hose extending into any room served—

(i) where the hose is connected directly to the external fire hydrant; and

(ii) where the hose is connected to a fire brigade pumping appliance fed from the fire hydrant.

(e) In a position not less than 10 m from the building it is protecting unless safeguarded by construction—

(i) having a FRL of not less than 90/90/90;

(ii) extending 2 m each side of the fire hydrant outlet; and

(iii) extending not less than 3 m above the ground adjacent to the fire hydrant or the height of the building, whichever is the lesser.

(f) In a position not less than 10 m from any high voltage main electrical distribution equipment such as transformers and distribution boards, and from liquefied petroleum gas and other combustible storage.

(g) In a position so that the fire hydrant is not obstructed or obscured by obstacles, stored goods, vehicles, vegetation etc.

(h) In a position so that the fire hydrant is protected from possible mechanical damage by vehicles.

6.4 PUMPROOM

6.4.1 General

Pumprooms containing fixed on-site pumpsets and associated equipment shall be weatherproof and be—

(a) secure to prevent the entry of unauthorized persons;

(b) adequately ventilated for the aspiration and cooling of pump drivers;

(c) heated, where necessary, to prevent freezing and facilitate the cold start of compression ignition drivers;

(d) identified by appropriate signs and other visual and audible aids, so that the room and its entrance can be readily located by the attending fire brigade; and

(e) constructed with a minimum 2.1 m high internal clearance with adequate space for pump maintenance and replacement.

6.4.2 Internal pumprooms

Pumprooms located within a building shall have—

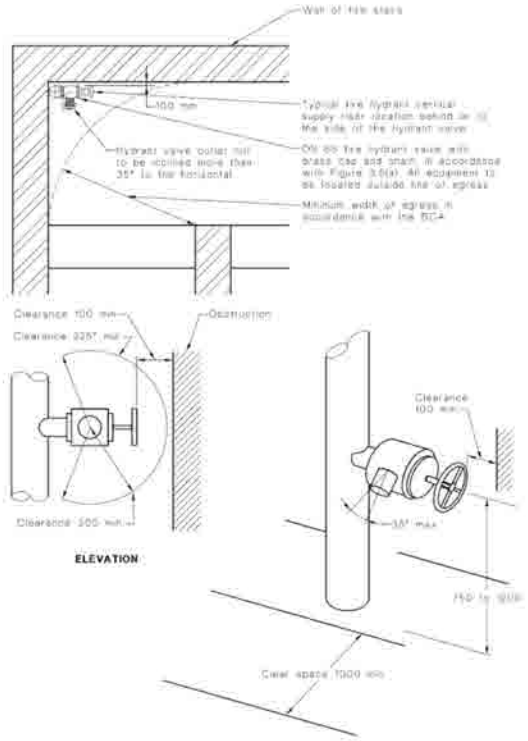
(a) a door opening to a road or open space, or a door opening to fire-isolated passage or stair which leads to a road or open space; and

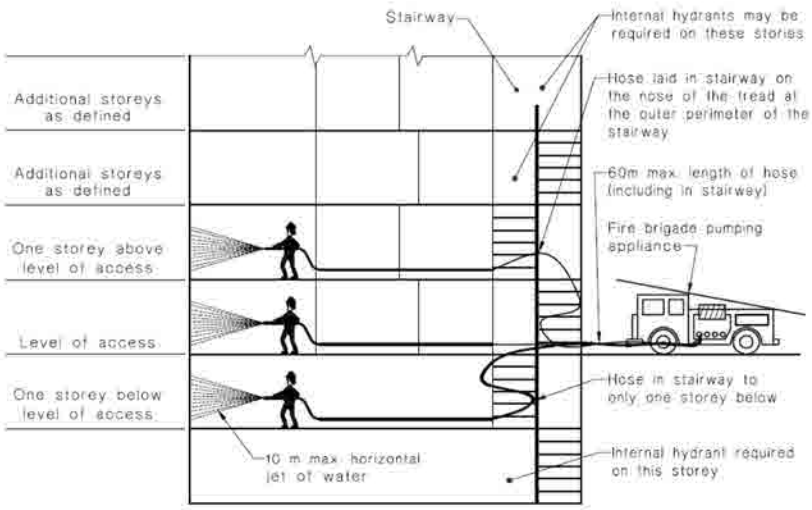
(b) Except where the building is sprinklered in accordance with AS 2118.1, enclosing walls with an FRL not less than that prescribed by the BCA for a firewall for the particular building classification served by the fire hydrant system.

6.4.3 External Pumprooms

Pumprooms and enclosures, located external to and within 6 m of any building they are protecting, shall have enclosing walls with an FRL not less than that prescribed by the BCA for a firewall for the particular building classification served by the fire hydrant system.

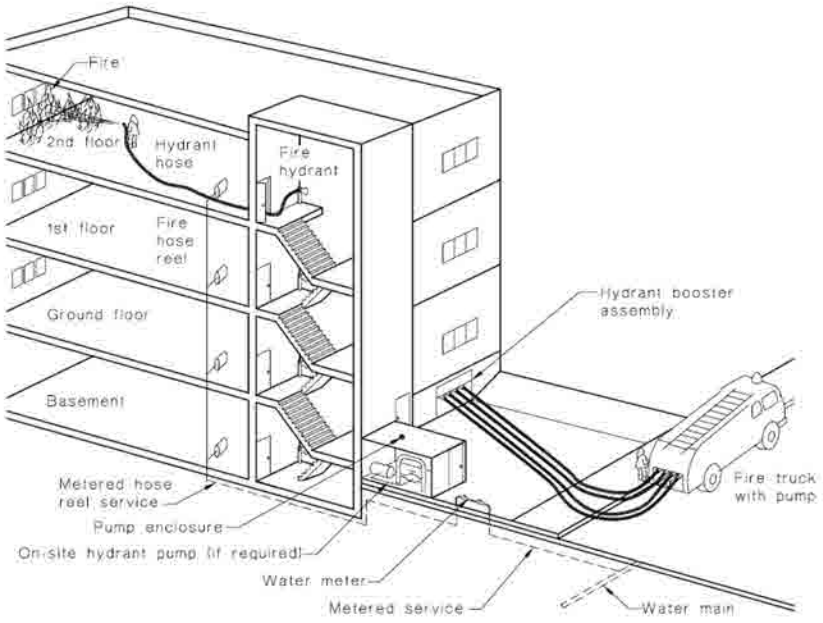
Hardstand shall be provided within 20 m of the access door to the pumproom.





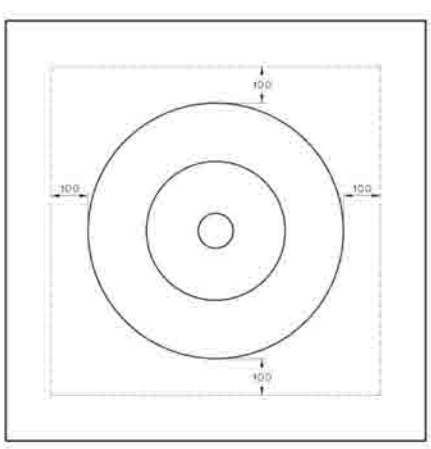
(g) Hose coverage from external hydrant (see Clause 3.2.2.1)

NOTE: Due to difficulties associated with fighting building fires, internal fire hydrants are required in fire-isolated stairs for levels more than one floor below ground and one or more levels above ground.



E1.4	Hose Reels	CRA	Fire hose reels coverage is required within the car park potions of the building if a hydrant is located within the building. Where fire hose reels are located within the building, they are to be within 4m of an exit, additional hose reels may be provided for coverage purposes however are to be located in a path of travel to an exit.

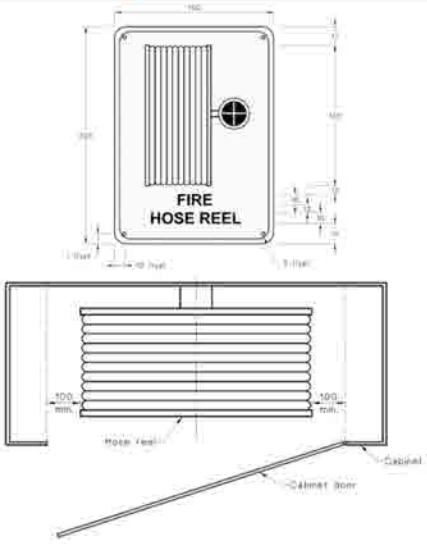
			Fire hose reels are to be installed accordance with AS2441. Final plans and a design certificate from a qualified hydraulic engineer prior to the issue of a Construction Certificate.

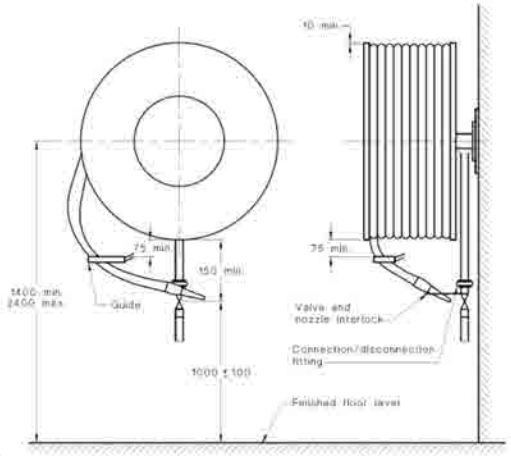


(b) Front view

DIMENSIONS IN MILLIMETRES

FIGURE 10.2 FIXED HOSE REEL CLEARANCE

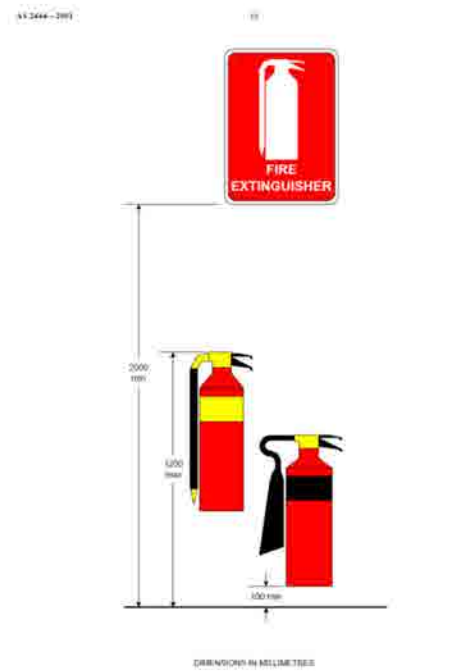




DIMENSIONS IN MILLIMETRES

FIGURE 11.1 TYPICAL ARRANGEMENT OF FIXED TYPE HOSE REEL

E1.5	Sprinklers	N / A	
E1.6	Portable fire extinguishers	CRA	Portable fire extinguishers are required to be provided in accordance with Table E1.6 of the BCA and AS 2444. For Class 2 or 3 buildings or Class 4 parts of a building portable fire extinguishers must be provided to serve the whole storey where one or more internal fire hydrants are installed and when fire hydrants are not installed to serve any fire compartment which a floor area greater than 500m^2(for the purposes of this Clause a Class 2, 3 or 4 parts of a building are considered to be a fire compartment. Portable fire extinguishers provided in a Class 2 or 3 building or Class 4 part of a building must be: • An ABE type fire extinguisher; and • A minimum size of 2.5kg; and • Distributed outside a sole-occupancy unit to serve the storey at which they are located and ensure that the travel distance from the entrance doorway of any sole-occupancy unit to the nearest fire extinguisher is not more than 10m. Details demonstrating compliance with this clause must be incorporated into the architectural drawings prior to the issue of a Construction Certificate.

 FIGURE 3.2 MOUNTING HEIGHTS FOR PORTABLE FIRE EXTINGUISHERS AND LOCATION SIGNS			Signs are to be installed clearly over or directly adjacent to Portable fire extinguishers. – Each extinguisher shall be located in a conspicuous and readily accessible position. Extinguishers shall not be located in positions where access could present a hazard to the potential user. Where practicable, extinguishers shall be located along normal paths of travel and near exits. (Max 15m from each other etc) – Extinguishers Signs must be shown and shall be mounted not less than 2.0 m above floor level, or at a height that makes them most apparent to a person of average height and visual acuity approaching the extinguisher location. In addition to the location sign referred to in Clause 3.3 of AS2444, the cabinet or enclosure shall be marked with the words '**FIRE EXTINGUISHER**' in letters at least 32 mm high in a colour contrasting with the background unless the door has not less than 50% of its surface area fabricated from transparent material that permits visual identification of the cabinet's contents. Signs are to be installed clearly over or directly adjacent to Portable fire extinguishers. – Each extinguisher shall be located in a conspicuous and readily accessible position. Extinguishers shall not be located in positions where access could present a hazard to the potential user. Where practicable, extinguishers shall be located along normal paths of travel and near exits. (Max 15m from each other etc) – Extinguishers Signs must be shown and shall be mounted not less than 2.0 m above floor level, or at a height that makes them most apparent to a person of average height and visual acuity approaching the extinguisher location.
E1.7	-	-	No Provisions
E1.8	Fire control centres	N / A	
E1.9	Fire precautions during construction	CRA	During construction, not less than one fire extinguisher to suit Class A, B and C fires is required for each storey, and is required to be located adjacent to each exit.
E1.10	Provisions for special hazards	N / A	

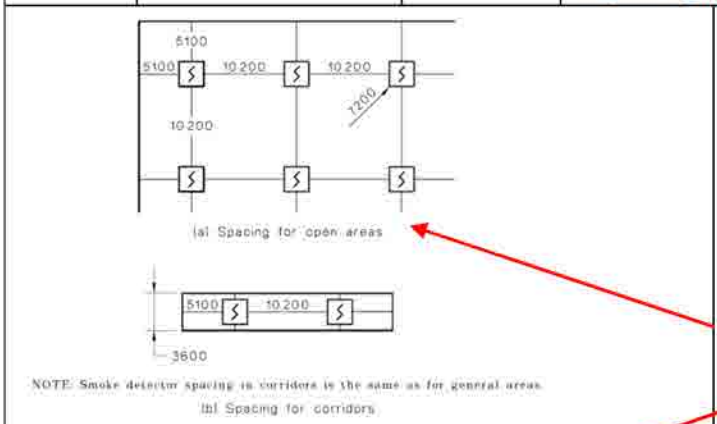
General Fire Service Signage

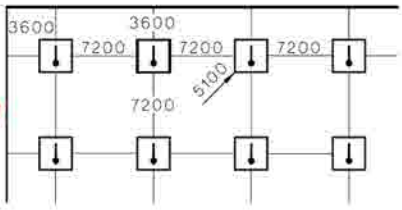
FIRE HOSE REEL	FIRE HYDRANT PUMP – DO NOT SWITCH OFF
FIRE HYDRANT BOOSTER	SPRINKLER BOOSTER CONNECTION
FIRE EXTINGUISHER	FIRE CONTROL ROOM
SPRINKLER STOP VALVE INSIDE	
FIRE PANEL	

Part E2 – Smoke Hazard Management

E2.1	Application of Part	Noted	Part is not applicable to • open deck car parks

			• ☐ open spectator stands
E2.2	General requirements	CRA	The building must be provided with an automatic smoke detection and alarm system, and smoke detectors complying with Specification E2.2a and a Building Occupant Warning System (BOWS). Each Class 2 SOU is to incorporate an AS3786 smoke alarm system which is connected to the consumer mains source and interconnected throughout the SOU. The basement carpark and common areas of the building are to incorporate a smoke detection and alarm system installed in accordance with AS1670.1-2004 and activate a building Occupant Warning System (BOWS) being sound pressure *within* each SOU door is to achieve no less than 85 dB(A). The carpark is to be provided with fans with metal blades suitable for operation at normal temperature and electrical power and control cabling need not be fire rated. Upon activation of the BOWS, the fans are to run at full speed. Details and a design certificate will be required by a qualified electrical engineer prior to the issue of a Construction Certificate.

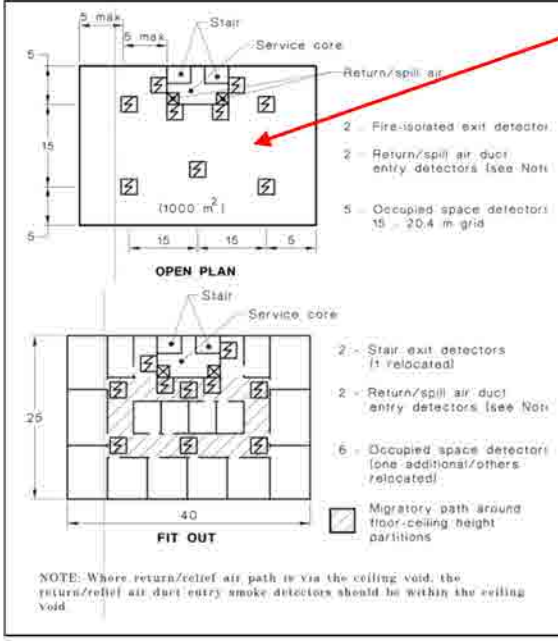


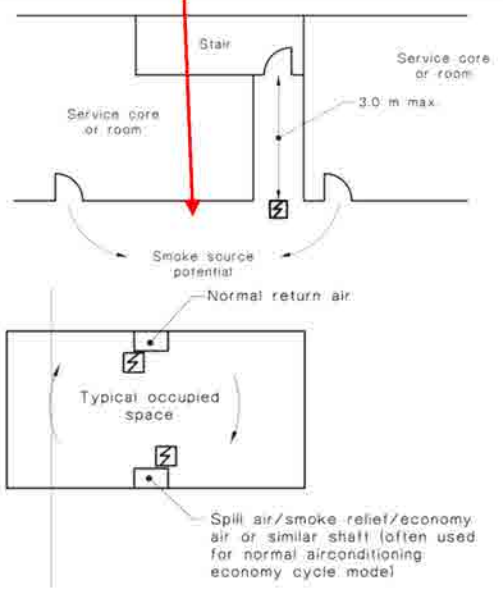


I.e.: Heat Detectors – AS1670.1

I.e.: Smoke Detectors – AS1670.1

I.e.: Smoke Detectors – AS1668.1 (M/V Shutdown etc.)

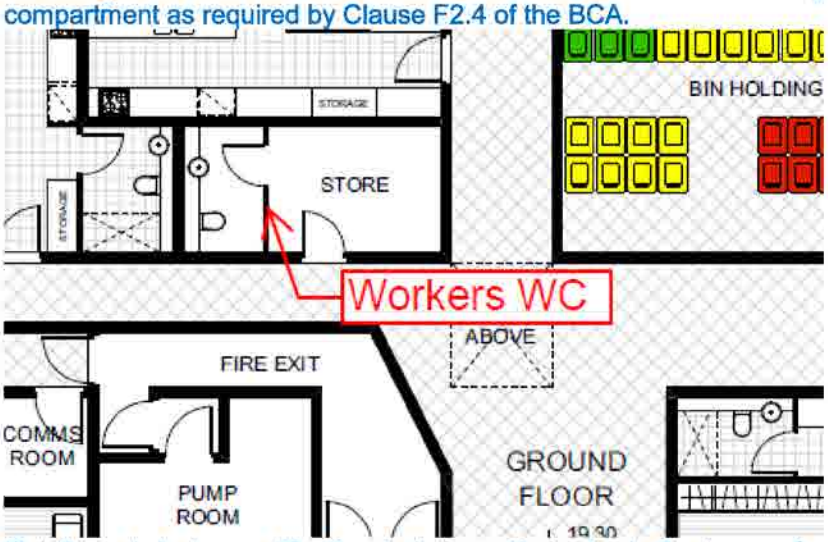


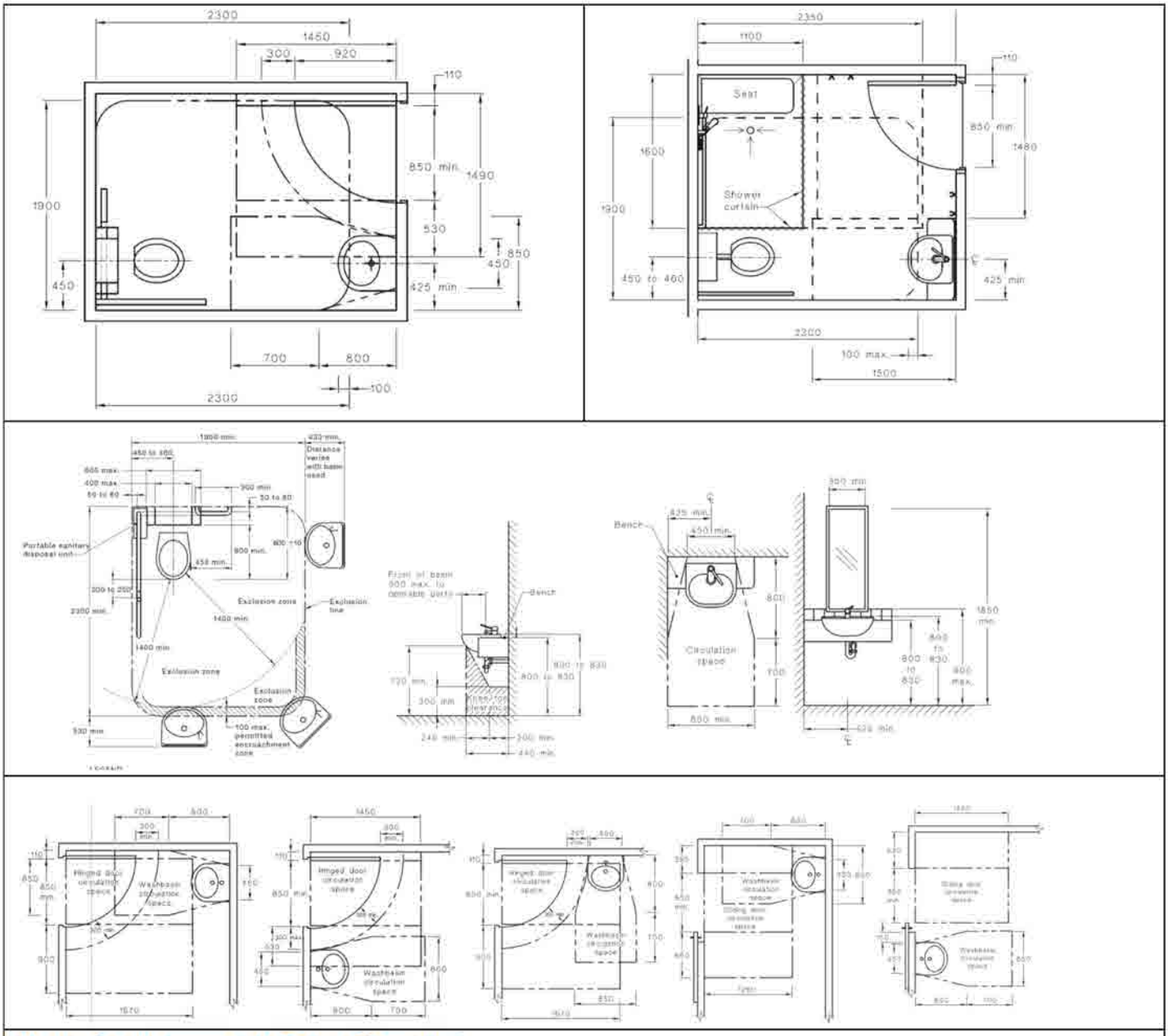


E2.3	Provisions for special hazards	N / A	
Part E3 – Lift Installations			
E3.1	-	-	No provisions.
E3.2	Stretcher facility in lifts	CRA	Basement carparks appear to be located below ground level and do not form part of the effective height of the building. To be confirmed by the designer prior to the issue of the Construction Certificate.
E3.3	Warning against use of lifts in fire	CRA	A warning sign is to be displayed where it can be readily seen near every call button of the passenger lift. The warning sign is to comply with the details and dimensions set out in Figure E3.3 of the BCA. DO NOT USE LIFT IF THERE IS A FIRE
E3.4	Emergency lifts	N / A	
E3.5	Landings	CRA	Access and egress to and from the lift well landings is to comply with the Deemed-to-Satisfy provisions of Section D of the BCA. Compliance can be achieved via slight redesign or alternatively an access alternative solution can be undertaken prior to the issue of the Construction Certificate.
E3.6	Facilities for people with disabilities	CRA	The passenger lift within the building is to comply with AS1735.2 and table E3.6b Application of Features to Passenger Lifts i.e. several features from AS1735.12: - Handrail to be provided within the cart, - Brail and location of Control buttons, - Audio and Visual indicators etc. Lift floor dimensions of not less than 1600mm x 1400mm to be provided if lift is deemed to travel more than 12m. (if the lifts serves an EH of more than 12m than a 2000mmx1400mm cart size is required). To be confirmed with details provided at Construction Certificate stage or design statement.
E3.7	Fire Services Control	Noted	
E3.8	Aged care buildings	N / A	
Part E4 – Emergency Lighting, Exit Signs and Warning Systems			
E4.1	-	-	No provisions
E4.2	Emergency lighting requirements	CRA	Emergency lighting is to be provided throughout the building in accordance with Clause E4.2 of the BCA. Drawings a design certificate will be required by a suitably qualified electrical engineer prior to the issue of a Construction Certificate.

E4.3	Measurement of distance	Noted	
E4.4	Design and operation of emergency lighting	CRA	Emergency lighting shall be provided throughout the building in accordance with the requirements of Clause E4.4 of the BCA and AS 2293.1. Details and a design certificate will be required by a suitably qualified electrical engineer prior to the issue of a Construction Certificate.
E4.5	Exit signs	CRA	Exit signs are to be provided in accordance with Clause E4.5 of the BCA.
			Exit signs must be clearly visible to person approaching the exit and must be installed on, above or adjacent to; 1. A door providing direct egress from a storey to a stairway, passageway or ramp serving as a required exit. 2. A door from an enclosed stairway, passageway or ramp at every level of discharge to a road or open space. 3. A door serving as or forming part of a required exit in a storey required to be provided with emergency lighting. A test switch is to be installed for each storey. Where and if requirements are altered under this proposal, details and a design certificate will be required by a suitably qualified electrical engineer prior to the issue of a Construction Certificate.
E4.6	Direction signs	CRA	Where an exit is not readily apparent then exit signs with directional arrows must be installed in appropriate positions in corridors, hallways, lobbies and the like indicating the direction to a required exit in accordance with Clause E4.6 of the BCA. Where and if requirements are altered under this proposal, details and a design certificate will be required by a suitably qualified electrical engineer prior to the issue of a Construction Certificate.
E4.7	Class 2, 3 and 4 buildings: Exemptions	Noted	
E4.8	Design and operation of exit signs	CRA	Exit signs are to operate in accordance with AS 2293.1 or for a photo luminescent exit sign, Specification E4.8 and be clearly visible at all times while the building is occupied. Where and if requirements are altered under this proposal, details and a design certificate will be required by a suitably qualified electrical engineer prior to the issue of a Construction Certificate.
E4.9	EWIS systems	N / A	
SECTION F – HEALTH AND AMENITY			
Part F1 – Damp and Weatherproofing			
Clause	Description	Status	Comments
F1.1	Stormwater drainage	CRA	Stormwater drainage design shall be in accordance with AS/NZS 3500.3.

			Details and a design certificate will be required by a suitably qualified hydraulic engineer prior to the issue of a Construction Certificate.
F1.2	-	-	No provisions
F1.3	-	-	No provisions
F1.4	External above ground membrane	CRA	Waterproofing membranes for external above ground use may comply with AS 4654 Part 1 and 2. Details and a design certificate to be provided prior to the issue of a Construction Certificate.
F1.5	Roof coverings	CRA	Roof coverings are to comply with the relevant Australian Standards as per Clause F1.5. Details and design certification to be provided prior to the issue of a Construction Certificate.
F1.6	Sarking	CRA	Sarking type materials used for weatherproofing of roofs and walls must comply with AS/NZS 4200 Parts 1 and 2. Details and design certification to be provided prior to the issue of a Construction Certificate.
F1.7	Waterproofing of wet areas	CRA	Shower enclosure surfaces, floor surfaces in bathrooms, shower rooms, slop hoppers, sink compartments, laundry and sanitary compartments is required to be waterproofed in accordance with AS 3740. Details and design certification to be provided prior to the issue of a Construction Certificate.
F1.8	-	-	No provisions
F1.9	Damp-proofing	N / A	
F1.10	Damp-proofing of floors on the ground	CRA	A vapour barrier in accordance with AS2870 is to be provided beneath the basement floor slab. Details and design certification to be provided prior to the issue of a Construction Certificate.
F1.11	Provisions of floor wastes	CRA	The floor of each bathroom / laundry is to be graded to permit drainage to a floor waste. The plans forming part of the Construction Certificate Application must detail compliance with the above.
F1.12	Sub-floor ventilation	N / A	
F1.13	Glazed assemblies	CRA	Windows, sliding doors with a frame, adjustable louvres, shopfronts and window walls with one piece framing in an external wall must comply with AS 2047 requirements for resistance to water penetration. Details and design certification to be provided prior to the issue of a Construction Certificate.
Part F2 – Sanitary and Other Facilities			
F2.1	Facilities in residential buildings	CRA	Sanitary and other facilities for Class 2 and 3 buildings must be provided in accordance with Table F2.1.

			As the building contains more than 10 SOU's a workers toilet is required **Note**: F2.4 (a) requires a unisex Assessable toilet is provided on the ground floor level which may be utilised by and maintenance staff. The subject toilet must be constructed as an accessible sanitary compartment as required by Clause F2.4 of the BCA.  Details and design certification to be provided prior to the issue of a Construction Certificate.
F2.2	Calculation of number of occupants and fixtures	Noted	
F2.3	Facilities in Class 3 to 9 buildings	N / A	
F2.4	Facilities for people with disabilities	CRA	An accessible toilet is provided to serve the building, full compliance with AS1428.1:2009 is to be indicated on the Construction Certificate Plans.
     			*Where existing accessible toilets are provided, the use of exiting AS1428.1:2001 compliant toilet facility is deemed as acceptable only if the toilet actually complies with AS1248.1:2001.* Full compliance with AS1428.1:2009 is to be indicated on the Construction Certificate plans or via Design Certificate. Occupants are to be provided with two (2) different types of accessible toilets; 1: An accessible *toilet* compartment (Wheelchairs) i.e.: - Ground floor *RH Transfer* - First Floor *LH Transfer* etc. 2: an ambulant *cubical* being a minimum normal toilet cubical size for easier use (Persons with mobility difficulties) in each and every toilet bank.



Details for an Accessible Toilet: (Checklist)

- The toilet is to be signed according to AS1428.1, with Left or Right hand transfer.
- Door clearances shall be in accordance with the relevant doors size and approach form both sides.
- Doors are to have a staged closer, if it opens outwards, must also incorporate a closer which hold the door closed without pulling the door closed via a handle.
- Doors shall be provided with an in-use indicator and a bolt or catch. Where a snib catch is used, the snib handle shall have a minimum length of 45 mm from the centre of the spindle. In an emergency, the latch mechanism shall be openable from the outside.
- Toilet pan and wash basin are located in accordance with the diagrams with the required clearances,
- All hand rails are installed and are structural (110N),
- Flushing control are automatic or push action in the required zone,
- An emergency light is also to be installed within the toilet.
- A mirror is to be installed not less than 350mm wide by 900mm tall.
  - Located above the sink,

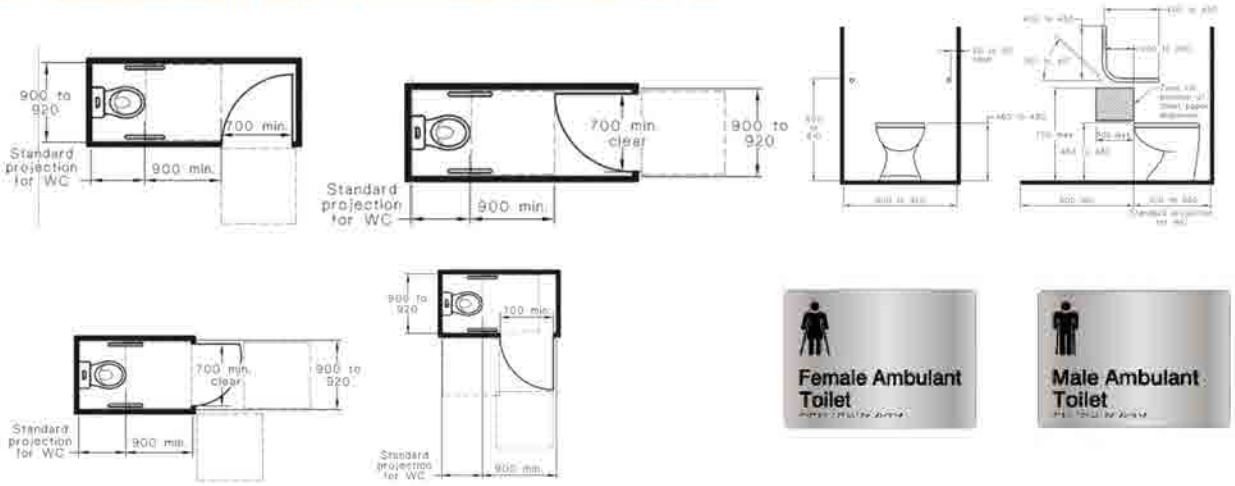
- Flat against the wall.

- A shelf is to be installed next to the basin @ 900-1000mm from the floor with a minimum width of 120-150mm by 300-400mm.
- Where provided, soap dispensers, towel dispensers, hand dryers and similar fittings shall be operable by one hand, and shall be installed with the height of their operative component or outlet not less than 900 mm and not more than 1100 mm above the plane of the finished floor, and no closer than 500 mm from an internal corner.
- A clothes-hanging device shall be installed 1200 mm to 1350 mm above the plane of the finished floor and not less than 500 mm out from any internal corner.

Ambulant Cubicle

Any toilet block is also to accommodate at least one ambulant cubical in **both** the *Male* and *Female* banks.

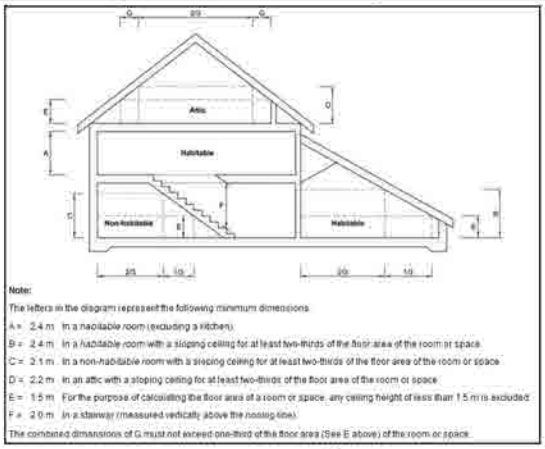
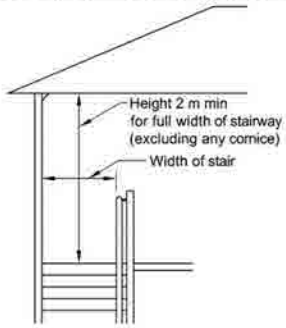
Final details to accompany the Construction Certificate Plans.

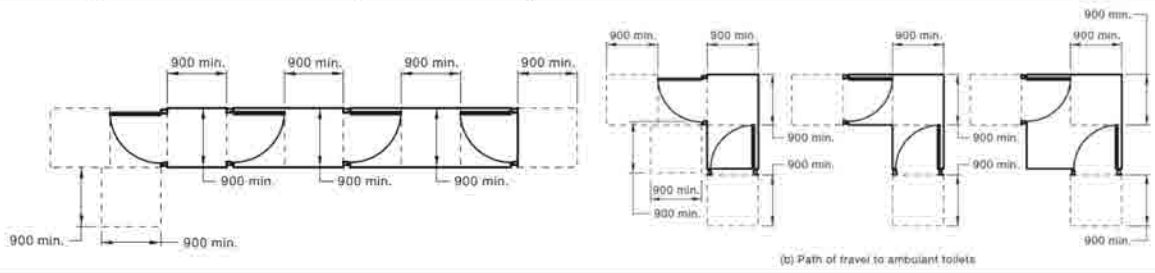


Details for an Ambulant Cubicle: (Checklist)

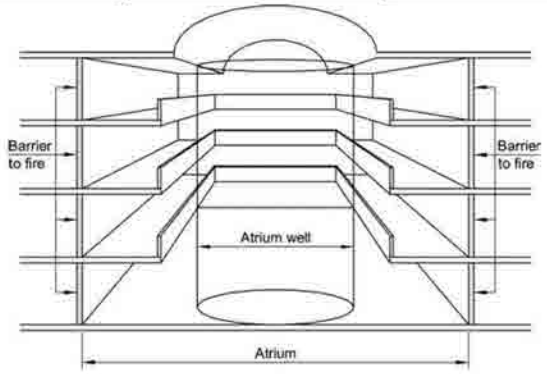
- The toilet is to be signed according to AS1428.1, on the cubicle door,
- Door clearances shall be in accordance with the relevant doors size and approach form both sides. (900*900 pads)
- Cubical is 900mm wide, Doors are 700mm and must also incorporate a closer or handle.
- Doors shall be provided with an in-use indicator and a bolt or catch. Where a snib catch is used, the snib handle shall have a minimum length of 45 mm from the centre of the spindle. In an emergency, the latch mechanism shall be openable from the outside.
- Toilet pan and wash basin are located in accordance with the diagrams with the required clearances,
- All hand rails are installed and are structural (110N),
- A clothes-hanging device shall be installed 1350 mm to 1500mm above the plane of the finished floor and not less than 500 mm out from any internal corner.

F2.5	Construction of sanitary compartments	CRA	Doors to the fully enclosed toilets are to open outwards, slide or be readily removable from the outside of the sanitary compartment unless there is a clear space of at least 1.2m between the closet pan within the sanitary compartment and the nearest part of the doorway. Plans submitted with the Construction Certificate Application must detail compliance with the above.
F2.6	Interpretation: Urinals and washbasins	Noted	
F2.7	Warm water installations	N / A	Not Applicable in NSW
F2.8	Waste	N / A	

Part F3 – Room Sizes			
F3.1	Height of rooms and other spaces	CRA	Ceiling heights must be not less than— (a) in a habitable room excluding a kitchen — 2.4 m; and (b) in a kitchen — 2.1 m; and (c) in a corridor, passageway or the like — 2.1 m; and (d) in a bathroom, shower room, laundry, sanitary compartment, airlock, pantry, storeroom, garage, car parking area or the like — 2.1 m; and (e) in a room or space with a sloping ceiling or projections below the ceiling line within— (i) a habitable room— (A) in an attic — a height of not less than 2.2 m for at least two-thirds of the floor area of the room or space; and (B) in other rooms — a height of not less than 2.4 m over two-thirds of the floor area of the room or space; and (ii) a non-habitable room — a height of not less than 2.1 m for at least two-thirds of the floor area of the room or space, and when calculating the floor area of a room or space, any part that has a ceiling height of less than 1.5 m is not included; and (f) in a stairway — 2.0 m measured vertically above the nosing line. Designer to verify compliance prior to the issue of the Construction Certificate.
 			
Part F4 – Light and Ventilation			
F4.1	Provisions of natural light	Noted	Natural light must be provided to all habitable rooms located within the Class 2 portion of the development.
F4.2	Methods and extent of natural light	Complies	
F4.3	Natural light borrowed from adjoining room	CRA	Natural lighting to a room in a Class 2 building or Class 4 part of a building or in a sole-occupancy unit of a Class 3 building, may come through a glazed panel or opening from an adjoining room (including an enclosed verandah). Please check natural light to the bedrooms of Unit G0.6. Details and design certification for natural light borrowed are to be provided by the architect prior to the issue of a Construction Certificate.
F4.4	Artificial lighting	CRA	Artificial lighting must be provided in required stairways, passageways, ramps, sanitary compartments, bathrooms, laundries and other spaces used in common by occupants of the building complying with AS1680.0 in accordance with the requirements of Clause F4.4 of the BCA. Details and design certification to be provided by electrical engineer prior to the issue of a Construction Certificate.
F4.5	Ventilation of rooms	CRA	Ventilation shall be provided throughout the building by means of natural ventilation complying with Clause F4.6 or mechanical

			ventilation complying with the requirements of AS1668.2 and AS3666.1 as required by Clause F4.5 of the BCA. Details and design certification to be provided by mechanical engineer prior to the issue of a Construction Certificate. *Note: Any air handling system which recycles air from one fire compartment to another or operates in a manner that may unduly contribute to the spread of smoke from one compartment to another must be designed to operate a smoke control system in accordance with AS1668.1 or incorporate smoke dampers where the air-handling ducts pass any separating element to another fire compartment and shutdown and the smoke dampeners are activated to close automatically via smoke detectors complying with clause 4.10 of AS1668.1*
F4.6	Natural ventilation	CRA	See Clause F4.5
F4.7	Ventilation borrowed from adjoining room	CRA	See Clause F4.5
F4.8	Restriction on position of water closets and urinals	Complies	
F4.9	Airlocks	Noted	Note: Airlocks must comply with the set distances under AS1428.1 :2009
 (b) Path of travel to ambulant toilets			
F4.10	-	-	No provisions
F4.11	Carparks	CRA	The carpark is to be provided with ventilation complying with AS1668.2 or have an adequate system of permanent natural ventilation. Details and design certification to be provided by mechanical engineer prior to the issue of a Construction Certificate.
F4.12	Kitchen local exhaust	N / A	
Part F5 – Sound Transmission and Insulation			
F5.1	Application of part	Applies	Applicable to Class 2 buildings
F5.2	Determination of airborne sound insulation ratings	Noted	Construction required to have an airborne sound insulation rating must have the value for weighted sound reduction index (Rw) or weighted sound reduction index with spectrum adaptation term (Rw + Ctr) determined in accordance with AS/NZS1276.1, or ISO717.1 using result from laboratory measurements, or comply with Specification F5.2 of the BCA.

F5.3	Determination of impact sound installation ratings	Noted	A floor required to have an impact sound insulation rating must have the required value for weighted normalised impact sound pressure level with spectrum adaptation term (Ln,w+Cl) determined in accordance with AS/ISO 717.2 using results from laboratory measurements or comply with Specification F5.2 of the BCA. A wall that is required to have an impact sound insulation rating must be of discontinuous construction.
F5.4	Sound insulation rating for floors	CRA	Floors separating sole occupancy units or separating sole occupancy units from a plant room, lift shaft, public lobby or the like or parts of different classifications must have an Rw + Ctr of not less than 50 and an Ln,w + Cl of not more than 62. A design certificate and details of form of construction required to achieve such will be required from a qualified acoustic engineer prior to the issue of a Construction Certificate.
F5.5	Sound insulation rating of walls	CRA	A wall separating sole occupancy units must have an Rw + Ctr not less than 50. A wall separating a sole occupancy from a lift shaft, public lobby or the like, or parts of different classifications must have an Rw + Ctr not less than 50. Compliance with F5.3(b) is required if the wall separates a bathroom, sanitary compartment, laundry or kitchen in one sole occupancy unit from a habitable room (excluding a kitchen) in another adjoining unit or a sole occupancy unit from a plant room or lift shaft. A door may be incorporated in a wall that separates a sole occupancy unit from a stairway, public corridor, public lobby or the like, provided the door assembly has an Rw not less than 30. Where a wall required to have sound insulation has a floor above, the wall must continue to the underside of the floor above or a ceiling that provides the sound insulation required for the wall. Where a wall required to have sound insulation has a roof above, the wall must continue to the underside of the roof above or a ceiling that provides the sound insulation required for the wall. A design certificate and details of form of construction required to achieve such will be required from a qualified acoustic engineer prior to the issue of a Construction Certificate.
F5.6	Sound insulation rating of services	CRA	If a duct, soil, waste or water supply pipe, including a duct or pipe that is located in a wall or floor cavity, serves or passes through more than one sole-occupancy unit, the duct or pipe must be separated from the rooms of any sole-occupancy unit by construction with an Rw + Ctr (airborne) not less than— (i) 40 if the adjacent room is a habitable room (other than a kitchen); or (ii) 25 if the adjacent room is a kitchen or non-habitable room.

			If a storm water pipe passes through a sole-occupancy unit it must be separated in accordance with (i) and (ii) above. A design certificate and details will be required by a qualified acoustic engineer prior to the issue of a Construction Certificate.
F5.7	Isolation of pumps	CRA	A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating or other pump.
SECTION G – ANCILLARY PROVISIONS			
Part G1 – Minor Structures and Components			
Clause	Description	Status	Comments
G1.1	Swimming pools	N / A	
G1.2	Refrigerated chambers, strong-rooms and vaults	N / A	
G1.101	Provision for cleaning windows	CRA	A safe manner of cleaning windows is to be provided as windows are located 3 or more storeys above ground level. The windows must either be able to be cleaned wholly from within the building, or a method complying with the Construction Safety Act 1912 and Regulations is required. Details verifying compliance must be provided prior to the issue of a Construction Certificate
Part G2	Heating appliances, fireplaces, chimneys and flues	N / A	
Part G3	Atrium construction	N / A	
			*Atrium* means a space within a building that connects 2 or more storeys, and— (a) is wholly or substantially enclosed at the top by a floor or roof (including a glazed roof structure); and (b) includes any adjacent part of the building not separated by an appropriate barrier to fire; but (c) does not include a stairwell, rampwell or the space within a shaft.
Part G4	Construction in alpine areas	N / A	
Part G5	Construction in bushfire prone areas	N / A	
SECTION H – SPECIAL USE BUILDINGS			
N / A			
SECTION I – MAINTENANCE			

Note:
Essential Fire Safety Measures or other safety measures must be maintained and certified on a ongoing basis, in accordance with the provisions of the Environmental Planning and Assessment Regulation, 2000.

SECTION J – ENERGY EFFICENCY

Clause	Description	Status	Comments
NSW J(A)	Energy Efficiency – Class 2 Buildings and Class 4 Parts	Noted	Sub-section J(A) is applicable to the proposed development.
NSW J(B)	Energy Efficiency – Class 3 Buildings	N / A	Sub-section J(B) is not applicable to the proposed development.
J1.2	Thermal construction general	CRA	Details verifying compliance must be provided prior to the issue of a Construction Certificate
J1.3(d) and J1.5(c)	Thermal breaks	CRA	Details verifying compliance must be provided prior to the issue of a Construction Certificate
J1.3(c)	Compensating for a loss of ceiling insulation	CRA	Details verifying compliance must be provided prior to the issue of a Construction Certificate
J1.6	Floor edge insulation	CRA	Details verifying compliance must be provided prior to the issue of a Construction Certificate
J3	Building Sealing	CRA	Details verifying compliance must be provided prior to the issue of a Construction Certificate
J3.2	Chimneys and flues	N / A	Not applicable
J3.3	Roof lights	CRA	If proposed, (a) A roof light must be sealed, or capable of being sealed, in accordance with (b) to minimise air leakage when serving a conditioned space. (b) A roof light required by (a) to be sealed or capable of being sealed must be constructed with— (i) an imperforate ceiling diffuser or the like installed at the ceiling or internal lining level; or (ii) a weatherproof seal if it is a roof window; or (iii) a shutter system readily operated either manually, mechanically or electronically by the occupant.
J3.4	External windows and doors		(a) A seal to restrict air infiltration must be fitted to each edge of an external door, openable external window or the like when serving a conditioned space. (b) The requirements of (a) do not apply to— (i) a window complying with AS 2047; or (ii) an external louvre door, louvre window, or other such opening; or (iii) a fire door. (c) A seal required by (a) may be a foam or rubber compressible strip, fibrous seal or the like. (d) An external door at the main point of entry to the building, if leading to a conditioned space with a floor area of more than 50 m2, must have a means of minimising the loss of conditioned air such as an airlock, self-closing door, revolving door or the like.

			Details verifying compliance must be provided prior to the issue of a Construction Certificate
J3.5	Exhaust fans	CRA	An exhaust fan must be fitted with a sealing device when serving an air-conditioned space, or a habitable room in climate zone 4, 6, 7 or 8. Details verifying compliance must be provided prior to the issue of a Construction Certificate
J3.6	Construction of roofs, walls and floors	CRA	(a) Roofs, external walls, external floors and any opening such as a window, door or the like must be constructed to minimise air leakage in accordance with (b) when forming part of the external fabric of a conditioned space (b) Construction required by (a) must be— (i) enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or (ii) sealed by caulking, skirting, architraves, cornices or the like. Details verifying compliance must be provided prior to the issue of a Construction Certificate
J5.2	Air-conditioning and ventilating systems	CRA	Details to be provided with the Construction Certificate Application.
J5.3	Time switch	CRA	Power supply to: (a) an air-conditioning system of more than 10 kWr; or (b) a ventilation system with an air flow rate of more than 1000 L/s; or (c) heating systems of more than 10 kWheating, must be controlled by a time switch in accordance with Specification J6. Details verifying compliance must be provided prior to the issue of a Construction Certificate
J5.4	Heating and cooling systems	CRA	Details to be provided with the Construction Certificate Application.
J5.5	Ancillary exhaust systems	CRA	Details to be provided with the Construction Certificate Application.
J7.2	Hot water supply	CRA	Details to be provided with the Construction Certificate Application.
JA5.2	Access for maintenance	CRA	Access must be provided to all services and their components including: i) Time switches and motion detectors; and ii) Room temperature thermostats; and iii) Plant thermostats such as on boilers or refrigeration units; and iv) Outside air dampers; and v) Reflectors, lenses and diffusers of light fittings; and vi) Heat transfer equipment; and vii) Adjusted or motorised shading devices.

4.0. FIRE SAFETY SCHEDULES

Details on the proposed fire safety schedule are included in the following schedule.

4.1. Proposed Fire Safety Schedule

As a result of the works proposed under this development application, the draft proposed fire safety schedule for the site will be as follows;

Item No.	Essential Fire and Other Safety Measures	Standard of Performance	Standard of Maintenance and supplementary fire safety statements	Proposed
1.	Fire rated access panels & doors/hoppers	BCA C3.13 (Openings in Shafts) AS 1905.1 -2005 (Fire Resistant Doorsets)	AS1851- 2005	✓
2.	Automatic fail safe devices - Break Glass release	BCA D2.21 (Operation of Latches) AS 1670.1 -2004 (Fire)		✓
3.	Automatic fire detection & alarm - Fire Alarm / Smoke detection - BOWS	BCA E2.2a Clause 3 & 4 and Clause 6 (BOWS)	AS1851- 2005	✓
4.	Emergency lighting	BCA E4.2 (Emergency Lighting requirements) E4.4 (Design and Operation – Emergancy Lighting) E4.7 (Class 2, 3 and 4) AS/NZS 2293.1 –2005		✓
5.	Exit signs	BCA E4.5 (Exit Signs) E4.6 (Direction Signs) E4.8 (Design and Operation - Exits) AS/NZS 2293.1 –2005		✓
6.	Fire dampers	BCA E2.2a C3.15 and Spec C3.15 AS 1668.1 – 1998		✓
7.	Fire doors	BCA C2.12 (Separation of Equipment) C2.13 (Electricity Supply Systems) C3.4 (Methods of Protection) C3.8 (Openings in Fire Isolated Exits) (TBA) C3.10 (Opening in Fire Isolated Lift Shafts) AS 1735.11 - 1986 C3.11 (Bounding Construction) C3.13 (Opening in Shafts) D2.8 (Enclosure of Space under Stairs) AS/NZS 1905.1 – 2005	AS1851- 2005	✓

8.	Fire hydrant systems - NSW Storz Couplings	BCA E1.3 AS 2419.1 – 2005	AS1851- 2005	TBA
9.	Fire seals	BCA C3.15, C3.16, Spec C3.15		✓
10.	Construction Joints	BCA C3.16 AS1530.4 - 2005		✓
11.	Fire shutters	BCA Spec. C3.4 AS1905.2 - 2005		TBA
12.	Fire windows	BCA Spec. C3.4		TBA
13.	Hose reel systems	BCA E1.4, AS 2441 – 2005	AS1851- 2005	TBA
14.	Lightweight construction - Fire Rating of Electrical Switchboard - Fire Rating of ceiling located	BCA C1.8 and AS1530.4 - 2005		TBA
15.	Mechanical air handling systems 1. Mechanical ventilation to carpark.	BCA E2.2a, Spec E2.2a AS/NZS 1668.1 – 1998	AS1851- 2005	✓
16.	Portable fire extinguishers	BCA E1.6 AS 2444 – 2001	AS1851- 2005	✓
17.	Solid core doors	BCA Spec. C3.4, C3.11 (Bounding Construction)		TBA
18.	Wall-wetting sprinkler / drenchers	BCA C3.4 AS 2118.2		TBA
19.	Warning & operational signs	D2.23 (Signs on Fire Doors) E3.3 (Lift Sign), EPA Regs 2000, Clause 183		✓
20.	OTHER	Alternative Solution		TBA

4.2. Certification of Essential Fire Safety Measures

Pursuant to Section 169 of the Environmental Planning and Assessment Regulations 2000, it will be necessary for the owner of the building, on completion of work to furnish a Final Fire Safety Certificate with regard to each essential fire safety measure identified in the proposed Fire Safety Schedule listed above.

The final fire safety certificate must state that each essential fire safety measure specified in the fire safety schedule for the building to which the certificate relates:

(a) has been assessed by a properly qualified person, and
(b) was found, when it was assessed, to be capable of performing to at least the standard required by the current fire safety schedule for the building for which the certificate is issued.

Every year, the owner(s) will need to sign and submit an Annual Fire Safety Statement to the Local Council and the NSW Fire Brigades, which confirms that all essential fire safety measures have been tested and maintained and perform to the original design

and installation standard. A copy of the Annual Fire Safety Statement must also be displayed in prominent areas of the buildings (i.e. the main entrance foyers).

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5.0. CONCLUSION

Although demonstrating compliance with the BCA at DA assessment stage is not a prescribed head of consideration under Section 79C of the Environmental Planning & Assessment Act 1979, Council has an obligation to consider whether the proposal, as lodged, is indicatively capable of complying with the BCA - without significant modification to those plans for which approval is sought.

In this instance we are confident that any modifications and advancement in level of details required to the proposal in order to satisfy the requirements of the BCA (in force at the time the Construction Certificate application is lodged) will **not** necessitate the need for any significant design changes that in turn would necessitate the submission of an application under Section 96 of the Environmental Planning and Assessment Act 1979.

In the same regard, we draw Council's attention to the requirements of clause 145 of the Environmental Planning & Assessment Regulation 2000, and suggest that detailed & specific BCA compliance matters shall be addressed to the satisfaction of the appointed Certifying Authority prior to the issue of the Construction Certificate.

Further, it is considered that this BCA review and the additional preparation of the required Construction Certificate documentation will be sufficient to ensure that the proposed design will achieve the necessary compliance with the BCA.

PREPARED BY:

Mardiros Tatian
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B.Med.Sci (Bachelor of Medical Science)
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APPENDIX A – FIRE RESISTANCE LEVELS

Table 3 TYPE A CONSTRUCTION: FRL OF BUILDING ELEMENTS

Table 3 TYPE A CONSTRUCTION: FRL OF BUILDING ELEMENTS

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

Note: *Under Spec C1.1, there are many individual additional requirements and concessions which need to be assessed and read in conjunction with this Specification. Your engineer is to confirm compliance with all required Fire Rated Elements.*

General Requirements:

- Exposure to Fire-source features
- Fire Protection for a supporting of another part
- Lintels
- Attachments not to impair fire-resistance
- General concessions

Fire-resistance of building elements:

In a building required to be of Type 'A' construction

(a) each building element listed in Table 3 and any beam or column incorporated in it, must have an FRL not less than that listed in the Table for the particular Class of building concerned; and

(b) external walls, common walls and the flooring and floor framing of lift pits must be non-combustible; and

(c) any internal wall required to have an FRL with respect to integrity and insulation must extend to;

(i) the underside of the floor next above; or

(ii) the underside of a roof complying with Table 3; or

(iii) if under Clause 3.5 the roof is not required to comply with Table 3, the underside of the non-combustible roof covering and, except for roof battens with dimensions of 75 mm x 50 mm or less or sarking-type material, must not be crossed by timber or other combustible building elements; or

(iv) a ceiling that is immediately below the roof and has a resistance to the incipient spread of fire to the roof space between the ceiling and the roof of not less than 60 minutes; and

(d) a loadbearing internal wall and a loadbearing fire wall (including those that are part of a loadbearing shaft) must be of concrete or masonry; and

(e) a non-loadbearing

(i) internal wall required to be fire-resisting; and

(ii) lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, must be of non-combustible construction; and

(f) the FRLs specified in Table 3 for an external column apply also to those parts of an internal column that face and are within 1.5 m of a window and are exposed through that window to a fire-source feature.

APPENDIX B – REFERENCED DOCUMENTATION

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

Drawing No.	Title	Rev.	Project No.	Date	Drawn By
A1200	Basement plan	A	68.15	26/10/15	Ghazi Al Ali Architect Pty Ltd
A1201	Ground floor plan	A	68.15	26/10/15	Ghazi Al Ali Architect Pty Ltd
A1202	Level 01	A	68.15	26/10/15	Ghazi Al Ali Architect Pty Ltd
A1203	Level 02	A	68.15	26/10/15	Ghazi Al Ali Architect Pty Ltd
A1204	Level 03	A	68.15	26/10/15	Ghazi Al Ali Architect Pty Ltd
A1205	Level 04	A	68.15	26/10/15	Ghazi Al Ali Architect Pty Ltd
A1206	Roof plan	A	68.15	26/10/15	Ghazi Al Ali Architect Pty Ltd
A1500	Elevations	A	68.15	26/10/15	Ghazi Al Ali Architect Pty Ltd
A1501	Elevations	A	68.15	26/10/15	Ghazi Al Ali Architect Pty Ltd
A1700	Sections	A	68.15	26/10/15	Ghazi Al Ali Architect Pty Ltd