URBAN CITY CONSULTING

BCA COMPLIANCE REPORT

172 – 182 Boundary Road Glossodia

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Table of Contents

1.0 INTRODUCTION

1.1 Location and Description of the Proposal

The 20ha site is located in The Hawkesbury City Council LGA at 172 – 182 Boundary Road, Glossodia. Access is provided from the eastern side at the end of the road. The existing buildings have an east/west orientation and the new buildings that will be constructed at the rear of the existing sheds will be aligned in a north/south direction. The surrounding development is predominantly rural/residential uses.

Currently, the existing buildings on this site are used to grow mushrooms and include sheds, two dwellings and several outbuildings. It is proposed to construct the following additional buildings:

a. New growing rooms (3 sheds in 3 stages). Each shed will be 46.8m by 142.5m (floor area of 6,669m^2). The additional floor area at the completion of stage 3 will be 20,007m^2;
b. Peat stores (401m^2) attached to the southern side of the existing building;
c. Cool room, packing area, carton storage, loading dock and awning (328m^2) attached to the rear of the existing building; and
d. Lunchroom and amenities (up to 150m^2) for the staff in the new growing rooms located to the north of the existing buildings.

The existing buildings including the dwelling that will be retained will be located on Lot 1 DP 603811. These sheds include growing, picking and packing rooms as well as maintenance and machinery areas. The existing office, lunch room, amenities and peat store are located in separate buildings that are in close proximity to the existing shed. The existing shed is located well clear of the site boundaries with the wall of the rear addition being the closest at 6m.

Tanks and other equipment are located on hardstand areas around the shed. The site is connected to mains power and town water. Water is also sourced from a bore and stored on site in tanks. To ensure the continuity of production, a generator and 12,000 litres of water is stored in tanks located on the southern side of the buildings. Additional separate water storage (200,000l) and a fire pump located on the northern side of the building are provided for emergency use. An external fire hydrant is installed. Fire hose reels, emergency lighting and exit signs are provided in the existing buildings. Sprinklers have been installed in the carton store and a concrete block wall separates this area from the rest of the building. These inclusions reduce the likelihood of fires spreading from the most likely source of a fire start to the other areas of the building. The store does not, however, comply with the fire separation provisions of the Building Code of Australia (BCA).

The new growing rooms will abut each other and will be located on Lot 2 in DP 603811. The dwellings on Lot 2 will be demolished as the construction progresses. The plans indicate there will be a 10m wide vehicular access around the outside of the buildings and the western external wall of the new shed in Stage 1 of the construction will be located 2.83m from the boundary.

The fall is greatest to the north east and south west of the site. The existing shed is located on the flattest central part of the site. The southern end of the proposed buildings will be located on the flatter area and will extend to the steeper north western part with a fall of almost 3m.

The following photographs show the northern and southern entry to the site. The sealed roadway provides access for the delivery of materials and the distribution of mushroom production, as well as the staff car parking areas. The existing buildings are surrounded by structures containing growing media.

Photo 1: North Entry to the Site

Photo 2: Southern Entry to the Site

This photograph shows a hard stand area and the surrounding grass and trees landscape.

Photo 3: Construction Area to the Rear of the Existing Shed

This photograph shows the office building that is separated from the existing sheds but is in close proximity to them.

Photograph 4: Northern Elevation

This photograph shows the existing lunch room and covered outside seating and BBQ areas.

Photograph 5: Northern Elevation

This photograph shows the material storage on the southern side of the building.

Photograph 6: External Storage

This photograph shows the plant area outside the southern side of the building.

Photograph 7: External Plant and Access Stairs

This photograph shows the growing trays and the staff on elevators picking the mushrooms.

Photograph 8: Mushroom Production and Picking Room

This photograph shows the corridor that connects with the northern end of the growing rooms

Photograph 9: Access Corridor

This photograph shows the maintenance area located inside the existing building.

Photograph 10: Workshop

This photograph shows the plant room located inside the existing building.

Photograph 11: Internal Plant Room

The typical exit sign and doors, extinguisher and fire hose reel is shown below:

Photograph 12: Exit and Fire Fighting Equipment

The water supply for firefighting consists of a 200,000l concrete tank, electric and diesel pumps and external hydrants.

Photograph 13: External Hydrants and Water Supply

1.2 Report Purpose

This report has been prepared to assess if the proposed building works will comply with the requirements of Parts B, C, D, E and F of the Building Code of Australia (BCA). If any non–compliances are discovered, the report will recommend the action required to achieve compliance. Commentary on the application of Parts G to J of the code to this proposal is also provided.

Clause 94 of the Environmental Planning and Assessment Regulation 2000 (Regs) enables the consent authority to require that buildings be upgraded where an application is submitted for a development involving the rebuilding, alteration, enlargement or extension of an existing building and the fire safety measures contained in the building are inadequate. The fire safety measures that must be considered are those that:

(i) Protect persons using the building, and facilitate their egress from the building, in the event of fire, or
(ii) Restrict the spread of fire from the building to other nearby buildings.

In determining the development application, the authority must consider whether it would be appropriate to require that the existing building be brought into total or partial conformity with the requirements of the BCA.

The proposal involves the extension and enlargement of the existing mushroom production building. Therefore, this report also assesses the adequacy of the fire safety measures installed in the existing building and whether it is reasonable to require that they be upgraded. The results of this assessment are documented in Section 3.1 and the commentary is provided in Section 3.2 of this report.

1.3 Basis of Report

This report has used the following documentation to formulate upgrading recommendations:

- Information provided by the client and gathered at a site inspection;
- The provisions of the BCA incorporating applicable NSW Appendices;
- Guide to the Building Code of Australia;
- Environmental Planning & Assessment Act 1979; and
- Environmental Planning & Assessment Regulation 2000.

`1.4 Limitations and Exclusions

The limitations and exclusions of this report are:

- The assessment for consistency with the requirements of the BCA has been confined to the level of detail available when the report was prepared;
- Details in regard to access for people with disabilities have been assessed to the extent of the deemed-to-satisfy provisions of the BCA only;
- This Report does not address issues in relation to the following:

    a) The structural adequacy of the building including the Fire Resistance Levels (FRLs) of any building elements (unless specifically referred to);
    b) The design, maintenance or operation of electrical, mechanical, hydraulic or fire protection services;
    c) Local Government Act and Regulations;
    d) Occupational Health and Safety Act and Regulations;
    e) WorkCover Authority requirements;
    f) Requirements of other Regulatory Authorities including, but not limited to, Telstra, Sydney Water, Electricity Supply Authority, RMS, Council and the like;
    g) Disability Discrimination Act; and
    h) Construction Safety Act;

- This assessment does not include the detailed requirements of the Australian Standards; and
- Without written permission from Urban City Consulting no part of this document may be reproduced in any form or by any means. This report is based solely on client instructions, and therefore should not be used by any third party without prior knowledge of such instructions.

2.0 BUILDING DESCRIPTION

2.1. BCA Assessment Parameters

The following information has been used to determine the extent of compliance with the requirements of the BCA and any work required to satisfy those requirements.

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

The building has a rise in storeys of one (1). The number of storeys contained is one (1). The new buildings will contain equipment maintenance platforms that will be accessed from metal stairways, landings and doorways located on the outside of the building. As these platforms are intermediate floors within the growing rooms they are mezzanines and therefore do not constitute an additional storey in the building.

2.3. Building Classifications (Clause A3.2)

The existing and proposed buildings on the site are not fire separated and contain areas for offices (Class 5), the storage of peat and other materials (Class 7b) and the production of mushrooms (Class 8). The proposed lunch room and amenities are separate buildings, however, they will complement the other uses on the site and consequently are Class 8 buildings.

The provisions of A3.4 of the BCA (Parts with more than one classification) state that:

"(a) Notwithstanding A3.3, a building or part of a building may have more than one classification applying to the whole building or to the whole of that part of the building.

(b) If a building or part of a building has more than one classification applying to the whole building or part in accordance with (a), that building or part must comply with all the relevant provisions of the BCA for each classification."

Accordingly, this assessment is based on the application of the provisions for each classification contained in the building to determine if the construction complies with all the relevant requirements of the BCA for those classifications.

2.4. Height of Storey (Clause A1.1)

The proposed sheds will have a wall height of 3.65m and the apex of the roof will be 10.2m from the ground floor level. The existing buildings have similar wall and roof heights.

2.5. Type of Construction (Table C1.1)

The table requires Type C Construction for a Class 5, 7 and 8 building with a rise in storeys of 1.

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

The building is subject to the following maximum floor area and volume limits for Type C construction:

- Existing Class 5 Maximum Floor Area 3,000m^2

		Maximum Volume	18,000 m^3
▪	Proposed Class 7 and 8	Maximum Floor Area	2,000m^2
		Maximum Volume	12,000 m^3

C2.3 of the BCA contains provisions for large isolated buildings that exceed the floor area and volume restrictions. Where the building is a Class 5, 6, 7, 8 or 9 and the fire compartment does not exceed 18 000 m^2 in floor area or 108 000 m^3 in volume, it must be:

(i). Provided with an 18m wide open space around the building. The open space must be within the allotment, include vehicular access and not obstructed or have buildings other than guardhouses or similar structures built upon it; and
(ii). Provided with a 6m roadway within the allotment that is no more than 18m from the building, capable of providing forward travel of emergency vehicles and provides reasonable pedestrian access to the building; or

Where the building is a Class 5, 6, 7, 8 or 9 and the fire compartment exceeds 18 000 m^2 in floor area or 108 000 m^3 in volume, it must be:

(i). Protected throughout with a sprinkler system complying with Specification E1.5; and
(ii). Provided with a perimeter vehicular access complying with C2.4 (b)

If the buildings are closer than 6 m to each other they are regarded as one building and must collectively comply with the relevant requirements of C2.3.

These deemed-to-satisfy provisions may be replaced by an alternative building solution provided the consent authority is satisfied that the alternative solution satisfies the performance requirements of the BCA.

3.0 BCA REQUIREMENTS

The table below contains the applicable Deemed-to-Satisfy Provisions (DTS) of Parts B, C, D, E and F of Volume One of the BCA together with comments regarding the proposal's ability to satisfy each of the clauses. The following abbreviations have been used in this table:

N/A The Deemed-to-Satisfy clause does not apply to the subject Building.

Complies The relevant provisions of the Deemed-to-Satisfy clause will be satisfied by the proposed design.

CRA Compliance is readily achievable without significant change to the design documentation

DNC Does not comply.

DTS Deemed-To-Satisfy provisions of the Building Code of Australia.

FRL Fire-resistance Level expressed in minutes and determined in the following order: structural adequacy/integrity/insulation.

3.1. BCA Compliance 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 effect resulting from different combinations of actions. The existing buildings appear to be structurally sound. The additions and new buildings must be designed and certified by a professional structural engineer before a Construction Certificate is issued.
B1.2	Determination of individual actions	Noted	The magnitude of individual actions must be determined in accordance with Clause B1.2 of the BCA.
B1.3			No provisions.
B1.4	Determination of structural resistance of materials and forms of construction	Noted	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.
B1.5	Structural software	Noted	Any software used must comply with the approved ABCB protocol.
B1.6	Construction of buildings in flood hazard areas	N/A	A Class 2, 3, 4, 9a (health-care) or 9c building in a flood hazard area must comply with the ABCB Standard. These classes are not included in this proposal.

SECTION C – FIRE RESISTANCE			
Part C1 – Fire Resistance and Stability			
Clause	Description	Status	Comments
C1.1	Type of construction required	CRA	The existing building is a Class 5 office and a Class 8 shed used to grow mushrooms. The proposal seeks to construct additions to the shed for a cool room and to store peat (Class 7b). It is also proposed to construct separate sheds for additional production in separate buildings (Class 8) and on a separate lot. These uses will operate in conjunction with each other and there is no fire separation in the shed. The requirements that arise from the consideration of any of the relevant classes apply to all of the non-separated parts of the building. Therefore the single storey Class 5, 7b and 8 buildings are required to be of Type C Construction. Providing the external walls of the building are located 3m or more from a fire source feature, they are not required to have a FRL. The walls of the existing building satisfy this requirement and do not need a FRL. If the western wall of Stage1 of the proposed new building is relocated by 170mm from the proposed boundary so that it is 3m from the fire source feature, it will also not need a FRL.
C1.2	Calculation of rise in storeys	Noted	The buildings have a rise in storeys of one (1) and contain one (1) storey.
C1.3	Buildings of multiple classification	N/A	The classification of the top storey of a building is applied to all stories in determining the type of construction of the building. These are, and will be single storey buildings.
C1.4	Mixed types of Construction	N/A	If a fire wall divides the building in accordance with C2.7, the separated buildings can be constructed with different fire- resistance levels determined in accordance with Clause C1.1 and C1.3. There are no fire walls in the building and it is not proposed to fire separate any part of the building.
C1.5	Two storey Class 2,3 or 9c buildings	N/A	A Class 2 building having its own direct access to a road or open space and a rise of 2 storeys may be of Type C construction. The proposal does not include a Class 2 building.
C1.6	Class 4 parts of buildings	N/A	A Class 4 part of a building requires the same FRL for building elements and separation as that of a Class 2 part. The proposal does not include a Class 4 part.
C1.7	Open spectator stands and indoor sports stadiums	N/A	There are no stands or stadiums proposed for the buildings

C1.8	Lightweight construction	N/A	Lightweight construction used in a wall system must comply with Specification C1.8. Lightweight construction is not used in this building.
C1.9			No provisions
C1.10	Fire hazard properties	Complies	The fire hazard properties of all floor materials, floor coverings, wall and ceiling lining materials must comply with Specification C1.10 The shed has a concrete floor, the walls will be steel and concrete panels and the roof will be steel framed and sheeted.
C1.11	Performance of external walls in fire	N/A	Where used, concrete external walls that could collapse as complete panels (e.g. tilt-up and pre-cast concrete) and 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. Clause C2.12(a)(v) does not apply to an electricity network substation.

C2.2	General floor area limitations	Noted	In accordance with the deemed-to-satisfy (DTS) provisions, the requirements for a large isolated building apply where the floor area or volume Class 7 and 8 buildings exceeds 2,000m^2 or 12,000m^3,. The proposed lunch room and existing building will be located at least 6m from each other and at least 6m from the proposed new growing sheds. Due to this separation the floor area limitations apply to each of these buildings as 3 separate considerations. The lunch room will have a total maximum floor area of 150m^2 and therefore complies with the limitations. The existing building has a floor area of over 3,500m^2 and therefore, if it was a new building, the provisions for a large isolated building would apply. Council needs to determine if in this building, the protection of occupants or spread of fire is inadequate and if so, the degree to which the provisions of the BCA should be complied with. The proposed new growing sheds have a floor area of 6,669m^2 and volume of 46,183m^3 each. As they abut each other the total floor area will be 20,007m^2 and the volume will be 138,549m^3. Therefore, the large isolated building requirements apply.
C2.3	Large isolated buildings	DNC	These DTS provisions require that if it is decided that the existing building must comply with the current BCA requirements, the building must have an 18m wide open space and a 6m roadway around the building. The additions at the rear of the building will be 6m from the boundary and therefore the open space requirement is not achieved. Due to the size of the new buildings and the inability to provide the specified open space around the existing buildings, the DTS provisions require that both buildings be provided with a sprinkler system and vehicular access. The details do not specify that these provisions will be complied with. An alternative solution could be developed to demonstrate that the performance requirements can be satisfied without reliance on the DTS provisions. This solution needs to satisfy the Council that, due to the special circumstances in these buildings, the risk to the occupants does not exceed the risk that they would be exposed to in a DTS complying building.

C2.4	Requirements for open spaces and vehicular access	Noted	Required vehicular access must be contained on the allotment, have an unobstructed width of at least 6m and allow the forward movement of emergency vehicles from a public road around the building.
C2.5	Class 9a and 9c buildings	N/A	This proposal does not contain these building classes.
C2.6	Vertical separation of openings in external walls	N/A	The requirements apply to a building required to be of Type A construction. This building is required to be Type C construction.
C2.7	Separation by fire walls	Noted	If the classes are separated by a fire wall, the classifications are considered to be in different buildings and the FRL's are determined based on the different classifications. Separation of packing areas from other parts of the building may be considered in an alternative solution to limit potential for the spread of fire.
C2.8	Separation of classifications in the same storey	Noted	Each building element in storeys where classifications are located alongside each other must have the higher FRL prescribed for each classification. If the uses are separated by a fire wall, the building is considered to be separate and the FRLs are determined depending on the classification applying to the location. Separation is not a practical option for this proposal and would not be beneficial.
C2.9	Separation of classifications in different storeys	N/A	Where different classifications are located above one another in adjoining storeys, they must be separated by construction with specified FRLs. The buildings are and will be single storey.
C2.10	Separation of lift shafts	N/A	Any lift connecting more than 2 storeys in a building not sprinkler protected must be separated from the remainder of the building with material that achieves a FRL appropriate to that storey. Lifts will not be installed in these buildings.
C2.11	Stairways and lifts in one shaft	N/A	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. This does not apply to this building.

C2.12	Separation of equipment	N/A	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 must be protected with a self-closing, --/120/30 fire door. This equipment is not installed in this building.
C2.13	Electricity supply system	Noted	The following electricity supply equipment: • electrical substation • main switchboard which sustains emergency equipment operating in emergency mode • electricity conductors which supply substation or main switchboard must be separated from the remainder of the building by construction with an FRL of not less than 120/120/120. Any doorways in that construction must be protected with a self-closing, --/120/30 fire door.
C2.14	Public corridors in Class 2 and 3 buildings	N/A	Public corridors must be divided at intervals of not more than 40m by smoke-proof walls complying with Clause 2 of Specification C2.5. The proposal does not include Class 2 or 3 buildings.
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	CRA	Openings within 3m of an allotment boundary shall be protected by sprinklers, fire doors, fire windows etc., in accordance with C3.4 of the BCA. Provided the existing western wall of the Stage 1 building is relocated an additional 170mm from the boundary, all openings will be more than 3m from the fire source features.
C3.3	Separation of external walls and associated openings in different fire compartments	N/A	Openings in external walls of different fire compartments that are located at certain distances from each other specified by the angle between the walls must be protected. The sheds are single fire compartments with at least 6m separation.

C3.4	Acceptable method of protection	Noted	Window openings that are required to be protected must incorporate: • wall wetting sprinklers or --/60/-- fire windows for windows that are automatic closing or permanently fixed in the closed position; or • --/60/60 automatic fire shutters. Other openings that are 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/--.
C3.5	Doorways in fire walls	Noted	Doorways in fire walls must be protected by self-closing fire doors. The building does not have any fire walls. If fire walls are constructed as part of an alternative solution, the protection must be provided.
C3.6	Sliding fire doors	N/A	Sliding fire doors held open when the building is being used must close when the hold open device is de-activated, be provided with an alarm and warning signs.
C3.7	Protection of doorways in horizontal exits	N/A	Doorways in horizontal exits must be protected by self-closing or automatic doors actuated by a fire alarm system when these are installed in the fire compartment.
C3.8	Openings in fire isolated exits	N/A	--/60/30 self-closing fire doors are required to doorways providing access to fire isolated passageways. A fire isolated passage is not required for this proposal. If a passageway is proposed by an alternative solution, the requirements will be complied with.
C3.9	Service penetrations in fire isolated exits	N/A	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.
C3.10	Openings in fire isolated lift shafts	N/A	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). Lift shafts are not proposed for this project.
C3.11	Bounding construction: Class 2, 3, 4 and 9 buildings	N/A	A doorway in a Class 4 part of a building providing access to another part of the building must be protected by a self-closing, tight fitting, solid core door not less than 35mm thick. The building does not contain a Class 2, 3, 4 or a 9 part.

C3.12	Openings in floors and ceilings for services	N/A	Services passing through floors and ceilings requiring an FRL are to be placed within fire resisting shafts or in accordance with Clause C3.15.
C3.13	Openings in shafts	N/A	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. The building is not required to be of Type A construction.
C3.14	-		No provisions
C3.15	Openings for service installation	Noted	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.
C3.16	Construction Joints	N/A	Construction joints are to be installed in accordance with a tested prototype in accordance with AS1530.4.
C3.17	Columns protected with lightweight construction	N/A	Columns must be protected in accordance with the identical tested prototype.
SECTION D – ACCESS AND EGRESS			
Part D1 – Provision for Escape			
Clause	Description	Status	Comments
D1.1	Application of Part	Noted	This Part 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	The effective height of the building is less than 25m. All parts of the building have access to at least one (1) exit.
D1.3	When fire isolated exits are required	N/A	The building does not contain a stairway that passes through 2 storeys and therefore is not required to be fire-isolated.

D1.4	Exit travel distances	DNC	The distance to a single exit serving a storey at the level of access to a road or open space in Class 6 building may be 30m. In a Class 5,7b or 8 building the maximum distance is 20m. As the travel distance to a single exit exceeds 20m in the existing and proposed buildings, alternate exits are required. No point on the floor is permitted to be more than 20m from a point where there is a choice between alternative exits and one of the exits must be within 40m of this point. The existing growing rooms are 25m long and are provided with 2 exits. One of these exits is located in a large sliding door that facilitates access to the room when peat and compost is placed on the growing trays. As this a swinging door with a rigid frame, it satisfies the requirements for an exit. The other exit provides access to the connecting corridor and this corridor contains doors that open outside the building. The site inspection indicated that the travel distances in the existing building were compliant. The new growing rooms will each be 46.8m wide and 142.5m long. There will be three buildings of this size that will abut each other. Clearly, these buildings will not comply with the DTS requirements. Extension of the DTS travel distances could be permitted if an alternative solution demonstrates that the performance requirements can be met. The alternative solution based on a fire engineering analysis of the circumstances of this particular case needs to prove that the available required egress time for all occupants of the building exceeds the required time.
D1.5	Distances between alternative exits	Complies	Storeys requiring alternative egress must have exits distributed as uniformly as practicable and be not less than 9m apart or more than 60m apart. The site inspection indicated that the distance between the exits in the existing buildings was compliant. The elevations of the proposed buildings show at this stage that the exits are unlikely to be more than 60m apart. If further details reveal that these measurements are exceeded, an alternative solution that demonstrates that the performance requirements can be satisfied will be required.

D1.6	Dimensions of exits	Noted	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 may 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.
D1.7	Travel via fire-isolated exits	N/A	Fire-isolated exits are not required for this proposal. If, however, they are required by an alternative solution to address travel distance limitations, the requirements must be
D1.8	External stairways in lieu of fire-isolated exits	N/A	External exits are not proposed for this development.
D1.9	Travel by non-fire-isolated stairways or ramps	N/A	Non-fire- isolated stairways or ramps are not proposed for this development.
D1.10	Discharge from exits	CRA	An exit must not be blocked at its point of discharge and where necessary suitable barriers such as bollards are to be provided to prevent the blockage of exits by vehicles. The discharge must be provided with bollards.
D1.11	Horizontal exits	N/A	Horizontal exits do not form part of the proposed egress system.
D1.12	Non-required stairs, ramps or escalators	N/A	Non-required stairs, ramps or escalators are not proposed for these buildings.
D1.13	Number of persons accommodated	Noted	The Statement of Environmental Effects provides details of staff numbers. The existing buildings currently accommodate 50 staff. This will increase by an additional 26 in Stage 1, 24 in Stage 2 and 24 in Stage 3. The total on site staff will be 124 people.
D1.14	Measurement of distance	Noted	These requirements will be complied with when taking measurements.
D1.15	Method of measurement	Noted	These requirements will be complied with when taking measurements
D1.16	Plant rooms and lift machine rooms: Concession	N/A	These concessions will be utilised when assessing compliance of any plant rooms and lift machine rooms.
D1.17	Access to lift pits	N/A	Lifts are not proposed to be installed in the buildings.
Part D2 – Construction of Exits			
D2.1	Application of Part	N/A	These provisions detail the variations to the application of the requirements to Class 2, 3, 4 parts and 9b (NSW Variation) buildings. These classifications are not included in this proposal.

D2.2	Fire isolated stairs or ramps	N/A	Fire isolated stairway or ramps are not required for this proposal. If, however, they are required by an alternative solution to address travel distance limitations, the requirements must be complied with.
D2.3	Non-fire-isolated stairways and ramps	N/A	Required stairs in a building with a rise of more than 2 storeys and are not required to be within a fire-resting shaft are to be constructed of specified materials. The building has a rise of 1 storey.
D2.4	Separation of rising and descending stair flights	N/A	The proposal does not include a basement.
D2.5	Open access ramps and balconies	N/A	Fire isolated exits are not required for this proposal and all external landings are unenclosed.
D2.6	Smoke lobbies	N/A	Smoke lobbies are not required for this building.
D2.7	Installations in exits and paths of travel	Noted	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.
D2.8	Enclosure of space under stairs and ramps	N/A	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.
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	Noted	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.
D2.11	Fire-isolated passageways	N/A	The FRLs for fire-isolated passageways do not apply to this proposal. If, however, fire-isolated passageways are required by an alternative solution to address travel distance limitations, the requirements must be complied with
D2.12	Roof as open space	N/A	Exits do not discharge to the roof of the buildings.

D2.13	Goings and risers	Noted	Stairs are to have risers measuring between 115-190mm and goings between 250-355mm. 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. All treads to be fitted with non-slip finish or non-skid strips and 30% colour contrasting nosings.
D2.14	Landings	Noted	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.
D2.15	Thresholds	Noted	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.
D2.16	Balustrades	Noted	Balustrades complying with Deemed-to-Satisfy provisions of the BCA are to be provided where the distance from the surface to the level below is 1m or more. Balustrades must also be provided where it is possible for a person to fall through an openable window and where the distance to the surface below is more than 4m. Where the level to 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. Any wire balustrades must be constructed to comply with Clause D2.16 (h) and Tables D2.16a and D2.16b.
D2.17	Handrails	Noted	Handrails are to be provided to at least one side of stair flights within fire isolated stairs and both sides in any other case (See D3) and located not less than 865mm above the nosings of stair treads and the floor surfaces of landings.

D2.18	Fixed platforms walkways, stairways and ladders	N/A	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	Noted	A doorway serving as a required exit or forming part of a required exit must not be fitted with a roller shutter unless it serves a Class 6, 7 or 8 building or part with a: (i) floor area of not more than 200 m^2; (ii) the doorway is the only required exit from the building; (iii) it is held in the open position while the building or part is lawfully occupied. The doorway must not be fitted with a sliding door unless it leads directly to a road or open space; and the door is able to be opened manually under a force of not more than 110 N. Other than in the lunchroom, the floor area of the buildings exceed 200m^2.and therefore roller shutters cannot serve as required exits. Sliding doors needing more than 110N to open them also do not qualify as an exit. The doors in the existing building are compliant. All doorways forming part of required exits in the new buildings must be fitted with swinging doors constructed to comply with the requirements of Part D of the BCA.
D2.20	Swinging doors	Noted	All new exit doors must swing in the direction of egress as required. They must not impede the path or direction of egress.
D2.21	Operation of latch	Noted	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 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.
D2.22	Re-entry fire-isolated exits	N/A	Fire isolated exits are not included in this proposal.
D2.23	Signs on doors	N/A	Fire and smoke doors are not included in this proposal.
D2.24	Protection of openable windows	N/A	The required protection applies to Class 2 or 3 buildings or Class 4 parts. This proposal does not include these classifications.
SECTION D3.3 – ACCESS FOR PEOPLE WITH DISABILITIES			
D3.0	Deemed-to-Satisfy Provisions	Noted	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 these buildings. All areas normally used by the occupants must be accessible.
D3.2	Access to Buildings	CRA	The path from the pedestrian entry to the allotment to the principal entry to the building must be accessible and sufficient accessible entry ways to the building must be provided. All doors are to have a minimum 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.
D3.3	Parts of Buildings to be accessible	Noted	Accessway construction must comply with the requirements of this clause.
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; or (c) Any path of travel providing access only to an area exempted by (a) or (b).
D3.5	Accessible Car parking	CRA	Any accessible car space must comply with the space requirements of AS2890.6 for a person with a disability.
D3.6	Signage	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 deafness, as appropriate, in accordance with AS1428.1 must identify each – – Sanitary facility, – Ambulant toilet facility, – Any required accessible car parking space, – Where needed, directional signage to any – Car parking space or sanitary facility. Appropriate signage must be provided

D3.7	Hearing Augmentation	N/A	Hearing augmentation is not required for the uses included in this proposal.
D3.8	Tactile Indicators	CRA	TGAs must be provided at stairways, walkways, ramps, etc., within the new buildings.
D3.9	Wheelchair Seating Spaces in Class 9b Assembly Buildings	N/A	The proposal does not include a Class 9a assembly building.
D3.10	Swimming Pools	N/A	A swimming pool is not included in this proposal.
D3.11	Ramps	N/A	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 Access way	Noted	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
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	DNC	Fire hydrants must be installed in buildings having a total floor area greater than 500m^2. The lunch room will have a floor area of no more than 150m^2, however, the rest of the proposal exceeds the minimum floor area criteria for hydrants. Hydrants are therefore required. An alternative solution for a system that does not fully comply with AS2419 and only provides external protection of the buildings could be prepared.

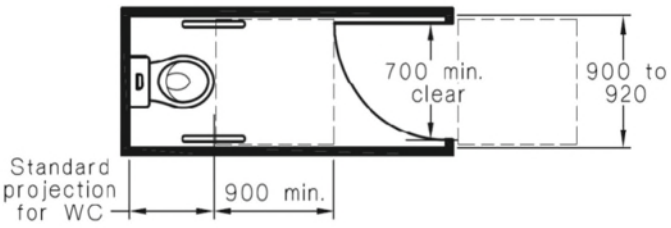
E1.4	Hose Reels	CRA	Fire hose reels coverage is required where internal hydrants are installed or to serve any fire compartment with a total floor area greater than 500m^2. Fire hose reels are not required for the lunch room as the floor area is150m^2 and hydrants are not required for the room. The rest of the development needs fire hose reels and are provided in the existing building. The details do not indicate that FHR will be provided in the new buildings.
E1.5	Sprinklers	DNC	Sprinklers are required where the building has an effective height of more than 25m, in large isolated buildings, in a Class 6 building where either the floor area exceeds 3,500m^2 or the volume exceeds 21,000m^3 or in occupancies of excessive hazard. This proposal includes large isolated buildings and therefore sprinklers are required unless, an alternative solution can demonstrate that they are unnecessary and onerous in this particular case.
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 the building.
E1.7	-		No Provisions
E1.8	Fire control centres	N/A	The effective height of the building is less than 25m.
E1.9	Fire precautions during construction	CRA	The proposal will be constructed in stages. The precautions must be complied with as the construction progresses.
E1.10	Provisions for special hazards	N/A	Additional provisions must be made if there are any special firefighting problems. Given the nature of this occupancy, there are no special firefighting problems.
Part E2 – Smoke Hazard Management			
E2.1	Application of Part	Noted	This part does not apply to open deck car parks, open spectator stands or electricity network substations

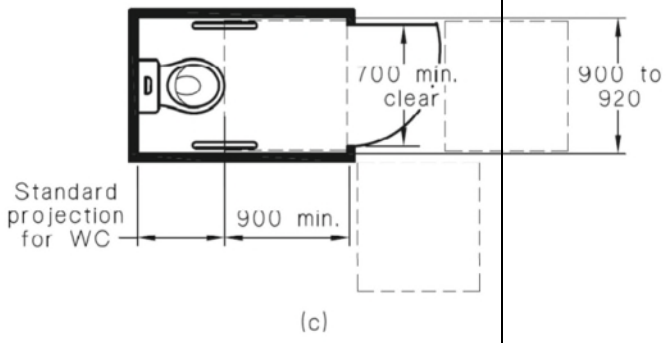
E2.2	General requirements	DNC	The requirements for a Class 7 or 8 building are that: (a) A building not exceeding 18 000 m^2 in floor area nor exceeding 108 000 m^3 in volume, must be provided with— (i) a sprinkler system and perimeter vehicular access; or (ii) an automatic fire detection and alarm system; or (iii) an automatic smoke exhaust system; or (iv) automatic smoke-and-heat vents; or (v) natural smoke venting. (b) A building exceeding 18 000 m^2 in floor area or 108 000 m^3 in volume, must be provided with— i) if the ceiling height of the fire compartment is not more than 12 m— (A) an automatic smoke exhaust system; or (B) automatic smoke-and-heat vents; or (ii) if the ceiling height of the fire compartment is more than 12 m, an automatic smoke exhaust system . The consent authority needs to determine if the requirements of (a) should be applied to the existing building. The requirements in (b)(i) apply to the proposed buildings. The plans do not indicate that smoke hazard management systems will be installed in the buildings. A system must be installed unless; an alternative solution demonstrates that given the circumstances of this case, they are not necessary.
E2.3	Provisions for special hazards	N/A	Additional measures are not required as special hazards are not present in this proposal.
Part E3 – Lift Installations			
E3.1			No provisions.
E3.2	Stretcher facility in lifts	N/A	A stretcher facility is required to each emergency lift if the passenger lift serves a storey above an effective height of more than 12 metres. This proposal does not include any storeys with an EH of more than 12m.
E3.3	Warning against use of lifts in fire	N/A	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. This proposal does not include the installation of lifts.

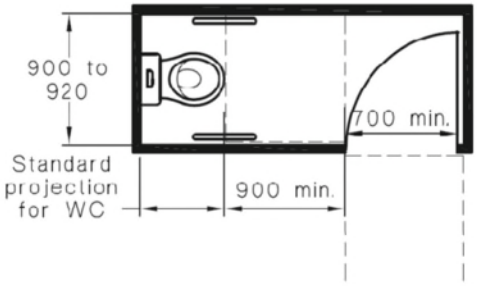
E3.4	Emergency lifts	N/A	The EH of all buildings does not exceed 25m and therefore an emergency lift is not required.
E3.5	Landings	N/A	Access and egress to and from the lift well landings is to comply with the Deemed-to-Satisfy provisions of Section D of the BCA. This proposal does not include the installation of lifts.
E3.6	Facilities for people with disabilities	N/A	A passenger lift within the building is to comply with AS1735.2 and table E3.6b. This proposal does not include the installation of lifts.
E3.7	Fire Services Control	N/A	Passenger lift cars are to be provided with fire service controls in accordance with AS1735.2. This proposal does not include the installation of lifts.
E3.8	Aged care buildings	N/A	This proposal does not contain aged care buildings.
Part E4 – Emergency Lighting, Exit Signs and Warning Systems			
E4.1			No provisions
E4.2	Emergency lighting requirements	CRA	Emergency lighting is required where any point on the floor is more than 20m from a door leading to an open space. Points on the floor of this building are more than 20m to such a door. Emergency lighting is provided in the existing building.
E4.3	Measurement of distance	Noted	Measurements are taken along the shortest path of travel.
E4.4	Design and operation of emergency lighting	Noted	Emergency lighting must comply with AS 2293.1.
E4.5	Exit signs	CRA	Exit signs must be clearly visible to persons approaching the exit and must be installed on, above or adjacent to a door serving as or forming part of a required exit in a storey required to be provided with emergency lighting. Exit signs must be provided in accordance with Clause E4.5 of the BCA. Exit signs have been provided in the existing building.
E4.6	Direction signs	Noted	Where an exit is not readily apparent, 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.
E4.7	Class 2, 3 and 4 buildings: Exemptions	N/A	This proposal does not include Class 2 or 3 buildings or Class 4 parts.

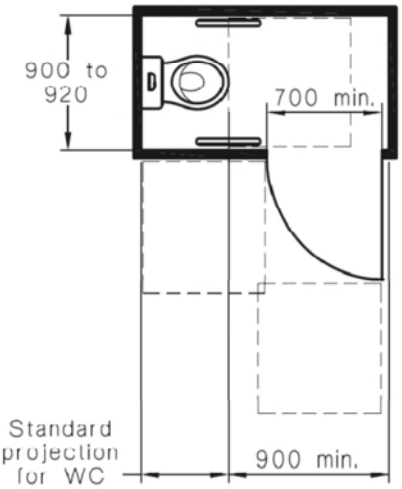
E4.8	Design and operation of exit signs	Noted	Exit signs are to operate in accordance with AS 2293.1 and be clearly visible at all times while the building is occupied.
E4.9	Sound systems and intercom systems for emergency purposes	N/A	These systems are required in some Class 3 and 9 buildings and buildings over 25m in EH. The proposal is less than 25m in EH and does not include these classifications.
SECTION F – HEALTH AND AMENITY			
Part F1 – Damp and Weatherproofing			
Clause	Description	Status	Comments
F1.1	Stormwater drainage	CRA	The stormwater system must comply with the requirements of AS/NZS 3500.1
F1.2			No provisions
F1.3			No provisions
F1.4	External above ground membranes	Noted	Membranes must comply with AS 4654.
F1.5	Roof coverings	CRA	Metal sheeting coverings must comply with AS 1562.1.
F1.6	Sarking	CRA	Sarking must comply with AS/NZS 4200 Parts 1 and 2.
F1.7	Waterproofing of wet areas	CRA	Shower enclosure surfaces, floor surfaces in bathrooms, shower rooms, slop hoppers, sink compartments, laundry and sanitary compartments are required to be waterproofed in accordance with AS 3740. The new amenities and any changes to wet areas in other parts of the building must comply.
F1.8			No provisions
F1.9	Damp-proofing	Noted	Unless there are particular circumstances requiring the installation of damp-proofing, it can be omitted in Class 7 and 8 buildings. It is recommended damp-proofing be installed to promote occupant comfort.
F1.10	Damp-proofing of floors on the ground	Noted	Damp-proofing of floors can be omitted in a Class 7 and 8 building. It is recommended damp-proofing be installed to promote occupant comfort. Where a vapour barrier is installed in the proposed construction, it must comply with AS 2870.
F1.11	Provisions of floor wastes	N/A	Only applies to a Class 3 or 4 building and Class 4 parts.
F1.12	Sub-floor ventilation	N/A	The floor will be a concrete slab on the ground.

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. It is recommended the assemblies comply with AS 2047 to promote occupant comfort
Part F2 – Sanitary and Other Facilities			
F2.1	Facilities in residential buildings	N/A	There are no residential uses in this building.
F2.2	Calculation of number of occupants and fixtures	Noted	Currently there is 50 staff. An additional 74 staff will be on the site when Stage 3 is completed. Assuming the staffing will consist of 50% males and females, there will be 62 staff of each sex on the site when the development is finalised
F2.3	Facilities in Class 3 to 9 buildings	CRA	The existing mushroom growing building has 2 WCs and a hand basin for males and 4 WCs and a wash trough for females. Additional facilities are provided in the office. These facilities more than satisfy the current requirements. The facilities required for the males in the new buildings when Stage 3 is completed are 2 WCs, 2 urinals and 2 hand basins. For the females 3 WCs, 2 hand basins and an adequate means of disposal of sanitary towels are required.
F2.4	Accessible sanitary facilities 	CRA	The sanitary facilities in the new building are required to be accessible. Provided the accessible sanitary compartment is located so that it can be entered without crossing an area reserved for one sex only, only one compartment need be accessible.









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.
F2.6	Interpretation: Urinals and washbasins	Noted	A urinal may be— (i) an individual stall or wall-hung urinal; or (ii) each 600 mm length of a continuous urinal trough; or (iii) a closet pan used in place of a urinal. A washbasin may be— (i) an individual basin; or (ii) a part of a hand washing trough served by a single water tap.
F2.7	Warm water installations	N/A	Not Applicable in NSW
F2.8	Waste management	N/A	These requirements apply to Class 9 buildings only.
Part F3 – Room Sizes			
F3.1	Height of rooms and other spaces	CRA	Ceiling heights must be not less than 2.4m except in a corridor, passageway or a bathroom, shower room or the like where it may be 2.1 m. The ceiling height of the existing building easily satisfies these requirements. Any alterations or proposed new buildings must comply with the ceiling height requirements.

Part F4 – Light and Ventilation			
F4.1	Provisions of natural light	N/A	Natural light is not required for these classes of buildings.
F4.2	Methods and extent of natural light	N/A	
F4.3	Natural light borrowed from adjoining room	N/A	
F4.4	Artificial lighting	CRA	Artificial lighting must be provided in required stairways, passageways, ramps, sanitary compartments, bathrooms, laundries and to all rooms that are frequently occupied, all spaces *required* to be *accessible*, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress. The artificial lighting system must comply with AS/NZS 1680.0.
F4.5	Ventilation of rooms	CRA	Ventilation must 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.
F4.6	Natural ventilation	CRA	The area of the openable ventilation devices must be at least 5% of the area of the room being ventilated.
F4.7	Ventilation borrowed from adjoining room	Noted	Specifies the rules if ventilation is borrowed from adjoining rooms.
F4.8	Restriction on position of water closets and urinals	CRA	A room containing a WC, etc. cannot open directly on to a workplace normally occupied by more than one person. Any alterations will need to comply with this requirement.
F4.9	Airlocks	Noted	Either an airlock or exhaust mechanical ventilation must be provided to satisfy the provisions in F4.8.
F4.10			No provisions
F4.11	Carparks	N/A	Applies to carparks other than open deck carparks.
F4.12	Kitchen local exhaust	N/A	Applies to commercial kitchens.
Part F5 – Sound Transmission and Insulation			
F5.1	Application of part	N/A	This Part applies to Class 2, 3 and 9c buildings only.
F5.2	Determination of airborne sound insulation ratings	N/A	
F5.3	Determination of impact sound installation ratings	N/A	
F5.4	Sound insulation rating for floors	N/A	
F5.5	Sound insulation rating of walls	N/A	
F5.6	Sound insulation rating of services	N/A	
F5.7	Isolation of pumps	N/A	

3.2. BCA Commentary

3.2.1 Section G to J of Volume One

The only requirements of Part G that apply to this proposal relates to minor structures. The BCA requires that a refrigerated or cooling chamber, strongroom or vault which is of sufficient size for a person to enter must have—
(i) a door which is capable of being opened by hand from inside without a key; and
(ii) internal lighting controlled only by a switch which is located adjacent to the entrance doorway inside the chamber, strongroom or vault; and
(iii) an indicator lamp positioned outside the chamber, strongroom or vault which is illuminated when the required interior lights are switched on; and
(iv) an alarm that is—
(A) located outside but controllable only from within the chamber, strongroom or vault; and
(B) able to achieve a sound pressure level outside the chamber, strongroom or vault of 90 dB(A) when measured 3 m from the sounding device.

Required doors in a refrigerated or cooling chamber must have a doorway with a clear width of not less than 600 mm and a clear height not less than 1.5 m.

Section H of the BCA does not apply to this building and while Section I has been retained in the code, the requirements of Parts I1 and I2 have been removed. In New South Wales the maintenance requirements for fire safety equipment is found in the Environmental Planning Assessment Act and Regulation (see Section 4.0 of this report for further details).

The requirements of Section J apply to the additions to the existing building and any new buildings in Stage 1 to 3. Any additional work to the existing buildings to satisfy the DTS provisions of Section J should only be imposed if consideration of the circumstances of the particular case reveals that the energy efficiency of the building will be significantly improved. The additions and alterations to the existing building are only minor modifications. Also, the justification for imposing requirements is abundant when upgrading essential fire safety and structural provisions but, much less clear cut when considering energy efficiency improvements. Given these circumstances, it would be onerous to require that the existing building be required to satisfy the provisions of Section J of the BCA.

4.0 FIRE SAFETY MEASURES

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

4.1. Proposed Fire Safety Schedule

Essential Fire and Other Safety Measures	Standard of Performance	Proposed
Automatic fire suppression systems	BCA E1.5 AS 2118.1 – 1999 (Sprinklers)	√
Vehicular access around large isolated buildings	BCA C2.3, C2.4	√
Emergency Lighting	BCA E4.2 and E4.4 AS/NZS 2293.1 –2005	√
Exit signs	BCA E4.5, E4.6 and E4.8 AS/NZS 2293.1 –2005 or Specification E4.8	√
Fire hydrants	BCA E1.3 AS 2419.1 – 2005	√
Fire Hose reels	BCA E1.4	√√
Portable fire extinguishers	BCA E1.6 AS 2444 – 2001	√
Automatic smoke exhaust systems	Specification E2.2b	√
Smoke and heat vents	Specification E2.2c	√
Standby power systems	BCA E3.4 and Clause 6 of Specification G3.8	√

4.2. Certification of Essential Fire Safety Measures

Section 153 of the Environmental Planning and Assessment Regulations 2000 requires that the owner of the building, before commencing the change of use of a building, furnish a Final Fire Safety Certificate with regard to each essential fire safety measure identified in the adopted Fire Safety Schedule. 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 Council and the NSW Fire and Rescue, 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 a prominent area of the building.

5.0. CONCLUSION AND RECOMMENDATIONS

This development proposal involves alterations and extensions to the existing buildings, construction of new buildings and a realignment of the site boundaries. Although the changes to the existing building are only minor alterations, Clause 94 of the Environmental Planning and Assessment Regulations requires that, if the measures in the building are inadequate to protect people using the building, facilitate egress or restrict the spread of fire, the consent authority must consider if the building should be brought into total or partial conformity with the BCA.

The existing buildings have a well-defined alternative egress system, perimeter access for emergency services and installed firefighting equipment. While a sprinkler system is provided in the carton store, the rest of the building is not covered by this system. Providing the existing fire safety measures are verified as operating effectively and they are appropriately maintained, it is considered that the requirements of Clause 94 are satisfied by these measures together with the proposed separation of the existing building from the future development on the adjoining allotment. These measures enable egress from the building in an emergency and will limit the potential of fire spread to neighbouring buildings.

The proposed buildings must comply with the relevant performance requirements of the BCA. This can only be achieved by either satisfying the DTS provisions, developing an alternative solution demonstrating compliance with the performance requirements or at least, equivalence with the DTS provisions or a combination of both compliance options.

The principal requirements that the proposed additions and buildings must meet to satisfy the requirements of the BCA are that:

a) All external walls of the buildings must either have an appropriate fire rating or be at least 3m from fire source features such as, current and future boundaries (C1.1 and Spec C1.1 Table 5);
b) Either comply with the requirements for large isolated buildings or prepare an alternative solution demonstrating how the performance requirements will be satisfied by both the existing and proposed buildings (C2.3);
c) Either comply with the egress provisions of the BCA or prepare an alternative solution demonstrating how the performance requirements will be satisfied (Parts D1 and D2);
d) Provide bollards or other suitable barriers to ensure that the exits are not blocked at the point of discharge (D1.10);
e) Provide facilities and access for people with a disability to and within the buildings (Part D3 and F3);
f) Install fire hydrants in accordance with Part E1 of the BCA or prepare an alternative solution demonstrating how the performance requirements will be satisfied on the development site (E1.3);
g) Install fire hose reels in the buildings (E1.4);
h) Install a sprinkler system in the buildings or prepare an alternative solution demonstrating how the performance requirements will be satisfied by both the existing and proposed buildings (E1.5);
i) Install portable fire extinguishers in accordance with the requirements of Table E1.6 of the BCA and AS2444 (E1.6);
j) Install an smoke hazard management system complying with Table E2.2a in the building or prepare an alternative solution demonstrating how the performance requirements will be satisfied by both the existing and proposed buildings (E2.2);
k) Install emergency lighting complying with AS2293.1 throughout the buildings (E4.2 and E4.4);

l) Install exit and direction signs complying with AS2293.1 above or adjacent to required exits and in other appropriate locations to indicate the direction of the exit (E4.5 and E4.8)
m) Ensure the buildings are water and weather proofed in accordance with Part F1 of the BCA;
n) Provide 2 WCs, 2 urinals and 2 hand basins for males and 3 WCs, 2 hand basins and adequate means for the disposal of sanitary towels for females in the new growing sheds (F2.4);
o) Construct accessible sanitary facilities in the new growing sheds (F2.3 and F2.4);
p) Provide artificial lighting and natural or mechanical ventilation to all rooms (F4.4 and F4.5);
q) Comply with the requirements of Part G1 of the BCA for any refrigerated or cooling chambers that are of sufficient size to allow the entry of a person located in the new and existing buildings (G1.2); and
r) Provide a report verifying that the energy efficiency requirements of Section J of the BCA will be satisfied in the new buildings.

When the compliance options have been finalised and necessary reports completed, the plans and specifications should incorporate details of how compliance will be achieved throughout the construction, completion and occupation of the buildings.

Urban City Consulting

APPENDIX A – SITE PLAN

Overall Site Plan
SCALE 1:1250 @ A1

GENERAL NOTES

1. DO NOT SCALE OFF DRAWING.
2. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS ON SITE.
3. DESIGNERS TO BE NOTIFIED OF ANY VARIATION BETWEEN SITE DIMENSIONS AND THOSE ON PLANS.
4. THESE DRAWINGS REMAIN THE PROPERTY OF PIPPA NOBLE CREATIVE AND SHOULD NOT BE COPIED IN ANY FORM OR PASSED TO A THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT.

ISSUE	REVISION	BY	DATE
I	DEVELOPMENT APPLICATION	PN	17.12.15
H	DA DRAWING SET	PN	15.10.15
G	COORDINATION ISSUE	PN	24.09.15
F	COORDINATION ISSUE	PN	03.07.15
E	COORDINATION ISSUE	PN	05.05.15
D	COORDINATION ISSUE	PN	16.03.15
C	COORDINATION ISSUE	PN	12.02.15
B	COORDINATION ISSUE	PN	11.02.15
A	SKETCH ISSUE	PN	07.01.15

CLIENT
PREMIER MUSHROOMS PTY LTD

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PROJECT
PREMIER MUSHROOMS DEVELOPMENT
172 - 182 BOUNDARY ROAD
GLOSSODIA

DRAWING TITLE
PROPOSED OVERALL SITE PLAN (STAGE 3)

DATE	SCALE
17/12/15	1: 1250 @A1 1: 2500 @A3

DRAWN	CHECK	PROJECT NO.
PNC	PNC	A100-001

DRAWING NUMBER
DA1004