

Attn. the Proper Officer Hill Road Lurnea Pty Ltd (ACN 620 264 879) Horwood Partners Ground Floor 88 Phillip Street Parramatta NSW 2150

Service: By registered post and by email

22 July 2022

Building Work Rectification Order

Section 33 of the Residential Apartment Buildings (Compliance and Enforcement Powers) Act 2020

Hill Road Lurnea Pty Ltd (ACN 620 264 879) is being given this Building Work Rectification Order ("Order") in relation to 71 Hill Rd, Lurnea NSW 2170 (SP101801) ("the Building").

Hill Road Lurnea Pty Ltd is required to cause building work to be carried out to remediate the potential serious defects as set out in paragraph 9 of this Order.

Failure to comply with this Order is a criminal offence.

Background

- 1. The Department of Customer Service (the Department) administers the Residential Apartment Buildings (Compliance and Enforcement Powers) Act 2020 (the Act).
- 2. Under section 33 of the Act, if the Secretary of the Department or their authorised delegate has a reasonable belief that building work was carried out in a manner that could result in a serious defect in the Building or that the Building has a serious defect, they may order the developer to rectify building work to remediate the serious defect or potential defect.
- 3. Mr Matthew Whitton is an authorised delegate of the Secretary of the Department.
- 4. Hill Road Lurnea Pty Ltd (ACN 620 264 879) is the developer of the residential apartment building known as 71 Hill Rd, Lurnea NSW 2170 (SP101801) (the Building) for the purposes of section 4(a) of the Act.
- 5. Under section 3 of the Act a serious Defect in relation to a building, means -

- a. a defect in a building element that is attributable to a failure to comply with the performance requirements of the *Building Code of Australia*, the relevant Australian Standards or the relevant approved plans, or
- b. a defect in a building product or building element that
 - i. is attributable to defective design, defective or faulty workmanship or defective materials, and
 - ii. causes or is likely to cause-

(A) the inability to inhabit or use the building (or part of the building) for its intended purpose, or

(B) the destruction of the building or any part of the building, or

(C) a threat of collapse of the building or any part of the building, or

- c. a defect of a kind that is prescribed by the regulations as a serious defect, or
- d. the use of a building product (within the meaning of the *Building Products (Safety) Act* 2017) in contravention of that Act.
- 6. Under s 6(1) of the *Design and Building Practitioners Act* 2020 a Building element means any of the following:
 - a. the fire safety systems for a building within the meaning of the *Building Code of Australia*,
 - b. waterproofing,
 - c. an internal or external load-bearing component of a building that is essential to the stability of the building, or a part of it (including but not limited to in-ground and other foundations and footings, floors, walls, roofs, columns and beams),
 - d. a component of a building that is part of the building enclosure,
 - e. those aspects of the mechanical, plumbing and electrical services for a building that are required to achieve compliance with the *Building Code of Australia*,
 - f. other things prescribed by the regulations for the purposes of this section.
- 7. On the 7 July 2022 a notice of intention to issue the Order and draft copy of the Order was served on the Developer, Local Council, Office of the Registrar General and Certifier. The parties were invited to provide submissions to the Department relating to the Order by 14 July 2022. No submissions were received by the 14 July 2022 or as at the date of this Order from the Developer, Local Council, Office of the Registrar General or Certifier.

Decision to issue a building work rectification order

8. I, Matthew Whitton, am the decision maker for this Building Work Rectification Order (the **Order**). I have decided to issue the Order to **Hill Road Lurnea Pty Ltd** because I have formed a reasonable belief under s 33(1) of the Act the Building has serious defects as set out in this Order.

Description of serious defects

9. Defect 1 – The failure to install a fire sprinkler system.

On 26 April 2022, authorised officers of the Department conducted an inspection pursuant to s 20 of the Act in the Building. Throughout the entire Building, it was observed that the Building had a rise in storeys 5 with an effective height of 12.75m and that there was no sprinkler system which is

an element of fire safety system. This is a serious defect because it is attributable to a failure to comply with the following:

BCA Volume One 2019 Section E Services and equipment, Part E1 Firefighting equipment,

Deemed-to-Satisfy Provision E1.5 Sprinklers, which states in part:

"A sprinkler system must be installed in a building or part of a building when required by Table E1.5;"

Table E1.5 Requirements for sprinklers, determines that for a Class 2 building and any other class of building containing a Class 2 part, sprinklers are required throughout the whole building, including any part of another class, if any part of the building has a rise in storeys of 4 or more and an effective height of not more than 25 m.

Deemed-to-Satisfy E1.5 is a pathway that can satisfy the BCA Volume One, Section E Services and equipment, Health and Amenity, Part E1 Fire fighting equipment, Performance Requirement EP1.4 Automatic fire suppression systems which states:

"An automatic fire suppression system must be installed to the degree necessary to control the development and spread of fire appropriate to—

- (a) the size of the fire compartment; and
- (b) the function or use of the building; and
- (c) the fire hazard; and
- (d) the height of the building."

As the building does not contain a sprinkler system, the building does not comply with deemed-tosatisfy E1.5, the BCA Volume One Performance Requirement cannot be shown to have been satisfied.

Defect 2 – The installation of an external wall with the absence of spandrels

On 26 April 2022, authorised officers of the Department conducted an inspection pursuant to s20 of the Act in the Building. On the external walls of the Building, it was observed that there was full height windows openings that had not been detached by the vertical separation between floors. A spandrel area has been constructed in a way that would not achieve an FRL of no less than 60/60/60. Vertical separation of an opening in external wall provided by a spandrel provision is a fire safety system component of the Building. This is a serious defect because it is attributable to a failure to comply with the following:

BCA Volume One, Section C Fire resistance, Part C2 Compartmentation and separation, C2.6 Vertical separation of openings in external walls which states:

"(a) If in a building of Type A construction, any part of a window or other opening in an external wall is above another opening in the storey next below and its vertical projection falls no further than 450 mm outside the lower opening (measured horizontally), the openings must be separated by—

(i) a spandrel which—

- (A) is not less than 900 mm in height; and
- (B) extends not less than 600 mm above the upper surface of the intervening floor; and
- (C) is of non-combustible material having an FRL of not less than 60/60/60; or

(ii) part of a curtain wall or panel wall that complies with (i);or

(iii) construction that complies with (i) behind a curtain wall or panel wall and has any gaps packed with a non-combustible material that will withstand thermal expansion and structural movement of the walling without the loss of seal against fire and smoke; or

(iv) a slab or other horizontal construction that-

- (A) projects outwards from the external face of the wall not less than 1100 mm; and
- (B) extends along the wall not less than 450 mm beyond the openings concerned; and
- (C) is non-combustible and has an FRL of not less than 60/60/60.

Defect 3 – The installation of a shoring wall which did not have a well bonded interface between layers of concrete.

On 26 April 2022, authorised officers of the Department conducted an inspection pursuant to s20 of the Act in the Building. At the basement of the Building, it was observed that the shoring wall had multiple concrete construction joints. At these joints there was water penetrating, indicating that the construction joints did not have a well bonded interface producing a monolithic mass between joints which is an element of external loading bearing walls. This is a serious defect because it is attributable to a failure to comply with the following:

BCA Volume one, Section B, Structure, B1.4, Determination of structural resistance of materials and forms of construction states:

"The structural resistance of materials and forms of construction must be determined in accordance with the following, as appropriate:

(b) Concrete:

(i) Concrete construction (including reinforced and prestressed concrete): AS 3600."

Australian Standard 3600-2009, Concrete structures, Section 14 Joints, 14.1.2 Construction Joints, 14.1.2.1 General which states that

"Construction joints shall be designed and installed to satisfy intended construction practice for the specific application. Construction joints shall be designed to produce a well-bonded interface between hardened concrete and freshly placed concrete."

and

Section 17 Material and construction requirement for concrete and grout,17.1 Material and construction requirement for concrete and grout 17.1.3. Handling, placing and compacting of concrete which states;

"Concrete shall be handled, placed and compacted so as to

c. produce a monolithic mass between planned joints or the extremities of members, or both;

Defect 4 – The installation of services penetration without using a tested system

On 26 April 2022, authorised officers of the Department conducted an inspection pursuant to s20 of the Act in the Building. At the following locations it was observed the following:

- 1. Basement level 1- Fire collar was too large
- 2. Basement level 2 The penetrations in the soffit were filled with cement mortar
- 3. Garbage room The penetrations extending through cast in collars were filled with cement mortar
- 4. Garbage room The fire collar was not fastened to the wall
- 5. Main switch room The penetrations were filled with cement mortar

6. Garbage room – The penetrations sealant was disturbed

the installation of a tested system on required service penetrations, is a fire safety system component of the Building. This is a serious defect because it is attributable to a failure to comply with the following:

BCA Volume One, Section 3 Fire resistance, Part C3 Protection of openings, Deemed-tosatisfy provision C3.15 Openings for service installations, which states:

"Where an electrical, electronic, plumbing, mechanical ventilation, air-conditioning or other service penetrates a building element (other than an external wall or roof) that is required to have an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire, that installation must comply with any one of the following:

- (a) Tested systems
- (i) The service, building element and any protection method at the penetration are identical with a prototype assembly of the service, building element and protection method which has been tested in accordance with AS 4072.1 and AS 1530.4 and has achieved the required FRL or resistance to the incipient spread of fire".

Deemed-to-satisfy provision C3.15 Openings for service installations is a pathway that can satisfy the BCA Volume One, Section C Fire resistance, Performance Requirement CP8, which states:

"Any building element provided to resist the spread of fire must be protected, to the degree necessary, so that an adequate level of performance is maintained—

- (a) where openings, construction joints and the like occur;
- (b) where penetrations occur for building services".

Defect 5 – The installation of balustrade walls with no reinforcement.

On 26 April 2022, authorised officers of the Department conducted an inspection pursuant to s20 of the Act in the Building. On the balconies of the Building, it was observed that there were clay masonry brick balustrades which did not contain reinforcement, which is an external load bearing component of the Building. This is a serious defect because it is attributable to a failure to comply with the following:

BCA Volume One Section B Structure, Part B1 Structural provisions Deemed-to-Satisfy Provisions, B1.2 Determination of individual actions, which states:

"The magnitude of individual actions must be determined in accordance with the following: (a) Permanent actions:

•••

(iii) AS/NZS 1170.1

(b) Imposed actions:

...

(iii) AS/NZS 1170.1

Australian Standard AS/NZS1170.1 - 2002 - Structural design actions – Permanent, imposed and other actions and the following, Section 3 - Imposed Actions, 3.6 Barriers states:

"Barriers, including parapets, balustrades and railings, together with members and connections that provide structural support, shall be designed to sustain the imposed actions given in Table 3.3."

			Top edge			Infill		
Type of occupancy for part of the building or structure		Specific uses	Horizontal kN/m	Vertical kN/m	Inwards, outwards or downwards kN	Horizontal kPa	Any direction kN	
с	Areas where people may congregate							
C1/C2	Areas with tables or fixed seating	Areas with fixed seating adjacent to a balustrade, restaurants, bars, etc.	1.5	0.75	0.6	1.5	1.5	
C3	Areas without obstacles for moving people and not susceptible to over-crowding	Stairs, landings, external balconies, edges of roofs, etc.	0.75	0.75	0.6	1.0	0.5	

TABLE 3.3										
MINIMUM	IMPOSED	ACTIONS	FOR	BARRIERS						

Table 3.3 relevantly nominates a minimum horizontal imposed action for external balconies of 0.75kN/m. The governing load case is top edge horizontal line loading, which is 0.75kN/m. The application of a 0.75kN/m line load along the top edge creates a moment at the base and requires the wall to have a flexural tensile capacity.

BCA Volume One Part B1 Structural provisions Deemed-to-Satisfy Provisions, B1.4 Determination of structural resistance of materials and forms of construction, which states:

"The structural resistance of materials and forms of construction must be determined in accordance with the following, as appropriate:

(a) Masonry (including masonry-veneer, unreinforced masonry and reinforced masonry): AS 3700, ..."

Australian Standard AS3700-2018 Masonry Structures, Section 3 Design Properties, Part 3.3 Masonry, Clause 3.3.3 states:

"The characteristic flexural tensile strength (f'_{mt}) for unreinforced, reinforced and prestressed masonry shall be as follows:

• • •

(b) In all other loading cases, the design characteristic flexural tensile strength shall be taken as zero."

The require flexural tensile capacity of the perimeter masonry balustrades is calculated to be 0.17 kN/m which cannot be carried by the masonry wall if design characteristic flexural tensile strength is taken as zero.

Building Work to be Carried Out

- 10. **Hill Road Lurnea Pty Ltd** must carry out building work, or cause building work to be carried out as follows:
 - a. Remediate Defect 1 by:
 - i. Installing a sprinkler system throughout the entire building

Rectification in accordance with BCA Volume One section E1.5, Specification E1.5, and in accordance with the fire safety schedule requirement.

- b. Remediate Defect 2 by:
 - i. Installing a spandrel of non-combustible material having a FRL of no less than 60/60/60 to all full height windows.

Rectification in accordance with BCA Volume One, Section C Fire resistance, Part C2 Compartmentation and separation, C2.6 Vertical separation of openings in external walls

- c. Remediate Defect 3 by, at the shoring wall in the basement:
 - i. Preparing the construction joint surface by scabbling and grinding
 - ii. Filling the joints with a suitable engineered structural grade injection methodology which produces a monolithic mass between joints which are well bonded.
- d. Remediate Defect 4 by:
 - i. Install a tested system at each required service penetration.
- e. Remediate Defect 5 by:
 - i. Demolishing all balustrades and reconstruct with balustrades which comply with BCA Vol 1 Structure Part B1 At all balustrades of the building demolish and re-construct with balustrades which comply with BCA Vol 1 Structure Part B1

Period for Compliance with Order

- 11. The work specified in paragraph **10** of this Order must be completed as follows:
 - a. Defect 1 20 July 2023
 - b. Defect 2 20 July 2023
 - c. Defect 3 20 July 2023
 - d. Defect 4 20 July 2023

e. Defect 5 - 20 July 2023

Conditions of this Order

12. Hill Road Lurnea Pty Ltd must notify Bhoomi Patel, Principal Compliance Officer, in writing, by email sent to <u>ocaudits@customerservice.nsw.gov.au</u> within 2 business days of the work required by this Order being completed.

Duration of this Order

13. This Order remains in force until it is revoked by the Secretary.

>>> the

Matthew Whitton Director Building and Construction Compliance NSW Fair Trading Department of Customer Service

REASONS FOR THE ORDER

Reasonable belief and serious defects

- I, Matthew Whitton, an authorised delegate of the Secretary of the Department, have formed a reasonable belief for the purposes of s 33(1) of the Act in relation to Defects 1-5 in the Order, that in the Building it has serious defects.
- 2. Defect 1 The failure to install a fire sprinkler system described above in paragraph 9 of the Order, is a serious defect in a building element (fire safety system) that are required to achieve compliance with BCA Volume One 2019 Section E Services and equipment, Part E1 Firefighting equipment, Deemed-to-Satisfy Provision E1.5 Sprinklers. I have formed this belief after reviewing a copy of the Audit Report dated 1 June 2022 section 2.2.21 in which I observed there was no sprinkler system installed throughout the Building. The failure to install a sprinkler system throughout the building could, in the event of fire, contribute to loss of life or damage to property.
- 3. Defect 2 The installation of an external wall with the absence of spandrels as described above in paragraph 9 of the Order, is a serious defect in a building element (fire safety system) that are required to achieve compliance with BCA Volume One, Section C Fire resistance, Part C2 Compartmentation, and separation, C2.6 Vertical separation of openings in external walls. I have formed this belief after reviewing a copy of the Audit Report dated 1 June 2022 section 4.2.13 in which I observed photos of full height window openings without sufficient vertical separation between floors. In addition, the construction method used in the spandrel area could not achieve an FRL of 60/60/60. The failure to provide spandrels, in the event of fire, could contribute to the rapid vertical spread of fire between levels on the external walls of the Building
- 4. Defect 3 The installation of a shoring wall which did not have a well bonded interface between layers of concrete, as described above in paragraph 9 of the Order, is a serious defect in a building element (external load bearing wall) that are required to achieve compliance with BCA Volume one, Section B, Structure, B1.4, Determination of structural resistance of materials and forms of construction, Australian Standard 3600-2009, Concrete structures, Section 14 Joints, 14.1.2 Construction Joints, 14.1.2.1. I have formed this belief after reviewing a copy of the Audit Report dated 1 June 2022 section 3.3.24(a) in which I observed photos of a shoring wall containing cold joints. These cold joints had water penetrating through the joint into the Building which will lead to degradation of the reinforcement within the walls.
- 5. Defect 4 The installation of services penetration without using a tested system as described above in paragraph 9 of the Order, is a serious defect in a building element (fire safety system) that are required to achieve compliance with BCA Volume One, Section 3 Fire resistance, Part C3 Protection of openings, Deemed-to-satisfy provision C3.15 Openings for service installations, Deemed-to-satisfy provision C3.15 Openings for service installations is a pathway that can satisfy the BCA Volume One, Section C Fire resistance, Performance Requirement CP8. I have formed this belief after reviewing a copy of the Audit Report dated 1 June 2022 section 2.2.64 in which I observed multiple photos on different levels, different rooms and different locations of service penetrations which did not use a

tested system. The failure to install a tested system at these various locations indicates to me that there is a systematic failure to adhere to the BCA throughout the entire Building. The failure to install tested systems could, in the event of fire on any level of the Building, contribute to the fire spreading between levels through the service penetrations.

6. Defect 5 The installation of balustrade walls with no reinforcement as described above in paragraph 9 of the Order, is a serious defect in a building element (external load bearing wall) that are required to achieve compliance with BCA Volume One Section B Structure, Part B1 Structural provisions Deemed-to-Satisfy Provisions, B1.2 Determination of individual actions, Australian Standard AS/NZS1170.1 - 2002 - Structural design actions -Permanent, imposed and other actions and the following, Section 3 - Imposed Actions, 3.6 Barriers, BCA Volume One Part B1 Structural provisions Deemed-to-Satisfy Provisions, B1.4 Determination of structural resistance of materials and forms of construction and Australian Standard AS3700-2018 Masonry Structures. Section 3 Design Properties, Part 3.3 Masonry, Clause 3.3.3. I have formed this belief after reviewing a copy of the Audit Report dated 1 June 2022 section 3.3.24(b) in which I observed a constructed clay masonry brick balustrade. In addition, authorised officers were advised at the time of the audit by the Developer that the balustrade was constructed on the top of a concrete slab and did not contain any reinforcement. The failure to install balustrades without reenforcement risks the balustrade collapsing under usual use conditions which could contribute to the risk of loss of life or damage to property.

Period for compliance

- 7. I am of the view that a period of 12 months for Defect 1-5 is a reasonable period for compliance in all the circumstances for the rectification work required by the Order to be carried out. I have formed this belief balancing the risks that the serious defects poses against the period of time it will take to give effect to the rectification work. I am aware that there are no residents occupying this location as the Building is under construction and this will expedite the rectification work. I am of the view that a period of 12 months for Defects 1-5 is sufficient to conduct the following works:
 - a. Remediate Defect 1 by:
 - i. Install a sprinkler system to the entire building

Rectification in accordance with BCA Volume One section E1.5, Specification E1.5, and in accordance with the fire safety schedule requirement.

- b. Remediate Defect 2 by:
- i. Install a spandrel of non-combustible material having a FRL of no less than 60/60/60 to all full height windows.

Rectification in accordance with BCA Volume One, Section C Fire resistance, Part C2 Compartmentation and separation, C2.6 Vertical separation of openings in external walls

- c. Remediate Defect 3 by:
- i. At the shoring wall within the basement, prepare the construction joint surface by scabbling and grinding
- ii. Fill the joints with a suitable engineered structural grade injection methodology which produces a monolithic mass between joints which are well bonded.
- d. Remediate Defect 4 by:
- i. Install to all required service penetrations within the building with a tested system.

- e. Remediate Defect 5 by:
- i. Demolish and re-construct all balustrades which comply with BCA Vol 1 Structure Part B1

Consideration of written representations

8. On the 7 July 2022 a notice of intention to issue the Order and draft copy of the Order was served on the Developer, Local Council, Office of the Registrar General and Certifier. The parties were invited to provide submissions to the Department relating to the Order by 14 July 2022. No submissions were received by the 14 July 2022 or as at the date of this Order from the Developer, Local Council, Office of the Registrar General or Certifier.

Why is it appropriate to give the Building Work Rectification Order?

- 9. I have considered all of the circumstances. I accept that the order requires considerable further construction work that is likely to be costly, and I give this consideration moderate weight. However, the cost to the developer must be balanced against the benefit to the occupiers of the unit in having the building constructed to the Building Code of Australia and Australian Standards so as to ensure in respect of:
- a. Defect 1 To isolate fire and preserve life and property
- b. Defect 2 To reduce the vertical spread of fire to preserve life and property
- c. Defect 3 The ingress of water and continuing degradation to the affected areas and structure of the building.
- d. Defect 4 To reduce the spread of fire through penetrations between floors to preserve life and property
- e. Defect 5 The collapse of the balustrades
- 10. Considering these potential consequences as outlined in this order, I give greater weight to the seriousness of the defect and failure to adhere to the Building Code of Australia & Australian Standards and the benefits arising from remediating the defects and I find that it is appropriate, in the exercise of my discretion, to Hill Road Lurnea Pty Ltd to carry out the building work described in paragraph 10 of the Order within the period specified in paragraph 11 of the Order.