



6. DEFECT SCHEDULE

6.1. AUTOMATIC FIRE DETECTION AND ALARM SYSTEM (INCLUDING SMOKE ALARMS)

6.1.1.	DEFECT	FIRE FAN CONTROLS NOT LABELLED
	DESCRIPTION	<p>Labelling specifying that the manual fan controls should only be operated by authorised personnel has not been provided at the fire indicator panel.</p> <p>To comply with Clause 7.15.7 of AS1670.1 – 2015, a label shall be provided on the FFCP in lettering not less than 5mm height with the following wording: THESE CONTROLS SHALL BE OPERATED BY AUTHORIZED PERSONNEL ONLY</p>
	LOCATION(S)	Main fire indicator panel Ground floor
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Table E2.2a – General Provisions 3 Clause 5.5 of AS1668.1 – 2015 4 Clause 7.15.7 of AS1670.1 – 2015
	METHOD OF REPAIR	<p>Install a label on the FFCP in lettering not less than 5mm height with the following wording: THESE CONTROLS SHALL BE OPERATED BY AUTHORIZED PERSONNEL ONLY</p>



6.1.2.	DEFECT	FIRE FAN CONTROLS INCORRECTLY LABELLED	
	DESCRIPTION	<p>Labelling to identify the fan control reset switch does not satisfy the requirements of Clause 7.15.4 of AS1670.1 – 2015.</p> <p>To comply with Clause 7.15.4 of AS1670.1 – 2015, the fire mode indicator and reset shall be clearly labelled FIRE MODE RESET in letters not less than 5mm height.</p>	
	LOCATION(S)	Main fire indicator panel Ground floor	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Table E2.2a – General Provisions 3 Clause 5.5 of AS1668.1 – 2015 4 Clause 7.15.4 of AS1670.1 – 2015 	
	METHOD OF REPAIR	<p>Install a label on the fire mode indicator and reset module in lettering not less than 5mm height with the following wording:</p> <p>FIRE MODE RESET</p>	





6.1.3.	DEFECT	FIRE FAN CONTROLS INCORRECTLY LABELLED	
	DESCRIPTION	Labelling on the control switch for the carpark exhaust fan (CPEF-1) does not comply with the wording requirements of Clause 7.15.3 of AS1670.1 - 2015. To comply with Clause 7.15.3 of AS1670.1 – 2015, control switches for fans shall be labelled 'OFF, AUTO, ON'.	
	LOCATION(S)	Main fire indicator panel Ground floor	
	BREACH(ES)	Failure to comply with: <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Table E2.2a – General Provisions 3 Clause 5.5 of AS1668.1 – 2015 4 Clause 7.15.3 of AS1670.1 – 2015 	
	METHOD OF REPAIR	The control switch for the carpark exhaust switch CPEF-1 will need to be reprogrammed to one of the spare fan control modules or the labelling on the existing control switch will need to be changed to read 'OFF, AUTO, ON'.	

6.1.4.	DEFECT	INCORRECT OPERATION OF CARPARK SUPPLY AIR FAN IN FIRE MODE
	DESCRIPTION	<p>The operation of the carpark supply air fan does not comply with Clause 7.6.8.4 of AS1670.1 – 2015.</p> <p>The carpark supply air fan was found to shutdown on a general fire trip.</p> <p>To comply with Clause 7.6.8.4 of AS1670.1 – 2015, activation of a general fire trip shall cause the ventilation system to operate at full ventilation rate, unless smoke is detected in the supply air stream.</p> <p>Note: a detector has been installed in the supply air ductwork to shutdown the fan upon detection of smoke in the supply air stream, however it is not clear if this detector has been correctly programmed to initiate shutdown of the supply air fan when required.</p>
	LOCATION(S)	Main fire indicator panel Ground floor
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Table E2.2a – General Provisions 3 Clause 5.5 of AS1668.1 – 2015 4 Clause 7.6.8.4 of AS1670.1 – 2015
	METHOD OF REPAIR	<p>The fire indicator panel will need to be reprogrammed to operate as follows:</p> <ol style="list-style-type: none"> 1 General fire trip to cause all carpark fans (CPSF-1 & CPEF-1) to operate at full ventilation rate 2 Activation of the smoke detector in the supply air duct to shutdown supply air fan. 3 Supply air fan shutdown to be non-latching, such that it shall restart upon clearance of smoke from the smoke detector in the supply air duct.



6.1.5.	DEFECT	DESIGN DOCUMENTATION AND COMMISSIONING RESULTS NOT PROVIDED
	DESCRIPTION	No system documentation or commissioning results are provided at the fire indicator panel. To comply with AS1670.1 – 2015, system documentation shall be housed in or adjacent to the fire indicator panel.
	LOCATION(S)	Main fire indicator panel Ground floor
	BREACH(ES)	Failure to comply with: <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Table E2.2a – General Provisions 3 Clause 1.7.2 of AS1670.1 – 2015 4 Clause 7.19 of AS1670.1 – 2015 5 Appendix J of AS1670.1 – 2015
	METHOD OF REPAIR	Provide the following documentation at the fire indicator panel in a labelled document cabinet: <ul style="list-style-type: none"> • Design documentation (including a cause and effect matrix) • Operation and maintenance instructions (As-installed documentation) • Smoke control operating instructions • Designers and Installers Statements • Commissioning statement and report • Baseline data

6.2. EMERGENCY LIGHTING AND EXIT SIGNS


6.2.1.	DEFECT	EMERGENCY LIGHTING CIRCUIT BREAKERS NOT LABELLED	<p>House Services board 1 in Main switch room</p>    <p>House services board 2 in Level G electrical cupboard</p> 
DESCRIPTION	<p>The test switch and circuit breakers that supply power to emergency lights are not labelled.</p> <p>To comply with Clause 2.4 of AS2293.1 – 2005 every circuit breaker, switch or fuse which, if turned off or removed, will cause the emergency lighting to operate shall have the following notice affixed immediately adjacent to it.</p> <p>WARNING: INTERRUPTING SUPPLY WILL DISCHARGE EMERGENCY LIGHTING BATTERIES</p>		
LOCATION(S)	Main switch room and Level G electrical cupboard		
BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause E4.2 – Emergency lighting requirements 3 Clause 2.4 of AS2293.1 – 2005 		
METHOD OF REPAIR	<p>Install warning notices adjacent to the test switch and each circuit breaker that supplies power to an emergency light</p> <p>Signage installed shall have the following wording:</p> <p>WARNING: INTERRUPTING SUPPLY WILL DISCHARGE EMERGENCY LIGHTING BATTERIES</p>		



6.3. FIRE DAMPERS


6.3.1.	DEFECT	NO BASELINE DATA PROVIDED	No photo available
	DESCRIPTION	<p>No baseline data or asset register provided.</p> <p>To comply with Clause 7.5 of AS1682.2, the following documentation and baseline data shall be provided:</p> <ul style="list-style-type: none"> a) Identification of fire dampers by number and location b) Floorplans showing location of fire dampers c) Make and model number of each fire damper d) Name of installation company e) Date of installation f) Copies of test certificate, regulatory information report or assessment report g) Building element FRLS h) Commissioning sheet 	
	LOCATION(S)	Not applicable	
	BREACH(ES)	<p>Failure to comply with:</p> <ul style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – openings for service installations 3 Clause 2.5 of AS1668.1 – 2015 4 Clause 7.5 of AS1682.2 – 2015. 	
	METHOD OF REPAIR	<p>Provide baseline data as required to comply with Clause 7.5 of AS1682.2 – 2015.</p> <p>Locate in a labelled document cabinet installed in xxxx</p>	

6.3.2.	DEFECT	NO FIRE DAMPERS INSTALLED
	DESCRIPTION	<p>No fire dampers have been installed to the lift lobby fresh air duct serving all lift lobbies within the eastern block.</p> <p>A common shaft is provided which contains the fresh air supply duct serving Level LG to Level L4 of the building. To comply with Table 3 of Specification C1.1 of the BCA the walls to a ventilation shaft in a Class 2 part of the building shall achieve a FRL of 90/90/90 (if loadbearing) or -/90/90 (if non-loadbearing).</p> <p>To comply with Clause 3.3 of AS1668.1, openings in building elements that are required to have an FRL shall be protected with fire dampers.</p> <p>To comply with Clause 2.5 of AS1668.1, fire dampers must comply with AS1682.2.</p>
	LOCATION(S)	Lift lobbies on levels LG, L1, L2, L3 & L4
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Table 3 of Specification C1.1 – Type A construction: FRL of building elements 3 Clause 3.3 of AS1668.1 – 2015 4 Clause 2.5 of AS1668.1 – 2015 5 Section 6 of AS1682.2 – 2015.
	METHOD OF REPAIR	<p>Fire dampers will need to be installed in the shaft wall for the lift lobby fresh air supply on Levels LG, L1, L2, L3 & L4</p> <p>The fire dampers selected and installed shall comply with Section 6 of AS1682.2 – 2015 and all relevant manufacturers' installation instructions.</p>



6.3.3.	DEFECT	NO FIRE DAMPER LOCATED	
	DESCRIPTION	<p>A fresh air supply is provided to the Service Room on Level LG. No documentation is provided that details where this fresh air supply is fed from and if the ducting serving this fresh air supply passes through any building elements that are required to have a FRL.</p> <p>Similarly there are no access panels or the like in the ceiling of this room to determine if the ducting passes through any building elements that are required to have a FRL.</p> <p>To comply with Table 3 of Specification C1.1 of the BCA the walls to a ventilation shaft in a Class 2 part of the building shall achieve a FRL of 90/90/90 (if loadbearing) or -/90/90 (if non-loadbearing).</p> <p>To comply with Clause 3.3 of AS1668.1, openings in building elements that are required to have an FRL shall be protected with fire dampers.</p> <p>To comply with Clause 2.5 of AS1668.1, fire dampers must comply with AS1682.2.</p>	
	LOCATION(S)	Service Room on Level LG	
	BREACH(ES)	Further investigation required.	
	METHOD OF REPAIR	<p>Further investigation will be required once the mechanical services baseline data has been provided (refer 6.3.1 above).</p> <p>If the ducting serving this fresh air supply is found to pass through any building elements that are required to achieve an FRL, a fire damper will need to be provided and an access panel will need to be installed, such that access to the fire damper is available for routine service inspections.</p>	

6.3.4.	DEFECT	INCORRECTLY INSTALLED FIRE DAMPER		
	DESCRIPTION	<p>The fire damper installed where the supply air ductwork serving the main switch room passes through the wall of the main switch room has not been installed correctly as follows:</p> <ul style="list-style-type: none"> • Steel bolts have been used in the breakaway connection • The angles surrounding the fire damper are not twice the width of the perimeter gap • The fire damper is not labelled <p>Based on the Architectural plans all walls to the main switch room are required to achieve a FRL of -/120/120.</p> <p>To comply with Clause C2.13 of the BCA a main switchboard which sustains emergency equipment operating in the emergency mode must be separated from the remainder of the building by construction having a FRL of not less than 120/120/120.</p> <p>To comply with Clause 3.3 of AS1668.1, openings in building elements that are required to have an FRL shall be protected with fire dampers.</p> <p>To comply with Clause 2.5 of AS1668.1, fire dampers must comply with AS1682.2.</p> <p>To comply with Section 6 of AS1682.2, breakaway joints must be provided so that any deformation or collapse of the ductwork does not dislodge the fire damper and the size of the opening in the structure shall not exceed the damper size by more than the width of one mounting flange on the face of the structure.</p>		
	LOCATION(S)	Main switch room		
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C2.13 – Electricity supply system 3 Clause 3.3 of AS1668.1 – 2015 4 Clause 2.5 of AS1668.1 – 2015 5 Section 6 of AS1682.2 – 2015. 		
	METHOD OF REPAIR	<p>Nylon bolts will need to be provided to the breakaway connection, and The opening for the fire damper will need to be reduced, or the mounting flanges will need to be increased in width, to ensure that:</p> <ul style="list-style-type: none"> • The installation complies with a tested prototype to AS1682.2-2015 • The gaps surrounding the fire damper are adequately sealed in accordance with a tested prototype 		

6.3.5.	DEFECT	NO FIRE DAMPER INSTALLED	
	DESCRIPTION	<p>No fire damper has been installed where the carpark exhaust ducting enters the shaft to the roof of the building.</p> <p>Additionally the gaps surrounding the ductwork have not been sealed around the perimeter of the duct.</p> <p>To comply with Table 3 of Specification C1.1 of the BCA the walls to a ventilation shaft in a Class 7a part of the building shall achieve a FRL of 120/90/90 (if loadbearing) or -/90/90 (if non-loadbearing).</p> <p>To comply with Clause 3.3 of AS1668.1, openings in building elements that are required to have an FRL shall be protected with fire dampers.</p> <p>To comply with Clause 2.5 of AS1668.1, fire dampers must comply with AS1682.2.</p>	
	LOCATION(S)	Level B1 adjacent lift	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Table 3 of Specification C1.1 – Type A construction: FRL of building elements 3 Clause 3.3 of AS1668.1 – 2015 4 Clause 2.5 of AS1668.1 – 2015 5 Section 6 of AS1682.2 – 2015. 	
	METHOD OF REPAIR	<p>A fire damper will need to be installed in the ductwork where it penetrates the shaft wall.</p> <p>The fire damper selected and installed shall comply with Section 6 of AS1682.2 – 2015 and all relevant manufacturers' installation instructions, including provision of an access panel in the ductwork.</p>	

6.4. FIRE DOORS

6.4.1.	DEFECT	NON-COMPLIANT GAPS TO FIRE DOORS
	DESCRIPTION	<p>The gap below a number of fire doors exceeds 10mm.</p> <p>To comply with Clause 2 of Specification C3.4 of the BCA, a required fire door must comply with AS1905.1 – 2015.</p> <p>To comply with Clause 5.5.1 of AS1905.1 – 2015 the gap between a fire door and the floor covering shall not exceed 10mm.</p>
	LOCATION(S)	<ul style="list-style-type: none"> • Level B2 hydrant pump room • Level B1 south fire stair • Level B1 bin room • Level LG fire stair
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 Spec C3.4 of the BCA – Fire doors, smoke doors, fire windows and shutters 3 Clause 5.5.1 of AS1905.1 – 2015
	METHOD OF REPAIR	<p>Fire doors will need to be replaced or will need to be rectified as follows:</p> <p>Either:</p> <ul style="list-style-type: none"> • Install proprietary fire door upgrade seals (equivalent to Kilargo FDBU20 or FDBU60 upgrade kits), • Install non-combustible threshold plates to provide a compliant door clearance gap, or • Build-up the flooring level using a non-combustible product (concrete or similar) to provide a compliant door clearance gap. <p>Alternatively, provide evidence to the Owners that the doors installed have been approved with a gap between the door and floor of greater than 10mm.</p>



Hydrant pump room



Level B1 south fire stair



Level B1 bin room



Level LG fire stair

6.4.2. DEFECT NON-COMPLIANT FIRE DOOR FRAME

DESCRIPTION

The door to the NBN room on Level LG has a tagged fire door, but is installed in a non-fire rated frame.

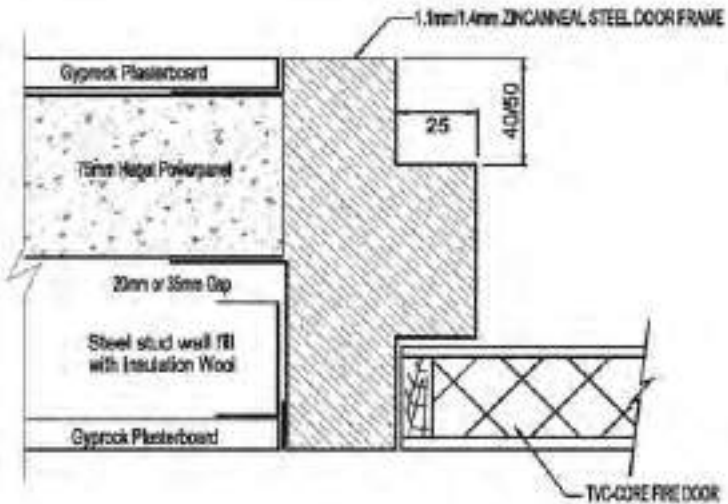
To comply with Clause C3.11 of the BCA a doorway in a Class 2 part of the building must be protected with a fire door having a FRL of at least -/60/30 if it provides access to a room not within a sole occupancy unit to a public corridor, public lobby or the like.

To comply with Clause C3.4, fire doors (where required) must comply with Spec C3.4, which requires fire doors to comply with AS1905.1.

To comply with clause 5.1 of AS1905.1 – 2015 fire doors must comply with a tested specimen prototype.

The door installed is a FireCore door. These fire doors are tested within a frame that has a rebate of 25mm (refer below diagram from the FireCore Fire Door Manual)

• Hebel Walls - Up to Four Hour




It is also noted that the Door Schedule (Drawing No. A6102) details this door as having a FRL of -/120/30.




LOCATION(S)	NBN Room on Level LG	
BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 Clause C3.11 of the BCA – Bounding construction: Class 2 and 3 buildings and Class 4 parts 3 Spec C3.4 of the BCA – Fire doors, smoke doors, fire windows and shutters 4 Clause 5.1 of AS1905.1 – 2015 	
METHOD OF REPAIR	<p>The existing door frame will need to be removed and replaced with a fire door frame that has a rebate of 25mm. This door frame will need to be back-filled with concrete, mortar, plaster or plasterboard, as per the manufacturer's installation requirements. Alternatively (if permitted by the manufacturer as a variation to the tested prototype), the doorframe may be built-up to provide a 25mm rebate. Any build-up to the existing frame would need to be carried out strictly as required by the manufacturer (including weld joints and any back-filling requirements).</p>	

6.4.3.	DEFECT	NO FIRE DOOR INSTALLED TO ROOM OPENING FROM THE PUBLIC LOBBY	No photo available
	DESCRIPTION	<p>The door to the Service Room on Level LG is a non-fire rated door.</p> <p>To comply with Clause C3.11 of the BCA a doorway in a Class 2 part of the building must be protected with a fire door having a FRL of at least -/60/30 if it provides access to a room not within a sole occupancy unit to a public corridor, public lobby or the like.</p> <p>It is noted that the Door Schedule (Drawing No. A6102) details this door as being a solid core door only, however it is noted on that drawing that the Service Room Door is to be confirmed.</p>	
	LOCATION(S)	Service Room on Level LG	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 Clause C3.11 of the BCA – Bounding construction: Class 2 and 3 buildings and Class 4 parts 3 Spec C3.4 of the BCA – Fire doors, smoke doors, fire windows and shutters 4 Clause 5.1 of AS1905.1 – 2015 	
	METHOD OF REPAIR	The existing door assembly (including frame) will need to be removed and replaced with a fire door and fire door frame that complies with AS1905.1 – 2015 and a tested prototype (including any approved variations to the tested prototype).	

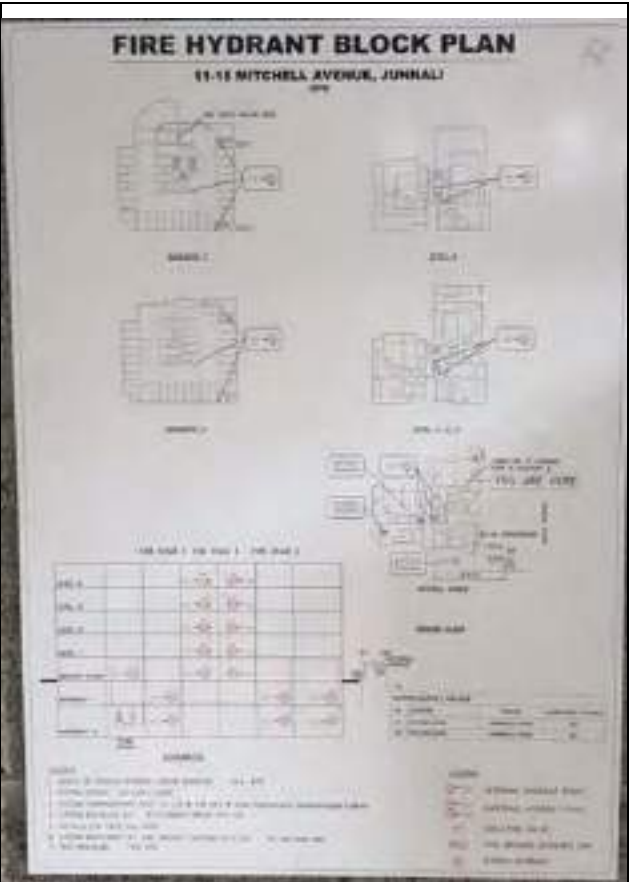
6.4.4.	DEFECT	FIRE DOOR COMPLIANCE TAGS NOT MECHANICALLY FIXED	
	DESCRIPTION	<p>Fire door compliance tags fitted to the fire door leaves and fire door frames have not been mechanically fixed in place (adhesive fix only was observed).</p> <p>To comply with Clause 6.1.3 of AS1905.1 – 2015, tags shall be permanently and mechanically fixed to minimise the possibility of detachment during the service life of the doorset by the following methods:</p> <ul style="list-style-type: none"> • Blind rivets attaching the tag to the metal frame. • Small clout or tack nails attaching the metal tag to the timber door leaf <p>This is considered to be a systemic defect.</p>	
	LOCATION(S)	All areas	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 Clause C3.11 of the BCA – Bounding construction: Class 2 and 3 buildings and Class 4 parts 3 Spec C3.4 of the BCA – Fire doors, smoke doors, fire windows and shutters 4 Clause 6.1.3 of AS1905.1 – 2015 	
	METHOD OF REPAIR	Install blind rivets and tack nails (as appropriate) to all fire door tags.	


6.4.5.	DEFECT	NO BASELINE DATA PROVIDED	No photo available
	DESCRIPTION	A fire door asset register has not been provided. To comply with Clause 6.3.2 of AS1905.1 – 2015, a manual detailing the fire-resistant doorsets installed in the building is required to be provided to the building owner.	
	LOCATION(S)	Not applicable	
	BREACH(ES)	Failure to comply with: <ul style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 Spec C3.4 of the BCA – Fire doors, smoke doors, fire windows and shutters 3 Clause 6.3.2 of AS1905.1 – 2015 	
	METHOD OF REPAIR	Provide baseline data (asset register) for all fire doors as required to comply with Clause 6.3.2 of AS1905.1 – 2015	
6.5. FIRE HOSE REEL SYSTEM			
6.5.1.	DEFECT	NO BASELINE DATA PROVIDED	No photo available
	DESCRIPTION	A record of the installation has not been provided. To comply with Section 13 of AS2441 – 2005, a record of the disposition and location of the fire hose reels shall be made.	
	LOCATION(S)	Not applicable	
	BREACH(ES)	Failure to comply with: <ul style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 Clause E1.4 of the BCA – Fire hose reels 3 Section 13 of AS2441 – 2005 	
	METHOD OF REPAIR	Provide baseline data for fire hosereels as required to comply with Section 13 of AS2441 – 2005	

6.6. FIRE HYDRANT SYSTEM

6.6.1.	DEFECT	HYDRANT PIPEWORK NOT LABELLED	
	DESCRIPTION	<p>Hydrant pipework passing through the carpark at B1 level is not labelled. To comply with Clause E1.3 of the BCA, hydrant systems must comply with AS2419.1.</p> <p>To comply with Clause 8.6.3 of AS2419.1 – 2005 pipework is required to be labelled in accordance with AS1345.</p> <p>To comply with Sections 7 and 9 of AS1345 – 1995, pipe markers shall be provided at spacings not greater than 8m along hydrant pipework. These labels shall have a red background and shall identify the flow direction.</p>	
	LOCATION(S)	B1 carpark	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause E1.3 – Hydrants 3 Clause 8.6.3 of AS2419.1 – 2005 4 Sections 7 & 9 of AS1345 – 1995 	
	METHOD OF REPAIR	Install labelling in accordance with AS1345 along hydrant pipework in carpark.	

6.6.2.	DEFECT	HYDRANT BLOCK PLANS DO NOT INCLUDE DESIGN FLOWS				
	DESCRIPTION	<p>Hydrant block plans at the booster connection, booster pump and fire indicator panel do not include the design flows.</p> <p>According to the Sydney Water pressure and flow enquiry, a flow rate of 12L/sec can only be achieved.</p> <p>Therefore the Fire Engineering Report 138309.FER001b provides a Performance Solution to permit one hydrant flowing rather than the BCA minimum of two hydrants flowing for the carpark area, which would otherwise be based on the floor area of the carpark and would require a flow rate of 20L/sec.</p> <p>To comply with Clause 1.4 Schedule of Works in the Fire Engineering Report (refer Item 3.2 in Table 1.2), the block plan for the hydrant system is to state the design supply flows and pressures.</p> <table border="1" data-bbox="539 571 1541 703"> <tr> <td data-bbox="539 571 757 703">3.2 - Hydrant Signage</td> <td data-bbox="757 571 1339 703">The block plan for the hydrant system is to state the design supply flows and pressures, as well as show the proposed carpark separation, access points to each fire compartment, and corresponding fire hydrant locations.</td> <td data-bbox="1339 571 1541 703">Architect / Fire Services Contractor</td> </tr> </table>		3.2 - Hydrant Signage	The block plan for the hydrant system is to state the design supply flows and pressures, as well as show the proposed carpark separation, access points to each fire compartment, and corresponding fire hydrant locations.	Architect / Fire Services Contractor
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	LOCATION(S)	<p>Fire brigade booster connection</p> <p>Fire hydrant pump room on B1 level</p> <p>Adjacent the fire indicator panel</p>				
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Performance requirement EP1.3 3 Item 3.2 in Table 1.2 of Fire Engineering Report 138309.FER001b 				
	METHOD OF REPAIR	<p>The fire hydrant block plans at all three locations will need to be amended to state the design pressures and flows.</p>				







6.6.3.	DEFECT	CONFLICTING BOOST PRESSURE SIGNAGE	
	DESCRIPTION	<p>Signage at the booster connection has conflicting boost pressures stated. Two signs are installed as follows:</p> <ul style="list-style-type: none"> • BOOST PRESSURE 1700 kPa • MAX BOOST PRESSURE 1200 KPA <p>To comply with Clause E1.3 of the BCA a fire hydrant system must comply with AS2419.1.</p> <p>To comply with Tables 2.2 & 2.3 of AS2419.1 – 2005, the minimum required residual pressure at the most disadvantaged hydrant is 700kPa when flowing a hydrant at 10 L/sec.</p> <p>To achieve a pressure of 700kPa at the most disadvantaged hydrant on level 4, it is expected that a boost pressure of 1200kPa or less would be necessary at the booster.</p> <p>To comply with Clause 7.10 of AS2419.1 – 2005, signage must be provided at the booster connection to advise attending fire brigade personnel of the pressure required at the booster connection and/or pump discharge to achieve the required pressure at the most disadvantaged hydrant.</p>	
	LOCATION(S)	Fire brigade booster connection	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause E1.3 – Hydrants 3 Clause 7.10 of AS2419.1 – 2005 	
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1. The original hydraulic designer will need to provide clarification on required boost pressure or a hydraulic consultant will need to be engaged to review the system pipework and determine the boost pressure requirements at the booster connection and pump discharge. 2. The boost pressure signage will then need to be amended to display the correct boost pressure. 3. Any additional (incorrect) signage would need to be removed. 	

6.6.4.	DEFECT	HYDRANT ISOLATION VALVES NOT SECURED IN THE OPEN POSITION	No photos taken
	DESCRIPTION	<p>Numerous isolation valves in the hydrant pump room were not secured in the open position.</p> <p>It was noted in the hydrant pump log books that the hydrant system isolation valves were not secured in the open position at the time of the first test by the current maintenance providers. Straps and padlocks have since been installed to these isolation valves.</p> <p>To comply with Clause E1.3 of the BCA a fire hydrant system must comply with AS2419.1.</p> <p>To comply with Clause 8.5.8 of AS2419.1 – 2005, above ground isolation valves shall be secured in the open position</p>	
	LOCATION(S)	Hydrant pump room	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause E1.3 – Hydrants 3 Clause 8.5.8 of AS2419.1 – 2005 	
	METHOD OF REPAIR	<p>This item has already been rectified by the incumbent maintenance contractor and it is understood that the costs associate with these works have been incurred by the building owners.</p> <p>It is my opinion that the owners should be compensated for the costs associated with the supply and install of the necessary straps and padlocks to all hydrant system isolation valves.</p>	

6.6.5.	DEFECT	NO DRAINAGE PROVIDED FOR MOST DISADVANTAGED HYDRANT
	DESCRIPTION	<p>The most disadvantaged hydrant is located on the fire stair landing on level 8 of the building and this hydrant does not have access to any drain suitable for the discharge of water during flow testing.</p> <p>To comply with Clause E1.3 of the BCA a fire hydrant system must comply with AS2419.1.</p> <p>To comply with Clause 8.5.10 of AS2419.1 – 2005, provision shall be made for the purpose of flow testing as required in Section 10 of the standard.</p> <p>If testing cannot be readily accomplished from a fire hydrant outlet, a permanent test facility should be provided together with a suitable means for disposing of test water.</p>
	LOCATION(S)	Level 4 fire stair
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause E1.3 – Hydrants 3 Clause 8.5.10 of AS2419.1 – 2005
	METHOD OF REPAIR	A suitable test connection, drain and/or holding tank or other means of disposing of test water will need to be provided to facilitate flow testing of the hydrant system at the most disadvantaged hydrant (Level 4).



6.6.6.	DEFECT	HYDRANT PUMP ROOM VENTILATION NOT ADEQUATELY PROTECTED	  
	DESCRIPTION	<p>Fire dampers have been installed in the ventilation ductwork where it penetrates the wall to the hydrant pump room and the floor slab between Levels B2 & B1.</p> <p>To comply with Clause E1.3 of the BCA a fire hydrant system must comply with AS2419.1.</p> <p>To comply with Clause 6.4.1 of AS2419.1, a hydrant pump room must be adequately ventilated for the aspiration and cooling of pump drivers.</p> <p>The installation of fire dampers in the ventilation ductwork, if exposed to heat from a fire in the carpark, could close and prevent ventilation of the pump room when the pump is required to operate.</p> <p>This requirement has been further clarified in the most recent issue of AS2419.1 (2021), which states the pump room must be ventilated with fresh air to maintain the aspiration and cooling of pump drivers for the required duration of pump operation.</p>	
	LOCATION(S)	<p>Hydrant pump room – supply air duct Hydrant pump room – exhaust duct Slab between Levels B2 & B1 – exhaust duct</p>	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause E1.3 – Hydrants 3 Clause 6.4.1 of AS2419.1 – 2005 	
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1 The existing fire dampers will need to be removed and ductwork reinstated through wall and slab 2 The ductwork throughout the carpark will need to be protected using fire rated construction for the full length of the ductwork between the hydrant pump room and: <ul style="list-style-type: none"> • the exterior of the building in the case of the supply air duct, and • the fire isolated shaft that extends to the roof of the building (adjacent lift) in the case of the exhaust air duct 	

6.6.7.	DEFECT	DIESEL PUMP EXHAUST DISCHARGE	
	DESCRIPTION	<p>The diesel pump exhaust discharge is located approximately 3m from the balcony door to unit G01.</p> <p>The resident of this unit has expressed concerns of a strong diesel odour whenever the pump is tested.</p> <p>Whilst not strictly addressed in any Australian Standard (known to the author), this arrangement would not be considered to be appropriate or good industry practice for provision of acceptable air quality for the occupants within unit G01.</p>	
	LOCATION(S)	Driveway adjacent to Unit G01 balcony	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 	
	METHOD OF REPAIR	<p>Relocate and/or extend the diesel exhaust pipework to discharge at a location remote from the balcony door to unit 105 and any other openable windows or doors.</p> <p>One possible discharge location – above garage vehicle entry door, midway between the residential building and the site boundary.</p>	

6.6.8.	DEFECT	COMMISSIONING TEST RECORDS NOT AVAILABLE ON SITE	No photo available
	DESCRIPTION	<p>The record of hydrant system commissioning tests is not available on site.</p> <p>To comply with Clause E1.3 of the BCA a fire hydrant system must comply with AS2419.1.</p> <p>To comply with Clause 10.7 of AS2419.1, the record of system commissioning tests shall be available on the property.</p> <p>These records are required to provide baseline data for ongoing system maintenance for the life of the building.</p>	
	LOCATION(S)	Hydrant pump room	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause E1.3 – Hydrants 3 Clause 10.7 of AS2419.1 – 2005 	
	METHOD OF REPAIR	Obtain a copy of the hydrant system commissioning test records and provide a copy of these records in a suitable labelled document cabinet in the hydrant pump room.	

6.7. FIRE SAFETY ENGINEERING

6.7.1.	DEFECT	FIRE ENGINEERING REPORT INCORRECTLY DESCRIBES THE BUILDING	<p>Executive Summary</p> <p>This report addresses the proposed building to be located at 11-15 Mitchell Avenue, Jannali, NSW for compliance with the relevant Performance Requirements of the Building Code of Australia, Volume One, Amendment 1 of the National Construction Code of Australia 2019 (BCA). The proposed building will consist of five levels of residential units above two levels of basement carparking.</p> <p>2.1 Description of Building</p> <p>The proposed building is to be constructed on the corner of Mitchell Avenue and Oakey Avenue, Jannali, NSW. The building will include two basement levels for carparking and four levels of residential units above.</p> <p>Table 2.1: BCA General Description</p> <table border="1" data-bbox="1538 480 2163 762"> <thead> <tr> <th>BCA Clause</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>4.1.1</td> <td>Effective Height: 10.8 m</td> </tr> <tr> <td>4.3.2</td> <td>Classification: Class 2 - residential Class 7a - carparking</td> </tr> <tr> <td>4.1.1</td> <td>Type of Construction Required: Type A</td> </tr> <tr> <td>4.2.2</td> <td>Basin Storage: 7,500 L per apartment</td> </tr> <tr> <td>4.2.2</td> <td>Floor Area and Volume Limitations: Class 7a Maximum floor area: 5,000 m² Maximum volume: 30,000 m³</td> </tr> </tbody> </table> <p>Area and volume limitations do not apply to Class 2 buildings. This also definition for the fire compartments is not exceeded.</p>	BCA Clause	Description	4.1.1	Effective Height: 10.8 m	4.3.2	Classification: Class 2 - residential Class 7a - carparking	4.1.1	Type of Construction Required: Type A	4.2.2	Basin Storage: 7,500 L per apartment	4.2.2	Floor Area and Volume Limitations: Class 7a Maximum floor area: 5,000 m ² Maximum volume: 30,000 m ³
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	DESCRIPTION	<p>The Fire Engineering Report (138309.FER001b dated 9 May 2019) prepared by Holmes Fire incorrectly describes the building in several parts of the report.</p> <p>The report describes the building as:</p> <ul style="list-style-type: none"> Being a four-storey building consisting of five levels of residential units above two storeys of basement carpark (page 3) Including two basement levels and four levels of residential units (page 18) Having a rise in storeys of 4, with 6 contained (page 19) <p>The building characteristics in relation to the BCA should be described as having a rise in storeys of five (5) with seven (7) levels contained.</p> <p>Whilst these errors do not affect the Performance Solutions contained therein, the description of the building should be corrected to remove any ambiguity.</p>													
	LOCATION(S)	<p>Fire Engineering Report:</p> <p>Page 4 – Executive Summary</p> <p>Page 18 – Clause 2.1 Description of Building</p> <p>Page 19 – Table 2.1: BCA General Description</p>													
	BREACH(ES)	<p>Failure to comply with:</p> <p>1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c)</p>													
	METHOD OF REPAIR	<p>Amend the building descriptions on the pages outlined above and reissue the Fire Engineering Report.</p>													

6.7.2.

DEFECT

HATCHED LINE MARKINGS DO NOT EXTEND THE REQUIRED DISTANCE FROM FIRE SHUTTER IN CARPARK

DESCRIPTION

The Fire Engineering Report (138309.FER001b dated 9 May 2019) prepared by Holmes Fire requires hatched line markings to extend not less than 2.8m out from the fire shutter, as depicted in Figure 1.4.

This requirement has been detailed in Table 1.2 and Figure 1.4 of the Fire Engineering Report.

<p>3.1 – Hatched Line Marking</p>	<ul style="list-style-type: none"> (i) Hatched line marking is to be provided to the floor surface on either side of the carpark fire shutter. These markings are to extend not less than 2.8 m out from the shutter, as depicted in Figure 1.4. (ii) Signage within the hatching is to state: "KEEP CLEAR. NO PARKING. NO STORAGE" (iii) The lettering is to be in capitals, no less than 100 mm in height and in a colour contrasting with the background. (iv) Painted markings on floors are to be suitable for their intended purpose (i.e. water resistant, trafficable, slip-resistant). 	<p>Builder</p>
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Figure 1-4: Level 01 Signage








Hatched line markings have been provided, however they only extend 2.5m from the shutter on the upper part of the vehicle ramp.






	LOCATION(S)	Vehicle ramp between Levels B1 & B2	
	BREACH(ES)	Failure to comply with: <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 Table 1.2 of Fire Engineering Report (138309.FER001b dated 9 May 2019) prepared by Holmes Fire 	
	METHOD OF REPAIR	Extend hatched line markings to extend not less than 2.8m from the shutter on the upper part of the ramp.	

6.7.3.	DEFECT	BASELINE DATA HAS NOT BEEN PROVIDED	No photo available			
	DESCRIPTION	<p>The Fire Engineering Report (138309.FER001b dated 9 May 2019) prepared by Holmes Fire requires all fire safety systems to be commissioned in accordance with the relevant Australian Standards and baseline data compiled for inclusion in the building operation manuals (to be prepared by others).</p> <p>This requirement has been detailed in Table 1.2 of the Fire Engineering Report.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; padding: 5px;">4.1 – Commissioning</td> <td style="width: 33%; padding: 5px;">All fire safety systems are to be commissioned in accordance with the relevant Australian Standards and baseline data compiled for inclusion in the building operation manuals (to be prepared by others).</td> <td style="width: 33%; padding: 5px;">Services Contractors</td> </tr> </table> <p>No baseline data was found for any fire safety systems (as further described in Sections 6.1.5, 6.3.1, 6.4.5, 6.5.1 & 6.6.8 of this report).</p> <p>Baseline data is required to provide the data necessary for ongoing routine maintenance of fire services for the life of the building.</p>		4.1 – Commissioning	All fire safety systems are to be commissioned in accordance with the relevant Australian Standards and baseline data compiled for inclusion in the building operation manuals (to be prepared by others).	Services Contractors
	4.1 – Commissioning	All fire safety systems are to be commissioned in accordance with the relevant Australian Standards and baseline data compiled for inclusion in the building operation manuals (to be prepared by others).		Services Contractors		
	LOCATION(S)	Various locations as described in sections 6.1.5, 6.3.1, 6.4.5 & 6.6.8 of this report				
	BREACH(ES)	<p>Failure to comply with:</p> <ul style="list-style-type: none"> 3 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 4 Table 1.2 of Fire Engineering Report (138309.FER001b dated 9 May 2019) prepared by Holmes Fire 5 Various Australian Standards relating to Fire Safety Measures (as described in Sections 6.1.5, 6.3.1, 6.4.5 & 6.6.8 of this report) 				
METHOD OF REPAIR	Provide baseline data for all fire safety systems as described in Sections 6.1.5, 6.3.1, 6.4.5, 6.5.1 & 6.6.8 of this report.					

6.8. FIRE SEALS (PROTECTING OPENINGS IN FIRE RESISTING COMPONENTS OF THE BUILDING)


<p>6.8.1.</p>	<p>DEFECT</p>	<p>COPPER PIPE INADEQUATELY INSULATED</p>															
	<p>DESCRIPTION</p>	<p>A copper pipe (for the hydrant installation pressure) has not been adequately insulated in accordance with a tested system, where it passes through the wall between the hydrant pump room and fire stair.</p> <p>Insulation wrap has been applied to the pipe, however the length of wrap is approximately 100mm on the pump room side of the wall.</p> <p>To comply with C3.15 of the BCA, service penetrations through fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.</p> <p>To comply with the manufacturer's tested system that achieves a FRL of -/120/120, the insulation wrap (TBA Firefly Penowrap) must extend 300mm and be fixed using 3 stainless steel cable ties on both sides of the wall. Refer below extract from Warringtonfire report FAS190236 Revision: RIR1.7.</p> <table border="1" data-bbox="544 703 1541 1118"> <tr> <td data-bbox="544 703 752 1114">  <p>Copper Pipe 5 mm up to 51mm OD with a min' wall thickness of 0.91 mm</p> </td> <td data-bbox="752 703 1025 1114">  </td> <td data-bbox="1025 703 1267 1114"> <p>Max' 52mm Core Hole. Run a 10 mm bead of TBA Firefly™ Intumescence around the base of the pipe over the annular gap (Min' 5mm max 5 mm) then wrap with TBA Firefly™ Penowrap® for a distance of 300 mm. Secured with 3 x 5/16" Steel Zip Ties. Wrap both sides of wall</p> </td> <td data-bbox="1267 703 1424 903"> <p>Min' 100 mm thick Masonry, Concrete block or Hebel block wall. Capable of minimum FRL-/120/120 (Item 22)</p> </td> <td data-bbox="1424 703 1541 903"> <p>-/120/120</p> </td> </tr> <tr> <td data-bbox="544 903 752 1002"></td> <td data-bbox="752 903 1025 1002"></td> <td data-bbox="1025 903 1267 1002"></td> <td data-bbox="1267 903 1424 1002"> <p>Capable of minimum FRL -/90/90 (Item 35)</p> </td> <td data-bbox="1424 903 1541 1002"> <p>-/90/90</p> </td> </tr> <tr> <td data-bbox="544 1002 752 1114"></td> <td data-bbox="752 1002 1025 1114"></td> <td data-bbox="1025 1002 1267 1114"></td> <td data-bbox="1267 1002 1424 1114"> <p>Capable of minimum FRL -/60/60 (Item 36)</p> </td> <td data-bbox="1424 1002 1541 1114"> <p>-/60/60</p> </td> </tr> </table>	 <p>Copper Pipe 5 mm up to 51mm OD with a min' wall thickness of 0.91 mm</p>		<p>Max' 52mm Core Hole. Run a 10 mm bead of TBA Firefly™ Intumescence around the base of the pipe over the annular gap (Min' 5mm max 5 mm) then wrap with TBA Firefly™ Penowrap® for a distance of 300 mm. Secured with 3 x 5/16" Steel Zip Ties. Wrap both sides of wall</p>	<p>Min' 100 mm thick Masonry, Concrete block or Hebel block wall. Capable of minimum FRL-/120/120 (Item 22)</p>	<p>-/120/120</p>				<p>Capable of minimum FRL -/90/90 (Item 35)</p>	<p>-/90/90</p>				<p>Capable of minimum FRL -/60/60 (Item 36)</p>	<p>-/60/60</p>
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			<p>Capable of minimum FRL -/60/60 (Item 36)</p>	<p>-/60/60</p>													
	<p>LOCATION(S)</p>	<p>Hydrant pump room</p>															
	<p>BREACH(ES)</p>	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer's tested or approved system 															
	<p>METHOD OF REPAIR</p>	<p>Install Penowrap for a distance of 300mm, fixed with 3 x stainless steel cable ties to the copper pipe on the hydrant pump room side of the wall.</p>															

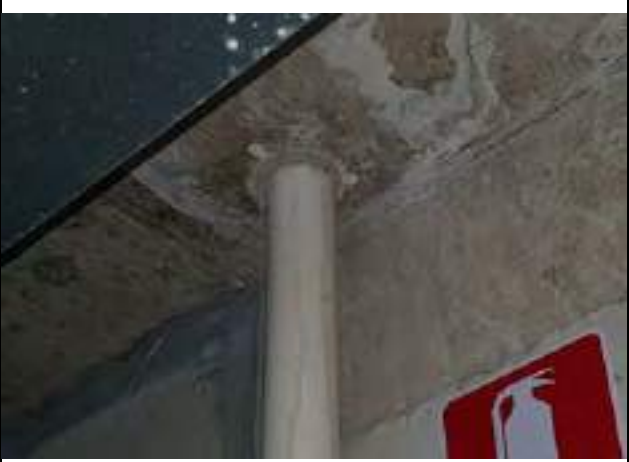
6.8.2.	DEFECT	STEEL PIPE INADEQUATELY INSULATED															
	DESCRIPTION	<p>Two steel pipes (for the hydrant installation discharge pipe) have not been adequately insulated in accordance with a tested system, where they pass through the wall of the hydrant pump room.</p> <p>Insulation wrap has been applied to the pipe, however the length of wrap is less than 300mm on the pump room side of the wall.</p> <p>To comply with C3.15 of the BCA, service penetrations through fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.</p> <p>To comply with the manufacturer's tested system that achieves a FRL of -/120/120, the insulation wrap (TBA Firefly Penowrap) must extend 300mm and be fixed using 3 stainless steel cable ties on both sides of the wall. Refer below extract from Warringtonfire report FAS190236 Rev RIR1.7 dated 01/09/21.</p> <table border="1" data-bbox="542 635 1534 1040"> <tr> <td data-bbox="542 635 750 1040"> <p>V134</p> <p>Steel Pipes 8 mm OD up to 55 mm OD with a min' wall thickness of 0.91 mm and 55 mm OD up to 114mm OD with a min' wall thickness of 1.22 mm.</p> </td> <td data-bbox="750 635 1025 1040">  </td> <td data-bbox="1025 635 1272 1040"> <p>Max' 120mm Core Hole. Run a 10 mm bead of TBA Firefly™ Intumesc. around the perimeter of the pipe over the annular gap (Min' 2mm max 5 mm). Then wrap with TBA Firefly™ Penowrap® for a distance of 300 mm. Secured with 3 x S/Steel Zip Ties. Wrap both sides of wall</p> </td> <td data-bbox="1272 635 1422 833"> <p>Min' 100 mm thick Masonry, Concrete block or Habel block wall. Capable of minimum FRL-/120/120 (Item 22)</p> </td> <td data-bbox="1422 635 1534 833"> <p>-/120/120</p> </td> </tr> <tr> <td data-bbox="542 833 750 938"></td> <td data-bbox="750 833 1025 938"></td> <td data-bbox="1025 833 1272 938"></td> <td data-bbox="1272 833 1422 938"> <p>Capable of minimum FRL -/90/90 (Item 35)</p> </td> <td data-bbox="1422 833 1534 938"> <p>-/90/90</p> </td> </tr> <tr> <td data-bbox="542 938 750 1040"></td> <td data-bbox="750 938 1025 1040"></td> <td data-bbox="1025 938 1272 1040"></td> <td data-bbox="1272 938 1422 1040"> <p>Capable of minimum FRL -/60/60 (Item 36)</p> </td> <td data-bbox="1422 938 1534 1040"> <p>-/60/60</p> </td> </tr> </table>	<p>V134</p> <p>Steel Pipes 8 mm OD up to 55 mm OD with a min' wall thickness of 0.91 mm and 55 mm OD up to 114mm OD with a min' wall thickness of 1.22 mm.</p>		<p>Max' 120mm Core Hole. Run a 10 mm bead of TBA Firefly™ Intumesc. around the perimeter of the pipe over the annular gap (Min' 2mm max 5 mm). Then wrap with TBA Firefly™ Penowrap® for a distance of 300 mm. Secured with 3 x S/Steel Zip Ties. Wrap both sides of wall</p>	<p>Min' 100 mm thick Masonry, Concrete block or Habel block wall. Capable of minimum FRL-/120/120 (Item 22)</p>	<p>-/120/120</p>				<p>Capable of minimum FRL -/90/90 (Item 35)</p>	<p>-/90/90</p>				<p>Capable of minimum FRL -/60/60 (Item 36)</p>	<p>-/60/60</p>
<p>V134</p> <p>Steel Pipes 8 mm OD up to 55 mm OD with a min' wall thickness of 0.91 mm and 55 mm OD up to 114mm OD with a min' wall thickness of 1.22 mm.</p>		<p>Max' 120mm Core Hole. Run a 10 mm bead of TBA Firefly™ Intumesc. around the perimeter of the pipe over the annular gap (Min' 2mm max 5 mm). Then wrap with TBA Firefly™ Penowrap® for a distance of 300 mm. Secured with 3 x S/Steel Zip Ties. Wrap both sides of wall</p>	<p>Min' 100 mm thick Masonry, Concrete block or Habel block wall. Capable of minimum FRL-/120/120 (Item 22)</p>	<p>-/120/120</p>													
			<p>Capable of minimum FRL -/90/90 (Item 35)</p>	<p>-/90/90</p>													
			<p>Capable of minimum FRL -/60/60 (Item 36)</p>	<p>-/60/60</p>													
	LOCATION(S)	Hydrant pump room															
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer's tested or approved system 															
	METHOD OF REPAIR	Install Penowrap for a distance of 300mm, fixed with 3 x stainless steel cable ties to the steel pipe on the hydrant pump room side of the wall.															








6.8.3.	DEFECT	PVC CONDUITS NOT FIRE STOPPED
	DESCRIPTION	<p>The conduit for the fire detection system has not been adequately fire stopped where it passes through the walls to the hydrant pump room.</p> <p>To comply with C3.15 of the BCA, service penetrations through fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.</p> <p>An acrylic mastic has been used to partially seal these conduits, however there is no tested system that achieves the required FRL using acrylic mastic to seal electrical conduits.</p>
	LOCATION(S)	<p>Hydrant pump room wall Hydrant pump room airlock wall</p>
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer’s tested or approved system
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1 Either: <ol style="list-style-type: none"> a. Install suitable fire collars to the PVC conduit, on both sides of the wall. <p>OR</p> <ol style="list-style-type: none"> b. Cut back conduit and remove section of conduit where it passes through the wall. Then reseal the cable using an acrylic fire rated mastic where it passes through the wall





6.8.4.	DEFECT	PVC CONDUIT NOT FIRE STOPPED	
	DESCRIPTION	<p>The conduit for the fire detection system has not been adequately fire stopped where it passes through the wall to the north fire stair.</p> <p>To comply with C3.15 of the BCA, service penetrations through fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.</p> <p>An intumescent mastic has been used to partially seal this conduit on the fire stair side of the wall, however there is no mastic visible on the carpark side of the wall.</p>	
	LOCATION(S)	Level B2 north fire stair	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer’s tested or approved system 	
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1 Either: <ol style="list-style-type: none"> a. Install suitable fire collars to the PVC conduit on both sides of the wall. OR b. Cut back conduit and remove section of conduit where it passes through the wall. Then reseal the cable using and acrylic fire rated mastic where it passes through the wall 	

6.8.5.	DEFECT	NO FIRE COLLAR	
	DESCRIPTION	A PVC pipe penetration through the slab outside the north fire stair does not have a fire collar installed. To comply with C3.15 of the BCA, service penetrations through fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.	
	LOCATION(S)	Level B2 outside north fire stair	
	BREACH(ES)	Failure to comply with: <ul style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer’s tested or approved system 	
	METHOD OF REPAIR	Install a fire collar (fixed to the underside of the slab) to this PVC pipe penetration.	

6.8.6.	DEFECT	STEEL PIPE INADEQUATELY INSULATED																
	DESCRIPTION	<p>A steel pipe (for the hydrant system) has not been adequately insulated in accordance with a tested system, where it passes through the wall of the south fire stair.</p> <p>Insulation wrap has been applied to the pipe on the carpark side of the wall, however no wrap has been installed on the fire stair side of the wall.</p> <p>To comply with C3.15 of the BCA, service penetrations through fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.</p> <p>To comply with the manufacturer's tested system that achieves a FRL of -/120/120, the insulation wrap (TBA Firefly Penowrap) must extend 300mm and be fixed using 3 stainless steel cable ties on both sides of the wall. Refer below extract from Warringtonfire report FAS190236 Rev RIR1.7 dated 01/09/21.</p> <table border="1" data-bbox="544 603 1541 1007"> <tr> <td data-bbox="544 603 750 1007"> V134 Steel Pipes 8 mm OD up to 55 mm OD with a min' wall thickness of 0.91 mm and 55 mm OD up to 114mm OD with a min' wall thickness of 1.22 mm. </td> <td data-bbox="750 603 1025 1007">  </td> <td data-bbox="1025 603 1272 1007"> Max' 120mm Core Hole. Run a 10 mm bead of TBA Firefly™ Intumescic around the perimeter of the pipe over the annular gap (Min' 2mm max 5 mm) Then wrap with TBA Firefly™ Penowrap® for a distance of 300 mm. Secured with 3 x 5/16" Steel Zip Ties. Wrap both sides of wall </td> <td data-bbox="1272 603 1422 802"> Min' 100 mm thick Masonry, Concrete block or Habel block wall. Capable of minimum FRL-/120/120 (Item 22) </td> <td data-bbox="1422 603 1541 802">-/120/120</td> </tr> <tr> <td colspan="3"></td> <td data-bbox="1272 802 1422 906">Capable of minimum FRL -/90/90 (Item 35)</td> <td data-bbox="1422 802 1541 906">-/90/90</td> </tr> <tr> <td colspan="3"></td> <td data-bbox="1272 906 1422 1007">Capable of minimum FRL -/60/60 (Item 36)</td> <td data-bbox="1422 906 1541 1007">-/60/60</td> </tr> </table>		V134 Steel Pipes 8 mm OD up to 55 mm OD with a min' wall thickness of 0.91 mm and 55 mm OD up to 114mm OD with a min' wall thickness of 1.22 mm.		Max' 120mm Core Hole. Run a 10 mm bead of TBA Firefly™ Intumescic around the perimeter of the pipe over the annular gap (Min' 2mm max 5 mm) Then wrap with TBA Firefly™ Penowrap® for a distance of 300 mm. Secured with 3 x 5/16" Steel Zip Ties. Wrap both sides of wall	Min' 100 mm thick Masonry, Concrete block or Habel block wall. Capable of minimum FRL-/120/120 (Item 22)	-/120/120				Capable of minimum FRL -/90/90 (Item 35)	-/90/90				Capable of minimum FRL -/60/60 (Item 36)	-/60/60
V134 Steel Pipes 8 mm OD up to 55 mm OD with a min' wall thickness of 0.91 mm and 55 mm OD up to 114mm OD with a min' wall thickness of 1.22 mm.		Max' 120mm Core Hole. Run a 10 mm bead of TBA Firefly™ Intumescic around the perimeter of the pipe over the annular gap (Min' 2mm max 5 mm) Then wrap with TBA Firefly™ Penowrap® for a distance of 300 mm. Secured with 3 x 5/16" Steel Zip Ties. Wrap both sides of wall		Min' 100 mm thick Masonry, Concrete block or Habel block wall. Capable of minimum FRL-/120/120 (Item 22)	-/120/120													
				Capable of minimum FRL -/90/90 (Item 35)	-/90/90													
				Capable of minimum FRL -/60/60 (Item 36)	-/60/60													
	LOCATION(S)	Level B2 south fire stair																
	BREACH(ES)	Failure to comply with: <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer's tested or approved system 																
	METHOD OF REPAIR	Install Penowrap for a distance of 300mm, fixed with no less than 3 x stainless steel cable ties to the steel pipe on the fire stair side of the wall.																

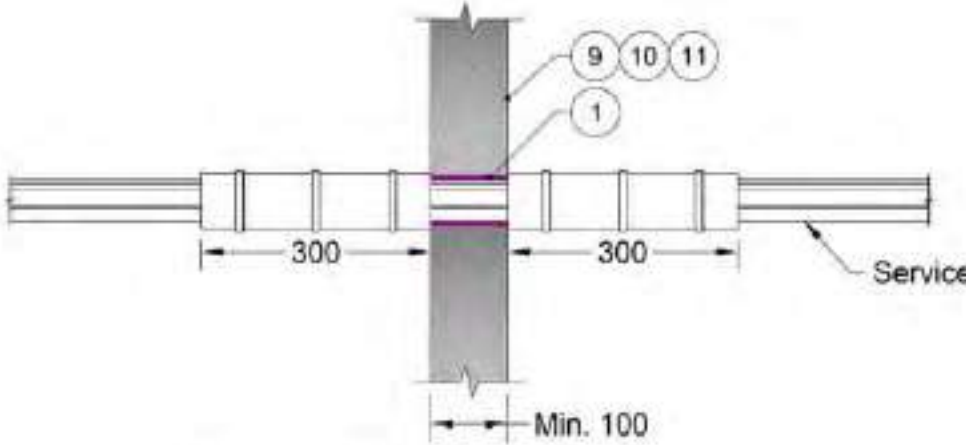
6.8.7.	DEFECT	NO FIRE COLLAR	
	DESCRIPTION	A PVC pipe penetration through the slab above carspace 10 does not have a fire collar installed. To comply with C3.15 of the BCA, service penetrations through fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.	
	LOCATION(S)	Level B1 above carspace 10	
	BREACH(ES)	Failure to comply with: <ul style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer’s tested or approved system 	
	METHOD OF REPAIR	Install a fire collar (fixed to the underside of the slab) to this PVC pipe penetration.	

6.8.8.	DEFECT	INADEQUATE SEPARATION BETWEEN PIPE PENETRATIONS	
	DESCRIPTION	<p>A steel and copper pipe penetrate the concrete slab in close proximity to one another near the south fire stair.</p> <p>The fire stopping manufacturer does not have a tested system for a steel and copper pipe to be considered as a single penetration.</p> <p>To comply with C3.15 of the BCA, service penetrations through fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.</p> <p>To comply with AS4072.1 – 2005, a minimum separation of 40mm is required between service penetrations unless otherwise tested in another configuration.</p>	
	LOCATION(S)	Level B1 outside south fire stair	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 AS4072.1 – 2005 4 Manufacturer’s tested or approved system 	
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1 Reconfigure pipework to ensure the pipes penetrate the slab with a minimum separation distance of 40mm. 2 Fire seal the repositioned pipe penetrations and patch the slab in accordance with a tested system. 	

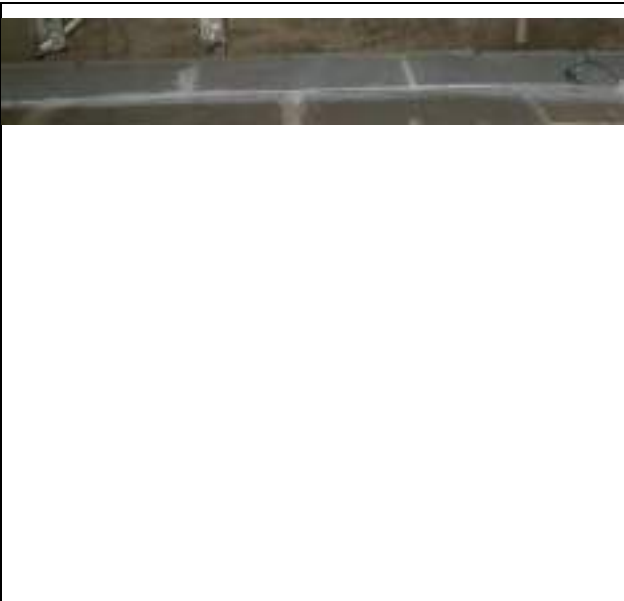

6.8.9.	DEFECT	POTENTIAL DAMAGE TO INSULATION WRAP	
	DESCRIPTION	<p>Two copper and steel pipe penetrations through the slab outside the south fire stair have water pooling around the penetration.</p> <p>It is not clear at this stage if the insulation wrap surrounding these pipes has deteriorated to a point where it is ineffective in providing the required insulation rating, however the integrity of the wrap should be inspected once the issue causing the water to pool in this area has been resolved.</p> <p>Manufacturer recommends that wrap is installed in dry locations and has advised that continual exposure to water may result in the foil delaminating from the core material of the wrap.</p> <p>Additionally there is an obvious potential for pipe corrosion in future.</p> <p>FURTHER INVESTIGATION OF THE WATER SOURCE AND RECTIFICATION IS REQUIRED</p>	
	LOCATION(S)	Level B1 outside south fire stair	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer’s recommendations 	
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1 Resolve the issue causing the water to pool in this area. 2 Inspect Penowrap insulation for deterioration. 3 Replace if deemed necessary. 	





6.8.10.	DEFECT	NO FIRE COLLARS
	DESCRIPTION	Four PVC pipe penetrations through the slab do not have any fire collars installed. To comply with C3.15 of the BCA, service penetrations through fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.
	LOCATION(S)	Level B1 south end of carpark
	BREACH(ES)	Failure to comply with: <ul style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer’s tested or approved system
	METHOD OF REPAIR	1 Install fire collars (fixed to the underside of the slab) to these PVC pipe penetrations.




6.8.11.	DEFECT	MAINS CABLE INADEQUATELY INSULATED
	DESCRIPTION	<p>A mains cable has not been adequately insulated in accordance with a tested system, where it passes through the wall of the main switch room.</p> <p>Insulation wrap has been applied to the cable on the carpark side of the wall, however no wrap has been installed on the main switch room side of the wall.</p> <p>To comply with C3.15 of the BCA, service penetrations through fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.</p> <p>To comply with the manufacturer's tested system that achieves a FRL of -/120/120, the insulation wrap (TBA Firefly Penowrap) must extend 300mm and be fixed using 3 stainless steel cable ties on both sides of the wall. Refer below extract from Warringtonfire report 23671 RIR11.0 dated 09/04/20.</p> 
	LOCATION(S)	Main switch room
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer's tested or approved system
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1 Remove existing cement patch, fire seal the annular gap between the cable and the wall. 2 Install Penowrap for a distance of 300mm, fixed with no less than 3 x stainless steel cable ties to the cable bundle on the main switch room side of the wall.



6.8.12.	DEFECT	CONSTRUCTION JOINT NOT SEALED	
	DESCRIPTION	A section of the construction joint between the wall and the underside of the slab has not been sealed on the wall between the main switch room and the carpark. To comply with C3.16 of the BCA, construction joints, spaces and the like in and between building elements required to be fire resisting with respect to integrity and insulation must be protected in a manner identical to a tested prototype tested in accordance with AS1530.4.	
	LOCATION(S)	Main switch room	
	BREACH(ES)	Failure to comply with: 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C2.13 – Electricity supply system	
	METHOD OF REPAIR	1 Seal the construction joint between the wall and the underside of the slab using a fire rated mastic for the entire length of the wall.	
6.8.13.	DEFECT	INCORRECTLY INSTALLED FIRE COLLAR	
	DESCRIPTION	A surface mounted fire collar has been installed around a “Y” fitting that is partially located within the wall on a large PVC pipe near the carwash bay. This type of fire collar has not been tested to protect this type of pipe fitting in this manner. To comply with C3.15 of the BCA, service penetrations through fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.	
	LOCATION(S)	Level B1 carwash bay	
	BREACH(ES)	Failure to comply with: 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer’s tested or approved system	
	METHOD OF REPAIR	1 Construct a fire rated bulkhead around the pipe penetration 2 Install fire collars where the pipes penetrate the fire rated bulkhead	

6.8.14.	DEFECT	COPPER PIPE NOT INSULATED														
	DESCRIPTION	<p>A copper pipe has not been insulated in accordance with a tested system, where it passes through the wall between the carwash bay and the bin room.</p> <p>To comply with C3.15 of the BCA, service penetrations through fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.</p> <p>To comply with the manufacturer's tested system that achieves a FRL of -/90/90, insulation wrap (TBA Firefly Penowrap) must be installed to a length of 300mm and be fixed using 3 stainless steel cable ties on both sides of the wall. Refer below extract from Warringtonfire report FAS190236 Revision: RIR1.7.</p> <table border="1" data-bbox="544 504 1538 916"> <tr> <td data-bbox="544 504 752 916">  <p>Copper Pipe 8 mm up to 51mm OD with a min' wall thickness of 0.91 mm</p> </td> <td data-bbox="1025 504 1263 916"> <p>Max' 52mm Core Hole. Run a 10 mm bead of TBA Firefly™ Intumescence around the base of the pipe over the annular gap (Min' 0mm max 5 mm) then wrap with TBA Firefly™ Penowrap® for a distance of 300 mm. Secured with 3 x 3/16" Steel Zip Ties. Wrap both sides of wall</p> </td> <td data-bbox="1263 504 1420 708"> <p>Min' 100 mm thick Masonry, Concrete block or Hebel block wall. Capable of minimum FRL -/120/120 (Item 22)</p> </td> <td data-bbox="1420 504 1538 708">-/120/120</td> </tr> <tr> <td data-bbox="544 708 752 807"></td> <td data-bbox="1025 708 1263 807"></td> <td data-bbox="1263 708 1420 807"> <p>Capable of minimum FRL -/90/90 (Item 35)</p> </td> <td data-bbox="1420 708 1538 807">-/90/90</td> </tr> <tr> <td data-bbox="544 807 752 916"></td> <td data-bbox="1025 807 1263 916"></td> <td data-bbox="1263 807 1420 916"> <p>Capable of minimum FRL -/60/60 (Item 36)</p> </td> <td data-bbox="1420 807 1538 916">-/60/60</td> </tr> </table>			 <p>Copper Pipe 8 mm up to 51mm OD with a min' wall thickness of 0.91 mm</p>	<p>Max' 52mm Core Hole. Run a 10 mm bead of TBA Firefly™ Intumescence around the base of the pipe over the annular gap (Min' 0mm max 5 mm) then wrap with TBA Firefly™ Penowrap® for a distance of 300 mm. Secured with 3 x 3/16" Steel Zip Ties. Wrap both sides of wall</p>	<p>Min' 100 mm thick Masonry, Concrete block or Hebel block wall. Capable of minimum FRL -/120/120 (Item 22)</p>	-/120/120			<p>Capable of minimum FRL -/90/90 (Item 35)</p>	-/90/90			<p>Capable of minimum FRL -/60/60 (Item 36)</p>	-/60/60
 <p>Copper Pipe 8 mm up to 51mm OD with a min' wall thickness of 0.91 mm</p>	<p>Max' 52mm Core Hole. Run a 10 mm bead of TBA Firefly™ Intumescence around the base of the pipe over the annular gap (Min' 0mm max 5 mm) then wrap with TBA Firefly™ Penowrap® for a distance of 300 mm. Secured with 3 x 3/16" Steel Zip Ties. Wrap both sides of wall</p>	<p>Min' 100 mm thick Masonry, Concrete block or Hebel block wall. Capable of minimum FRL -/120/120 (Item 22)</p>	-/120/120													
		<p>Capable of minimum FRL -/90/90 (Item 35)</p>	-/90/90													
		<p>Capable of minimum FRL -/60/60 (Item 36)</p>	-/60/60													
	LOCATION(S)	B1 level wall between carwash bay and bin room														
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer's tested or approved system 														
	METHOD OF REPAIR	Install Penowrap for a distance of 300 mm, fixed with 3 x stainless steel cable ties to the copper pipe on both sides of the wall.														



6.8.15.	DEFECT	PVC CONDUIT NOT FIRE STOPPED	
	DESCRIPTION	<p>A conduit for the fire detection system has not been adequately fire stopped where it passes through the wall between a void area on the B1 side of the fire shutter and the B@ side of the fire shutter .</p> <p>To comply with C3.15 of the BCA, service penetrations through fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.</p> <p>An acrylic mastic has been used to partially seal this conduit, however there is no tested system that achieves the required FRL using acrylic mastic to seal electrical conduits.</p>	
	LOCATION(S)	B1 level void area near fire shutter	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer’s tested or approved system 	
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1 Either: <ol style="list-style-type: none"> a. Install suitable fire collars to PVC conduit on both sides of the wall. <p>OR</p> <ol style="list-style-type: none"> b. Cut back conduit and remove section of conduit where it passes through the wall. Then reseal the cable using and acrylic fire rated mastic where it passes through the wall 	


6.8.16.	DEFECT	NO FIRE COLLARS
	DESCRIPTION	Two PVC pipe penetrations through the wall to the shaft containing the pump room supply air duct do not have any fire collars installed. To comply with C3.15 of the BCA, service penetrations through fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.
	LOCATION(S)	Level B1 near fire rated shutter
	BREACH(ES)	Failure to comply with: <ul style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer’s tested or approved system
	METHOD OF REPAIR	<ul style="list-style-type: none"> 1 Enlarge the opening around each PVC pipe and install wall collars or intumescent pipe wraps between the wall and each pipe. OR <ul style="list-style-type: none"> 2 Construct fire rated bulkheads (or similar) around each pipe penetration and seal each pipe where it penetrates the fire rated bulkheads.






6.8.17.	DEFECT	NO FIRE COLLAR
	DESCRIPTION	<p>Two PVC pipe penetrations through a plasterboard bulkhead outside the Bin room do not have any fire collars installed.</p> <p>It would appear that this bulkhead has been constructed to address some service penetrations that were unable to be fire stopped where they pass through the wall of the bin room.</p> <p>To ensure the bulkhead provides effective fire separation between the carpark and the bin room and to comply with C3.15 of the BCA, the service penetrations through the fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.</p> <p>Additionally, the bulkhead must be re-constructed to provide a two-way FRL if it is to be considered to be the fire rated element separating the Bin room from the carpark. Reason: a single sided plasterboard bulkhead will only provide a one-way FRL.</p>
	LOCATION(S)	Level B1 outside Bin room
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer’s tested or approved system
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1 Reconstruct the bulkhead using a fire rated board system to provide two-way fire separation, and 2 Install wall collars or intumescent pipe wraps between the fire rated board and each pipe.








6.8.18.	DEFECT	NO FIRE COLLAR	
	DESCRIPTION	A PVC pipe penetration through the western wall of the Bin room does not have any fire collar installed. To comply with C3.15 of the BCA, service penetrations through the fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.	
	LOCATION(S)	Level B1 Bin room	
	BREACH(ES)	Failure to comply with: <ul style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer’s tested or approved system 	
	METHOD OF REPAIR	1 Install fire collars to this PVC pipe penetration on both sides of the wall.	
6.8.19.	DEFECT	PVC CONDUITS NOT FIRE STOPPED	
	DESCRIPTION	Two conduit penetrations through the eastern wall of the Bin room do not have any fire collars installed. To comply with C3.15 of the BCA, service penetrations through the fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.	
	LOCATION(S)	Level B1 Bin room	
	BREACH(ES)	Failure to comply with: <ul style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer’s tested or approved system 	
	METHOD OF REPAIR	1 Either: <ul style="list-style-type: none"> a. Install suitable fire collars to PVC conduits on both sides of the wall. OR <ul style="list-style-type: none"> b. Cut back conduits and remove section of conduits where they pass through the wall. Then reseal the cables using and acrylic fire rated mastic where they pass through the wall 	

6.8.20.	DEFECT	INCORRECTLY FIRE STOPPED CABLE PENETRATION	
	DESCRIPTION	<p>A cable penetration through the slab in the communications cupboard has conduits passing through the slab.</p> <p>To comply with C3.15 of the BCA, service penetrations through the fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.</p> <p>To comply with the manufacturer's tested system which has been backfilled with concrete, cables must not be installed in conduits.</p>	
	LOCATION(S)	Level LG communications cupboard	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer's tested or approved system 	
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1 Cut back acoustic conduits flush with concrete 2 Install 60mm Maxilite fire rated board to the topside of the slab 3 Sela cable penetrations using Trafalgar acrylic mastic 4 Reinstall Twrap to a length of 300mm above the Maxilite board. 	


6.8.21.	DEFECT	CABLE NOT FIRE STOPPED	
	DESCRIPTION	A red cable through the slab to Level L1 has not been fire stopped. To comply with C3.15 of the BCA, service penetrations through the fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.	
	LOCATION(S)	Level LG communications cupboard	
	BREACH(ES)	Failure to comply with: <ul style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer’s tested or approved system 	
	METHOD OF REPAIR	1 Apply a bead of acrylic mastic to the annular gap between the cable and the slab	
6.8.22.	DEFECT	PARTIAL CORE HOLE THROUGH SLAB	
	DESCRIPTION	A partial core hole through the slab to Level L1 has not been backfilled to the full depth of the slab. To comply with Specification C1.1, floor slabs are required to maintain a required minimum thickness to ensure the slab achieves a FRL of 90/90/90.	
	LOCATION(S)	Level LG communications cupboard	
	BREACH(ES)	Failure to comply with: <ul style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Specification C1.1 	
	METHOD OF REPAIR	1 Backfill the partial core hole to the full depth of the slab.	

6.8.23.	DEFECT	CABLES NOT SMOKE SEALED	
	DESCRIPTION	<p>Cable between the electrical cupboard and the corridor (above false ceiling) have not been smoke sealed.</p> <p>This electrical cupboard contains electricity meters.</p> <p>To comply with Clause D2.7 of the BCA, electricity meters may be located in a corridor, hallway or the like leading to a fire isolated exit if the services are enclosed by non-combustible construction or a fire protective covering with doorways and openings suitably sealed against smoke spreading from the enclosure.</p>	
	LOCATION(S)	Level L1 electrical cupboard	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause D2.7 – Installations in exits and paths of travel 	
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1 Smoke seal the annular gap between all cables and the wall using an acrylic mastic 	

6.8.24.	DEFECT	PVC CONDUITS NOT FIRE STOPPED	 
	DESCRIPTION	<p>Conduit penetrations through the walls of the fire stair do not have any fire collars installed.</p> <p>To comply with C3.15 of the BCA, service penetrations through the fire rated construction must be identical to a tested prototype that have been tested in accordance with AS4072.1 & AS1530.4.</p>	
	LOCATION(S)	Fire stair all levels	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer’s tested or approved system 	
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1 Either: <ol style="list-style-type: none"> a. Install suitable fire collars to PVC conduits on both sides of the wall. OR b. Cut back conduits and remove section of conduits where they pass through the wall. Then reseal the cables using and acrylic fire rated mastic where they pass through the wall 	


6.8.25.	DEFECT	COPPER PIPE PENETRATIONS NOT IN ACCORDANCE WITH TESTED SYSTEM					
	DESCRIPTION	<p>Copper pipe penetrations within the hydraulic risers throughout the building have PVC inserts within the slab. Additionally some penetrations have been partially back-filled with mastic.</p> <p>To comply with C3.15 of the BCA, service penetrations through the fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.</p> <p>To comply with the Manufacturer's tested system, the copper pipes pass through the slab and no PVC or mastic is contained within the slab. Refer below extract from Warringtonfire report FAS190236 Rev RIR1.7 dated 01/09/21.</p> <table border="1" data-bbox="546 507 1541 975"> <tr> <td data-bbox="546 507 741 975"> <p>Copper Pipe 8 mm up to 50.8 mm OD. With a min' wall thickness of 0.91 mm</p> <p>H55</p> </td> <td data-bbox="741 507 972 975">  </td> <td data-bbox="972 507 1182 975"> <p>Run a 10 mm bead of TBA Firefly™ Intumastic around the perimeter of the pipe over the annular gap (Min 0mm max 5 mm). Then wrap 300 mm to the top side only using TBA Firefly™ Penowrap® secured with 3 x 316stl Cable ties</p> </td> <td data-bbox="1182 507 1424 975"> <p>Min' 120mm thick Concrete, Masonry or Hebel Floor. Capable of minimum FRL 90/90/90 (Item 34)</p> </td> <td data-bbox="1424 507 1541 975"> <p>-/90/90</p> </td> </tr> </table>	<p>Copper Pipe 8 mm up to 50.8 mm OD. With a min' wall thickness of 0.91 mm</p> <p>H55</p>		<p>Run a 10 mm bead of TBA Firefly™ Intumastic around the perimeter of the pipe over the annular gap (Min 0mm max 5 mm). Then wrap 300 mm to the top side only using TBA Firefly™ Penowrap® secured with 3 x 316stl Cable ties</p>	<p>Min' 120mm thick Concrete, Masonry or Hebel Floor. Capable of minimum FRL 90/90/90 (Item 34)</p>	<p>-/90/90</p>
<p>Copper Pipe 8 mm up to 50.8 mm OD. With a min' wall thickness of 0.91 mm</p> <p>H55</p>		<p>Run a 10 mm bead of TBA Firefly™ Intumastic around the perimeter of the pipe over the annular gap (Min 0mm max 5 mm). Then wrap 300 mm to the top side only using TBA Firefly™ Penowrap® secured with 3 x 316stl Cable ties</p>	<p>Min' 120mm thick Concrete, Masonry or Hebel Floor. Capable of minimum FRL 90/90/90 (Item 34)</p>	<p>-/90/90</p>			
	LOCATION(S)	Hydraulic risers throughout building					
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer's tested or approved system 					
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1 Install two layers of Intubatt to topside of slab, ensuring an annular gap between the pipe and Intubatt of no greater than 5mm. 2 Seal annular gap between the pipes and Intubatt with acrylic sealant 3 Wrap pipe with Penowrap to a distance of 300mm above Intubatt and secure with 3 stainless steel cable ties. 					




6.8.26.	DEFECT	COPPER PIPE PENETRATIONS NOT IN ACCORDANCE WITH TESTED SYSTEM	
	DESCRIPTION	Two copper pipes penetrate the concrete slab in close proximity to one another. To comply with C3.15 of the BCA, service penetrations through the fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4. To comply with AS4072.1 – 2005, a minimum separation of 40mm is required between service penetrations unless otherwise tested in another configuration.	
	LOCATION(S)	Hydraulic risers on Levels 3 & 4	
	BREACH(ES)	Failure to comply with: <ul style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 AS4072.1 – 2005 4 Manufacturer’s tested or approved system 	
	METHOD OF REPAIR	<ul style="list-style-type: none"> 1 Reconfigure pipework to ensure the pipes penetrate the slab with a minimum separation distance of 40mm. 2 Fire seal the repositioned pipe penetrations and patch the floor in accordance with a tested system. 	

6.8.27.	DEFECT	COMMUNICATIONS CUPBOARDS NOT SMOKE SEALED	
	DESCRIPTION	<p>Communications cupboards containing central communications equipment have not been smoke sealed.</p> <p>To comply with Clause D2.7 of the BCA, central communications equipment may be located in a corridor, hallway or the like leading to a fire isolated exit if the services are enclosed by non-combustible construction or a fire protective covering with doorways and openings suitably sealed against smoke spreading from the enclosure.</p>	
	LOCATION(S)	Communications cupboards on Levels LG, L2 & L3	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause D2.7 – Installations in exits and paths of travel 3 Manufacturer’s tested or approved system 	
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1 Install smoke seals to doors 2 Install non-combustible lining to door 3 Seal all cable penetrations with acrylic mastic 	

6.8.28.	DEFECT	ELECTRICAL CUPBOARDS NOT SMOKE SEALED	
	DESCRIPTION	<p>Electrical cupboards containing central communications equipment and/or distribution boards have not been smoke sealed.</p> <p>To comply with Clause D2.7 of the BCA, central communications equipment and distribution boards may be located in a corridor, hallway or the like leading to a fire isolated exit if the services are enclosed by non-combustible construction or a fire protective covering with doorways and openings suitably sealed against smoke spreading from the enclosure.</p>	
	LOCATION(S)	Electrical cupboards on Levels G, 1, 2	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause D2.7 – Installations in exits and paths of travel 3 Manufacturer’s tested or approved system 	
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1 Install smoke seals to doors (where not already installed) 2 Install non-combustible lining to door (where not already installed) 3 Seal all cable penetrations with acrylic mastic 	


6.8.29.	DEFECT	PVC CONDUITS NOT FIRE STOPPED	
	DESCRIPTION	<p>A conduit penetration through the rear wall of the rear wall of the garbage shaft does not have any fire collars installed.</p> <p>To comply with C3.15 of the BCA, service penetrations through the fire rated construction must be identical to a tested prototype that have been tested in accordance with AS4072.1 & AS1530.4.</p>	
	LOCATION(S)	Garbage shaft Level 4	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer’s tested or approved system 	
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1 Either: <ol style="list-style-type: none"> a. Install suitable fire collars to PVC conduit on both sides of the wall. OR b. Cut back conduit and remove section of conduit where it passes through the wall. Then reseal the cables using and acrylic fire rated mastic where it passes through the wall 	



6.8.30.	DEFECT	NO FIRE COLLAR	
	DESCRIPTION	<p>A PEX pipe penetration through the rear wall of the rear wall of the garbage shaft does not have any fire collars installed.</p> <p>To comply with C3.15 of the BCA, service penetrations through the fire rated construction must be identical to a tested prototype that has been tested in accordance with AS4072.1 & AS1530.4.</p>	
	LOCATION(S)	Garbage shaft Level 4	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Clause C3.15 – Openings for service installations 3 Manufacturer’s tested or approved system 	
	METHOD OF REPAIR	<ol style="list-style-type: none"> 1 Install fire collars to this PEX pipe penetration on both sides of the wall. 	


6.9. MECHANICAL VENTILATION SYSTEM

6.9.1.	DEFECT	CARPARK SUPPLY AIR FAN OPERATING INCORRECTLY IN FIRE MODE	
	DESCRIPTION	<p>The carpark supply fan, when tested for fire mode operation was found to shutdown on a general fire trip.</p> <p>To comply with Table E2.2a of the BCA a basement carpark, provided with a mechanical ventilation system must comply with Clause 5.5 of AS1668.1.</p> <p>To comply with Clause 5.5.5 of AS1668.1 – 2015 activation of a general fire trip shall cause the ventilation systems to operate at full ventilation rate.</p>	
	LOCATION(S)	Basement carpark	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 2 BCA – Table E2.2a – general provisions 3 Clause 5.5.5 of AS1668.1 – 2015 	
	METHOD OF REPAIR	<p>Reconfigure control wiring to ensure carpark supply fan operates at full ventilation mode upon activation of a general fire trip.</p> <p>NOTE: Supply fan should shutdown when the in-duct supply air detector activates. It is understood that this control is functioning as required.</p>	

6.10. OTHER MATTERS

6.10.1.	DEFECT	COLD WATER PUMP NOT BOLTED TO PUMP PLINTH	
	DESCRIPTION	<p>The domestic cold water pump is not bolted to the pump plinth.</p> <p>To reduce the risk of damage to the pipework, the pump should be secured to the pump plinth via the vibration isolators attached to the pump base.</p>	
	LOCATION(S)	Hydrant pump room	
	BREACH(ES)	<p>Failure to comply with:</p> <ol style="list-style-type: none"> 1 Home Building Act 1989 NSW under Section 18B Clauses (a) & (c) 	
	METHOD OF REPAIR	Bolt the pump base to the pump plinth via the vibration isolators attached to the pump base.	

6.10.2.	DEFECT	WATER INGRESS TO MAIN SWITCH ROOM	
	DESCRIPTION	There is evidence of water ingress into the main switch room on B1 Level. The walls appear to have been treated with some form of paint to the walls bounding the carpark perimeter drain. FURTHER INVESTIGATION REQUIRED BY WATER PROOFING SPECIALIST	
	LOCATION(S)	Main switch room	
	BREACH(ES)	To be determined by water proofing specialist	
	METHOD OF REPAIR	To be determined by water proofing specialist	
6.10.3.	DEFECT	LIGHT SWITCH COVER PLATE INCOMPATIBLE WITH MOUNTING BLOCK	
	DESCRIPTION	The cover plate on the light switch in the main switch room is incompatible with the mounting block which may present an electrical hazard. FURTHER INVESTIGATION REQUIRED BY ELECTRICAL SPECIALIST	
	LOCATION(S)	Main switch room	
	BREACH(ES)	To be determined by electrical specialist	
	METHOD OF REPAIR	To be determined by electrical specialist	

6.10.4.	DEFECT	NO ELECTRICAL SCHEDULE PROVIDED AT DISTRIBUTION BOARD	
	DESCRIPTION	There is no electrical schedule provided at House Services Board 2 FURTHER INVESTIGATION REQUIRED BY ELECTRICAL SPECIALIST	
	LOCATION(S)	Electrical cupboard on Level G	
	BREACH(ES)	To be determined by electrical specialist	
	METHOD OF REPAIR	To be determined by electrical specialist	

Report prepared by:



Sue Scott MFireSafeEng, DipFireTech
Fire Safety Engineer Eagle Fire + Safety

ANNEXURE A. LETTER OF INSTRUCTION



26 October 2022

Our ref: DB/KK/PD:SP102187:16492

Bruce Davis
Eagle Fire + Safety
bruced@eaglefireandsafety.com.au
BY EMAIL

Principal: David Bannerman
dbannerman@bannermans.com.au

Contact: Kayla Khamis
kkhamis@bannermans.com.au

Dear Bruce

CLIENT: THE OWNERS – STRATA PLAN NO. 102187
PROPERTY ADDRESS: 11 MITCHELL AVENUE, JANNALI NSW 2226
BUILDER: TRULAND DEVELOPMENT, FORTE SYDNEY FUND MANAGEMENT, FORTE SYDNEY
CONSTRUCTION, FORTE SYDNEY NSW CONSTRUCTION, XIAOLU LI
DEVELOPER: MITCHELL AVENUE DEVELOPMENT PTY LTD

I act on behalf of The Owners - Strata Plan No. 102187 (the Client).

Important note before completing any work requested for a report:

- You must review all documents and inspect all parts of the building(s) including concealed parts to which there is access.
- You must also provide your opinion whether the builder has used the correct materials.
- Generally speaking, the Client has two years only from the date of completion of residential building works to claim against the developer, the builder, its subcontractors and the home owners warranty insurer. If the Client has not claimed a defect within that two year period, then it cannot make the claim against those entities. Therefore, it is important that your report identifies all defects so that the Client can claim all defects within that two year period. If your report does not do so, or is not provided in a timely manner to permit the Client to claim within that two year period, then its rights may be prejudiced.
- If you consider that you cannot provide an opinion because further investigations are required, then you must inform me and the Client immediately and advise us what the further investigations are. These may include water testing, destructive investigations or engaging another expert. These investigations must be completed to ensure any defects revealed by them are claimed within the two year period.
- Similarly, if you require further information or documents to complete your report, you must advise me and the Client immediately, so that the Client has your report and can claim within the two year period.

I confirm your firm has been engaged to provide a report to the Client concerning building defects in its scheme. The client has approved your fee proposal dated 30 September 2022 to inspect 100% of the lots and common areas. The Client has asked me to provide you with the documents necessary to complete the report and to brief as to how the report should be presented.

Given that the Client may be relying on numerous reports and that your report may be used in formal proceedings, please prepare the report in the manner described below.



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NORTH SYDNEY NSW 2060

PO Box 514
NORTH SYDNEY NSW 2059
www.bannermans.com.au

T: (02) 9929 0226
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ABN 61 649 876 437



Liability limited by a scheme approved under professional standards legislation

Report requirements

Reasoning

Your report needs to be prepared in accordance with the expert evidence requirements set out in *Makita (Australia) Pty Ltd v Sprowles [2001] NSWCA 305* which is a leading authority on expert reports and states at paragraph 85 (formatting changed by me):

"In short, if evidence tendered as expert opinion evidence is to be admissible,

- it must be agreed or demonstrated that there is a field of "specialised knowledge";*
- there must be an identified aspect of that field in which the witness demonstrates that by reason of specified training, study or experience, the witness has become an expert; the opinion proffered must be "wholly or substantially based on the witness's expert knowledge";*
- so far as the opinion is based on facts "observed" by the expert, they must be identified and admissibly proved by the expert, and so far as the opinion is based on "assumed" or "accepted" facts, they must be identified and proved in some other way;*
- it must be established that the facts on which the opinion is based form a proper foundation for it;*
- and the opinion of an expert requires demonstration or examination of the scientific or other intellectual basis of the conclusions reached: that is, the expert's evidence must explain how the field of "specialised knowledge" in which the witness is expert by reason of "training, study or experience", and on which the opinion is "wholly or substantially based", applies to the facts assumed or observed so as to produce the opinion propounded.*

If all these matters are not made explicit, it is not possible to be sure whether the opinion is based wholly or substantially on the expert's specialised knowledge.

If the court cannot be sure of that, the evidence is strictly speaking not admissible, and, so far as it is admissible, of diminished weight.

*And an attempt to make the basis of the opinion explicit may reveal that it is not based on specialised expert knowledge, but, to use Gleeson CJ's characterisation of the evidence in *HG v R (1999) 197 CLR 414*, on "a combination of speculation, inference, personal and second-hand views as to the credibility*

of the complainant, and a process of reasoning which went well beyond the field of expertise" (at [41])."

Reasoning is a critical element for your report and if practical please raise all relevant reasons because if one of your reasons is not accepted, then you can seek to rely on the other reasons.

Any references to Australian standards, building codes, manufacturer's recommendations, etc must be attached or copied into your report.

If you are going to be referring to the Office of Fair Trading's Guidelines to Standards and Tolerances please refer to the guidelines applicable to these works.

As the works only needed to comply with the development consent conditions and legal requirements as at the date of the construction certificate application (not current standards if they have changed), please ensure that your report only makes reference to those standards. If you find it necessary to provide information about current standards to the scheme, please provide this in a separate document that does not cross-reference the primary report.

If defects require further investigation, please provide a moderately detailed scope of that further investigation, together with a referral to an appropriate consultant or engineer and if practical with a fee estimate of that further investigation.

If testing equipment is used an explanation of the equipment, its measuring capabilities and reference to relevant standards, testing requirements/procedure e.g. recalibration etc and why that testing equipment or methodology is relevant.

Author

The report needs to be from a sole author, being the person with the most experience suitable for thorough cross examination. Please bear in mind that I anticipate that this report and evidence will be up against a highly experienced and highly qualified expert experienced in cross-examination and report writing and the author should be equally experienced.

A detailed and extensive curriculum vitae of the author of the report must be attached to the report. For certainty, this is a personal curriculum vitae and not a record of the firm's qualifications and/or experience.

Please note that the author of the report will be required to have inspected all of the defects the subject of the report.

Expert witness code of conduct

The report needs to acknowledge that you have been supplied with, read, and agree to be bound by the attached NCAT Procedural Direction 3 – Expert Witnesses and the *Uniform Civil Procedure Rules (2005) Schedule 7 Expert Witness Code of Conduct* and both codes need to be attached to the report.

Lot and common property

Please indicate whether each item reported on is lot or common property, as set out in the table below. For your assistance in identifying which items are

lot or common property I have attached the relevant strata plan and a document titled "Identifying Lot and Common Property".

Aluminium panel

Please see our attached article titled 'Aluminum Cladding – Dealing with NSW Fair Trading's Proposed Legal Reform'. Please advise if there are any such panels in this building.

If there is any such panels, please advise of any additional fees to:

- o investigate and determine the type of cladding used;
 - o if recommended, test the material used; and
 - o if recommended, provide a scope of works to resolve issues.
-

Systemic and recurring defects

Systemic defect: This would be identified multiple times throughout the building which repeats itself in all applicable locations and there has not been any instance of the work having been done correctly.

Recurring defect: This would be identified multiple times throughout the building, however, although it is defective, it appears that the work has been done correctly or adequately in some, but not in all applicable locations.

Please indicate whether any of the reported defects are systemic or recurring and to what extent they are. You will need to indicate if any further inspections or investigations are required to fully form your view and include your reasoning as to why you have formed your view.

Method of repair

The report needs to set out a moderately detailed method of repair.

For any item where it would be prudent to carry out any critical stage inspections during the rectification process, please specifically detail the stages in your scope of works, the times at which any such critical stage inspections should take place and what would be involved for each such inspection.

For any item where you are of the view that protection or storage of goods should occur during the rectification work, please detail what is required within your scope of works and provide an estimate of the reasonable time which such storage or protection will be required.

Please identify any mould issues that you observe and please also deal with them to the extent that you can in your scope of works for the relevant items.

Please include comment in your report on any council approval, compliance or certification that will be necessary with an explanation why it is necessary and the options available in the circumstances.

Photographs and layout

The items need to be numbered, preferably sequentially and if practical a photograph of each item needs to be taken. Further, the report should state the type of camera used.

If you are reporting on cracking please include the measuring device in the photograph so that it is plain to see that the crack meets the relevant measurement.

Ideally, the photograph of the item would appear in the table of your report to make it easier to cross reference and the report should be formatted in landscape as follows:

Item No.	Brief description of the defect	Reasoning why it is a defect	Method of repair	Photograph of defect
1	//insert description and location of defect// //insert whether item is lot or common property //	//insert reasoning comprising: Observation: of expert witness including what you saw, felt, heard or tested, any assumptions relied upon Each breach of statutory warranty (eg. contract specs, DA conditions & BCA, workmanship, materials not fit for purpose etc.) Loss: (see comments below) identify any specific losses above and beyond the cost to repair (eg. injury or risk of injury, dwelling uninhabitable) or factors that influence whether the repair works are a reasonable course to adopt Conclusion: Contractor liable due to...//	//insert method of repair//	//insert photograph//
2				
3				

Loss

The loss will ordinarily be the cost of the remedial works that are necessary to put the building into compliance with the statutory warranties, provided that those works are a "reasonable course to adopt".

The High Court has confirmed in *Tabcorp Holdings Ltd v Bowen Investments Pty Ltd* [2009] HCA 8 that the test of "unreasonableness" is only to be satisfied by fairly exceptional circumstances (such as where the innocent party is "merely using a technical breach to secure an uncovenanted profit") and is not a "loose principle of 'reasonableness'".

If you are concerned that the remedial works may not be a reasonable course to adopt (for example, where the cost of repair is substantial and the breach is technical only) please identify factors which in your view make undertaking those works a reasonable course to adopt (for example, risk of injury, risk of further damage occurring, inability to comply with legal obligations such as to provide an Annual Fire Safety Statement, risk of orders from Council to undertake works etc.)

The loss also includes consequential losses that are due to the breach, such as the risks immediately above (as well as actual losses due to such a risk eventuating, such as actual injury). If you are aware of any consequential losses flowing from a breach please specify what those losses are and how you are aware. If the loss is a risk only, please set out in as much detail as possible an estimate of the risk (in percentage terms) and your reasoning in coming to that number.

Further Investigation and Testing including Destructive Testing

If defects require further investigation and testing, such as the use of a cavity inspection camera to ascertain:

- (a) the precise cause of the defect;
- (b) whether it is a systemic defect;
- (c) the precise method of repair, and/or
- (d) liability for the defects.

please provide a moderately detailed scope of the further investigation and testing you consider necessary including:

- (a) what investigation or destructive testing should be undertaken;
- (b) which units or areas you consider most appropriate to undertake the proposed testing;
- (c) the anticipated impact on the lot owner or common property and any temporary protection work that you consider necessary;
- (d) whether you can undertake the investigation or destructive testing or if not what trades or parties should be retained to undertake the work; and
- (e) an estimate of the costs to undertake the investigation or destructive testing, assuming that you will be arranging the appropriate contractors.

Contract administration

Once you have formed a view on the required scope of works, please consider and report upon (with detailed reasons):

	<ol style="list-style-type: none">1. Whether it is reasonably necessary for the Client to retain a contract administrator in respect of the contract under which the required rectification works will be carried out.2. If yes to 1 above, the tasks that such a contract administrator should carry out.
Alternative accommodation (if required)	<p>Please include a section identifying any items of work during which it will be necessary for any occupants to live elsewhere.</p> <p>For each such item, please include comment on why alternative accommodation will be necessary and the reasonable length of time for which alternative accommodation will probably be necessary.</p>
Remove advice	Please remove any references about the time to lodge a claim or liaising with the builder from your standard template.
Balcony balustrades and handrails	Please ensure that the height of all balcony balustrades and handrails are measured and any non-compliant handrails or balustrades are included in the report.
Further reporting if needed	You must indicate what further reports you would recommend e.g. general building defects, hydraulic reports etc.
Identify urgent rectification works required	You must identify and list in your report any urgent rectification works required to prevent any further loss and damage.
Access contact	<p>To arrange access to lot and common property please contact the Client's strata managing agent:</p> <p>Name: Arabella Zhang Company: Net Strata Address: 298 Railway Parade, Carlton NSW 2218 Email: arabella.zhang@netstrata.com.au Telephone: D: 02 8567 6415 T : 02 8567 6400</p>
Access to all lots	<p>Arranged for you</p> <ul style="list-style-type: none">o The author will be required to inspect all of the lots in the Client's scheme. In strata schemes the consent from the occupier is required to access the lot.

- o Measures have been recommended to the Client to enable access to all lots, however, often there are difficulties and more than one attempt to inspect a lot may be required.

Arranged by you

- o If you propose to arrange access with the occupiers of the scheme, please seek the strata roll or the completed roll with the occupier's details.
- o Please note that you are required to gain access to any roof voids, through access panels and I suggest that you take a torch and a ladder on the day of the inspection.
- o The case of *Palmer v Akido Constructions Pty Ltd & Vero Insurance Ltd (Home Building)* [2010] NSWCTTT 400 considered the operation of section 18(E) of the *Home Building Act 1989* and prevented further claims for defects which the owner and its consultant could reasonably have been expected to be aware of or apparent on any reasonable inspection by them at the time of the initial claim.

Development documents

I have requested the relevant development documents, such as, the building contract, certifications, plans and specifications, manufactures warranties etc., and anticipate being able to provide you with them.

Draft report to be provided

To ensure compliance with the requirements of the report as referred to in this letter, you must submit an electronic version (or in an appropriate format) of the report for review prior to the report being finalised.

Copy of brief to be attached

A copy of this brief should be attached to your report.

If you have any queries please contact me.

Yours faithfully
BANNERMANS



David Bannerman
dbannerman@bannermans.com.au
Acc. Sec. (Prob.)
Principal

Contact
Kayla Khamis
kkhamis@bannermans.com.au
Associate



CURRICULUM VITAE SUE SCOTT

Date of Birth: 25 February 1970

Work Address: Level3, 52-56 Chandos Street, St Leonards NSW 2065

Phone: (02) 94606366

Mobile: 0400 105 737

Email: sues@eaglefireandsafety.com.au

Position: Fire Safety Engineer & Fire Services Consultant

Qualifications: Accredited Practitioner (Fire Safety) – FPAA No F014748A – 2020
Masters of Fire Safety Engineering (with Distinction); UWS – 2010
Diploma of Fire Technology (with Distinction); Petersham TAFE – 2001
Certificate IV in Fire Technology (with Distinction); Petersham TAFE – 1999
Electrical Trade Certificate; Granville TAFE – 1988

Affiliations: Member of Engineers Australia (IEAust) - Society of Fire Safety
Member of Fire Protection Association Australia (FPAA)
Member of Society of Fire Protection Engineers (SFPE), USA

Experience: Over thirty (30) years' experience in fire protection engineering, building and fire protection compliance, fire safety measures assessment and maintenance, and management of fire safety rectification and upgrade projects, including:

- Assessment, auditing and certification of essential fire safety measures in all types of premises (18 years);
- Establishment of fire services maintenance programmes;
- Supervision of testing and commissioning of fire systems;
- Inspection, testing, installation and servicing of essential fire safety measures (14 years).

Professional Working Career: 2007 – Current Eagle fire + Safety (formally Eagle Consulting Group)
Fire Safety Engineer and Senior Fire Services Consultant
Responsible for:

- Expert Reports in relation to building compliance and defects litigation
- Review of fire engineering assessment reports involving alternate solutions;
- Building compliance assessment & auditing against BCA, Healthcare Standards and Disabled Access requirements;
- Fire services assessment & auditing against BCA & Australian Standards;
- Design and Specification for fire services upgrade works in commercial, industrial, healthcare and residential buildings;

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Eagle Consulting Group Pty Limited | ABN 34 050 578 311

Sue Scott - R2 - Work History - 2020

- Project management of fire safety rectification and upgrading work in commercial, industrial, healthcare and residential buildings;
- Council / FRNSW negotiations for fire safety upgrades;
- Supervision of testing and commissioning of fire systems;
- Establishment of fire services maintenance programmes;
- Coordination of annual certification (AFSS, AESMR, Occupier's Statements and the like) – Australia wide.

2003 – 2007 Chubb Fire Safety

Fire Systems Assessor

Responsible for:

- Building Fire Safety Inspections for Annual Certification
- Assessment of testing documentation to ensure routine maintenance is performed in accordance with relevant Australian Standards.
- Assessment of test results to ensure systems meet minimum operational requirements
- Preparing detailed assessment reports detailing deficiencies and recommended corrective action.
- Provide upgrade advice.
- Customer, Council and Contractor liaison.
- Prepare and present work-place training modules for internal staff.

1998 – 2003 Wormald Fire Systems

Building Surveyor – Electrical

Responsible for:

- Inspection and testing of various fire safety essential measures.
- Preparation of quotations for rectification and / or additional installation works.
- Project management of rectification work and / or minor upgrade works.
- Liaising with clients to organise compliance certification, inspections, testing and repairs.
- Client and technician support.
- Council liaison.
- Programming of intelligent Fire Indicator Panels on minor installations.
- Carrying out repairs to Emergency Lighting equipment.
- Carrying out testing and thermo-scanning of electrical switchboards and air-conditioning control boards.

1986 – 1998 O'Donnell Griffin

Fire Alarm Technician (commencing as Apprentice Electrician)

Responsible for:

- Routine inspection and testing of various fire safety essential measures.
- Maintenance planning at Sydney University
- Supervision of staff conducting inspection and testing.
- Corrective maintenance.
- Minor Fire Alarm installation works.

- Installation of Fire Protection equipment on major contracts.
- Detailed Drafting of Fire Protection systems.
- Assembly, manufacture and testing of High and Medium Voltage Switchboards and Control Panels.

1984 – 1985 Warren F. Ball & Co. Solicitors

Office Junior (part time during school vacation)

Responsible for:

- Filing.
- Photocopying.
- Mailing.
- Preparing refreshments for staff and clients.
- General office duties.

NCAT Procedural Direction 3

EXPERT EVIDENCE

This Procedural Direction applies to:	Proceedings in which the rules of evidence apply. Proceedings in the Consumer and Commercial Division involving claims under the <i>Home Building Act 1989</i> (NSW) with a value greater than \$30,000. Proceedings in the Occupational Division for a "profession decision" as defined in cl 29(1) of Sch 5 to the NCAT Act. Any other proceedings in which the Tribunal directs that this Procedural Direction is to apply.
Effective Date:	28 February 2018
Replaces Procedural Direction:	NCAT Procedural Direction 3 (7 February 2014)
Notes:	You should ensure that you are using the current version of this Procedural Direction. A complete set of Procedural Directions and Guidelines is available on the Tribunal website at www.ncat.nsw.gov.au

Introduction

1. The Tribunal may rely on evidence from expert witnesses to reach a conclusion about a technical matter or area of specialised knowledge that is relevant to an issue to be determined in proceedings. It is important that experts' opinions are soundly based, complete and reliable.
2. The Tribunal is bound by the rules of evidence in proceedings in exercise of its enforcement jurisdiction, proceedings for the imposition of a civil penalty in exercise of its general jurisdiction, proceedings under the *Legal Profession Uniform Law (NSW)* or *Public Notaries Act 1997* concerning a question of professional misconduct and any other proceedings where so required by the relevant enabling legislation ("Evidence Rules Proceedings"), see, for example, s 35, s 38(2) and (3) and Sch 5 cl 20 of the NCAT Act. In Evidence Rules

Proceedings, it is appropriate to require expert evidence to be prepared and presented in a manner which seeks to ensure its admissibility and usefulness.

3. In proceedings where the Tribunal is not bound by the rules of evidence, the acceptability of expert evidence is a question of weight not admissibility. Nonetheless, if those proceedings involve complex or difficult expert issues, it is appropriate to require expert evidence to be prepared and presented in a manner which seeks to ensure its usefulness.
4. For proceedings to which it applies, this Procedural Direction sets out a code of conduct for expert witnesses.

Compliance and Other Matters

5. The Tribunal may excuse a party or an expert witness from complying with this Procedural Direction before or after the time for compliance.
6. In Evidence Rules Proceedings, a failure to comply with the code of conduct may, depending on the circumstances, render the report or evidence inadmissible or adversely affect the weight to be attributed to that report or evidence.
7. In non-Evidence Rules Proceedings, a failure to comply with the code of conduct does not render any expert report or evidence inadmissible but it may, depending on the circumstances, adversely affect the weight to be attributed to that report or evidence.
8. Nothing in this Procedural Direction prevents the Tribunal from giving any directions concerning expert witnesses or expert evidence that the Tribunal considers appropriate in any particular proceedings before the Tribunal.
9. This Procedural Direction is made by the President under s 26 of the *Civil and Administrative Tribunal Act 2013*.

Definitions

Word	Definition
NCAT Act	<i>Civil and Administrative Tribunal Act 2013</i>
NCAT Rules	<i>Civil and Administrative Tribunal Rules 2014</i>
Expert witness or expert	A person who has specialised knowledge based on the person's training, study or experience and who gives evidence of an opinion based wholly or substantially on that knowledge.

10. Words used in this Procedural Direction have the same meaning as defined in the NCAT Act and the NCAT Rules.

Application

11. This Procedural Direction applies in:
- (a) Evidence Rules Proceedings;
 - (b) proceedings in the Consumer and Commercial Division involving claims under the *Home Building Act 1989* (NSW) where the amount claimed or in dispute is more than \$30,000;
 - (c) proceedings in the Occupational Division for a "profession decision" as defined in cl 29(1) of Sch 5 to the NCAT Act; and
 - (d) any other proceedings in which the Tribunal directs that this Procedural Direction 3 is to apply,
- (together referred to as "Subject Proceedings").

Parties' and Experts' Duties

12. Any party who retains an expert to provide evidence or a report for the purposes of Subject Proceedings in the Tribunal must bring to the expert's attention the contents of this Procedural Direction, including the experts' code of conduct.

Experts' Code of Conduct

Application of code

13. This experts' code of conduct applies in respect of any expert witness engaged or appointed in Subject Proceedings:
- (a) to provide an expert's report for use in those proceedings; or
 - (b) to give opinion evidence in those proceedings.

General duty to the Tribunal

14. An expert witness has an overriding duty to assist the Tribunal impartially on matters relevant to the expert witness's area of expertise.
15. An expert witness's paramount duty is to the Tribunal and not to any party to the proceedings including the person retaining the expert witness.
16. An expert witness is not an advocate for a party.
17. An expert witness must abide by any direction given by the Tribunal.

Duty to work co-operatively with other expert witnesses

18. An expert witness, when complying with any direction of the Tribunal to confer with another expert witness or to prepare a joint report with another expert witness in relation to any issue, must:

- (a) exercise his or her independent, professional judgment in relation to that issue;
- (b) endeavour to reach agreement with any other expert witness on that issue; and
- (c) not act on any instruction or request to withhold or avoid agreement with any other expert witness.

Experts' reports

19. An expert's report must, either in the body of the report or in an annexure, include the following:
 - (a) an acknowledgement that the expert has read the experts' code of conduct and agrees to be bound by it;
 - (b) the expert's name, address and qualifications as an expert on the issue the subject of the report;
 - (c) the facts, and assumptions of fact, on which the opinions in the report are based (a letter of instructions may be annexed);
 - (d) the expert's reasons for each opinion expressed;
 - (e) if applicable, that a particular issue falls outside the expert's field of expertise;
 - (f) any literature or other materials used in support of the opinions;
 - (g) any examinations, tests or other investigations on which the expert has relied, including details of the qualifications of the person who carried them out;
 - (h) in the case of a report that is lengthy or complex, a brief summary of the report (to be located at the beginning of the report).
20. If an expert witness who prepares an expert's report believes that it may be incomplete or inaccurate without some qualification, the qualification must be stated in the report.
21. If an expert witness considers that his or her opinion is not a concluded opinion because of insufficient research or insufficient data or for any other reason, this must be stated when the opinion is expressed.
22. If an expert witness changes his or her opinion on a material matter after providing a report, the expert witness must immediately provide a supplementary report to that effect containing any relevant information referred to in paragraph 19.

Experts' conclaves, conferences and evidence

23. An expert witness must abide by any direction of the Tribunal:
 - (a) to attend a conclave or conference with any other expert witness;
 - (b) to endeavour to reach agreement on any matters in issue;

- (c) to prepare a joint report, specifying matters agreed and matters not agreed and reasons for any disagreement;
 - (d) to base any joint report on specified facts or assumptions of fact; and
 - (e) to give evidence concurrently with other experts.
24. An expert witness must exercise his or her independent, professional judgment in relation to such a conclave or conference and joint report, and must not act on any instruction or request to withhold or avoid agreement.

Sgd

Wright J
President
23 February 2018



Australasian Legal Information Institute

New South Wales Consolidated Regulations

UNIFORM CIVIL PROCEDURE RULES 2005 - SCHEDULE 7

UNIFORM CIVIL PROCEDURE RULES 2005 - SCHEDULE 7

SCHEDULE 7 – EXPERT WITNESS CODE OF CONDUCT

(Rule 31.23)

1 APPLICATION OF CODE

This code of conduct applies to any expert witness engaged or appointed—

- (a) to provide an expert's report for use as evidence in proceedings or proposed proceedings, or
- (b) to give opinion evidence in proceedings or proposed proceedings.

2 GENERAL DUTIES TO THE COURT

An expert witness is not an advocate for a party and has a paramount duty, overriding any duty to the party to the proceedings or other person retaining the expert witness, to assist the court impartially on matters relevant to the area of expertise of the witness.

3 CONTENT OF REPORT

Every report prepared by an expert witness for use in court must clearly state the opinion or opinions of the expert and must state, specify or provide—

- (a) the name and address of the expert, and
- (b) an acknowledgement that the expert has read this code and agrees to be bound by it, and

- (c) the qualifications of the expert to prepare the report, and
- (d) the assumptions and material facts on which each opinion expressed in the report is based (a letter of instructions may be annexed), and
- (e) the reasons for and any literature or other materials utilised in support of each such opinion, and
- (f) (if applicable) that a particular [question](#), issue or matter falls outside the expert's field of expertise, and
- (g) any examinations, tests or other investigations on which the expert has relied, identifying the person who carried them out and that person's qualifications, and
- (h) the extent to which any opinion which the expert has expressed involves the acceptance of another person's opinion, the identification of that other person and the opinion expressed by that other person, and
- (i) a declaration that the expert has made all the inquiries which the expert believes are desirable and appropriate (save for any matters identified explicitly in the report), and that no matters of significance which the expert regards as relevant have, to the knowledge of the expert, been withheld from the court, and
- (j) any qualification of an opinion expressed in the report without which the report is or may be incomplete or inaccurate, and
- (k) whether any opinion expressed in the report is not a concluded opinion because of insufficient research or insufficient data or for any other reason, and
- (l) where the report is lengthy or complex, a brief summary of the report at the beginning of the report.

4 SUPPLEMENTARY REPORT FOLLOWING CHANGE OF OPINION

(1) Where an expert witness has provided to a party (or that party's legal representative) a report for use in court, and the expert thereafter changes his or her opinion on a material matter, the expert must forthwith provide to the party (or that party's legal representative) a supplementary report which

must state, specify or provide the information referred to in [clause 3\(a\)](#), (d), (e), (g), (h), (i), (j), (k) and (l), and if applicable, [clause 3\(f\)](#).

(2) In any subsequent report (whether prepared in accordance with subclause (1) or not), the expert may refer to material contained in the earlier report without repeating it.

5 DUTY TO COMPLY WITH THE COURT'S DIRECTIONS

If directed to do so by the court, an expert witness must--

- (a) confer with any other expert witness, and
- (b) provide the court with a joint report specifying (as the case requires) matters agreed and matters not agreed and the reasons for the experts not agreeing, and
- (c) abide in a timely way by any direction of the court.

6 CONFERENCES OF EXPERTS

Each expert witness must--

- (a) exercise his or her independent judgment in relation to every conference in which the expert participates pursuant to a direction of the court and in relation to each report thereafter provided, and must not act on any instruction or request to withhold or avoid agreement, and
- (b) endeavour to reach agreement with the other expert witness (or witnesses) on any issue in dispute between them, or failing agreement, endeavour to identify and clarify the basis of disagreement on the issues which are in dispute.

Home Building Act 1989 No 147

18B Warranties as to residential building work

The following warranties by the holder of a contractor licence, or a person required to hold a contractor licence before entering into a contract, are implied in every contract to do residential building work:

- (a) a warranty that the work will be performed in a proper and workmanlike manner and in accordance with the plans and specifications set out in the contract,*
- (b) a warranty that all materials supplied by the holder or person will be good and suitable for the purpose for which they are used and that, unless otherwise stated in the contract, those materials will be new,*
- (c) a warranty that the work will be done in accordance with, and will comply with, this or any other law,*
- (d) a warranty that the work will be done with due diligence and within the time stipulated in the contract, or if no time is stipulated, within a reasonable time,*
- (e) a warranty that, if the work consists of the construction of a dwelling, the making of alterations or additions to a dwelling or the repairing, renovation, decoration or protective treatment of a dwelling, the work will result, to the extent of the work conducted, in a dwelling that is reasonably fit for occupation as a dwelling,*
- (f) a warranty that the work and any materials used in doing the work will be reasonably fit for the specified purpose or result, if the person for whom the work is done expressly makes known to the holder of the contractor licence or person required to hold a contractor licence, or another person with express or apparent authority to enter into or vary contractual arrangements on behalf of the holder or person, the particular purpose for which the work is required or the result that the owner desires the work to achieve, so as to show that the owner relies on the holder's or person's skill and judgment.*

ANNEXURE F. CONSTRUCTION CERTIFICATES

CONSTRUCTION CERTIFICATE

NO. 8899-01-2019-CC

10 May 2019



Issued under Part 4A, Section 169C of the Environmental Planning and Assessment Act 1979

APPLICANT DETAILS

APPLICANT *Truland Development Pty Ltd*
ADDRESS *Suite 309, 405 Sussex Street, SYDNEY NSW 2000*
MOBILE *0417 113 166* **EMAIL** *kyrad@cpdm.com.au*

OWNER DETAILS

NAME OF OWNER *Mitchell Avenue Development*
ADDRESS *Suite 309, 405 Sussex Street, SYDNEY NSW 2000*
DATE APPLICATION RECEIVED *25/04/2019*

RELEVANT CONSENTS

DEVELOPMENT APPLICATION *DA18/0303* **DATE ISSUED** *20/11/2018*
CONSENT AUTHORITY *Sutherland Shire Council*

PROPOSAL

ADDRESS *11-15 Mitchell Avenue, JANNALI NSW 2220*

LOT NO.	<i>2</i>	DP NO	<i>200541</i>
	<i>1</i>		<i>210450</i>
	<i>M</i>		<i>415450</i>

BUILDING CLASSIFICATION *Class 2 & 7a*

DESCRIPTION *Stage 1 – Excavation, shoring and complete structure only for a 5 storey residential flat building over 2 levels of basement car parking.*

VALUE OF CONSTRUCTION (INC GST) *\$10,150,000.00*

APPROVED PLANS & SPECIFICATIONS [*Schedule 1*](#)

SUPPORTING DOCUMENTATION [*Schedule 2*](#)

FIRE SAFETY SCHEDULE [*Schedule 3*](#)

ALTERNATIVE SOLUTION REPORT/S

TITLE	DATE	REFERENCE & REVISION	REPORT PREPARED BY	ACCREDITATION NO
<i>Fire Engineering Report</i>	<i>09/05/19</i>	<i>138300 FER001b</i>	<i>Samia Rusbridge – Holmes Fire</i>	<i>BPB0722</i>





BCA / Certifiers

CRITICAL STAGE INSPECTIONS [See attached notice](#)

CERTIFIER DETAILS

CERTIFYING AUTHORITY Trenton Jones

ACCREDITATION DETAILS Building Professionals Board
BPB0203 - A1 Unrestricted

DETERMINATION

APPROVAL DATE 10 May 2019

I confirm that work completed in accordance with the documentation accompanying the application for this certificate (with such modifications, if any, verified by me as may be shown on that documentation) will comply with the requirements of the Environmental Planning & Assessment Regulation 2000 as referred to in s.81A(5) of the Environmental Planning & Assessment Act 1979.

Trenton Jones



CONSTRUCTION CERTIFICATE

NO. 8899-02-2019-CC

25 June 2019



Issued under Part 4A, Section 109C of the Environmental Planning and Assessment Act 1979

APPLICANT DETAILS

APPLICANT *Truland Development P/L*

ADDRESS *Suite 209, 405 Sussex Street, Sydney NSW 2000*

TELEPHONE — MOBILE *0417 113 189* EMAIL *kyrad@cpdm.com.au*

OWNER DETAILS

NAME OF OWNER *Mitchell Avenue Development*

ADDRESS *Suite 309, 405 Sussex Street, Sydney NSW 2000*

DATE APPLICATION RECEIVED *26/04/2019*

RELEVANT CONSENTS

DEVELOPMENT APPLICATION *DA18/0393* DATE ISSUED *20/11/2018*

CONSENT AUTHORITY *Sutherland Shire Council*

PROPOSAL

ADDRESS *11-15 Mitchell Avenue, Jannali NSW 2220*

LOT NO. *100* DP NO *1250463*

BUILDING CLASSIFICATION *2, 7a, 7b*

DESCRIPTION *Construction of a five storey, 31 unit residential flat building over two levels of basement car parking*

VALUE OF CONSTRUCTION (INC GST) *\$10,150,000.00 (total cost of development)*

APPROVED PLANS & SPECIFICATIONS [Schedule 1](#)

SUPPORTING DOCUMENTATION [Schedule 2](#)

FIRE SAFETY SCHEDULE [Schedule 3](#)

ALTERNATIVE SOLUTION REPORTS

TITLE	DATE	REFERENCE & REVISION	REPORT PREPARED BY	ACCREDITATION NO
<i>Fire Engineering Report</i>	<i>09/05/19</i>	<i>138300 FER001b</i>	<i>Samia Rusbridge – Holmes Fire</i>	<i>BFB0722</i>

CRITICAL STAGE INSPECTIONS [See attached notice](#)



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AED Pty Ltd A: Suite 334, 88 Miller Street, Pyrmont NSW 2009
Southern Highlands A: Unit 10, 19 Lyell Street, Mittagong NSW 2575
Sutherland Shire A: Suite 20, Level 1 Riggs, 26 Kiera Road, Miranda NSW 2230
P: (02) 9571 9433 E: admin@aedgroup.com.au
W: www.aedgroup.com.au AED 15 148 967 495

CERTIFICATE NUMBER: 8899-02-2019-CC

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CERTIFIER DETAILS

CERTIFYING AUTHORITY Trenton Jones

ACCREDITATION DETAILS Building Professionals Board
BPB0203 - A1 Unrestricted

DETERMINATION

APPROVAL DATE 25 June 2019


I confirm that work completed in accordance with the documentation accompanying the application for this certificate (with such modifications, if any, verified by me as may be shown on that documentation) will comply with the requirements of the Environmental Planning & Assessment Regulation 2000 as referred to in s.81A(5) of the Environmental Planning & Assessment Act 1979.

Trenton Jones



ANNEXURE G.FINAL OCCUPATION CERTIFICATE & FIRE SAFETY SCHEDULE



FINAL OCCUPATION CERTIFICATE : 5325 Notice to applicant of determination of application for a Occupation Certificate issued under Part 4a Sections 109(c) and 109H of the Environmental Planning and Assessment Act 1979	
NOTICE TO	
Name:	Albert Zhang
Company:	Mitchell Avenue Developments Pty Ltd
Address:	Suite 1204, 227 Elizabeth Street Sydney NSW 2000
Contact details:	albert@tnuland.com.au
DETAILS OF THE DEVELOPMENT	
Description:	Construction of a five storey, 51 unit residential flat building over two levels of basement car parking
Exclusion:	Nil
Address:	11-15 Mitchell Avenue Jannali NSW 2226
Lot & DP:	Lot 100 DP 1250463
BCA Classification(s):	2, 7a, 7b
DETERMINATION	
This Part 4a Certificate was issued with:	
<input checked="" type="checkbox"/> Schedule 1 - Relevant Certificates <input checked="" type="checkbox"/> Schedule 2 - Fire Safety Schedule	
PRINCIPAL CERTIFYING AUTHORITY	
That I, Tony Truong as the Principal Certifying Authority certify that:	
<ul style="list-style-type: none"> • A current development consent is in force for the building • A current construction certificate has been issued with a respect to the plans and specifications for the building work that has been carried out • The building is suitable for occupation or use in accordance with its classification under the Building Code of Australia • Where required, a Final Fire Safety Certificate has been issued for the building • Where required, a report from the Commissioner of Fire Brigades has been considered 	
Tony Truong: Signature:	
Date of Determination: 11.11.2020	
Accreditation No.: BPB0415	

SCHEDULE 2 – FIRE SAFETY SCHEDULE	
Fire Safety Measures	Standard of Performance
General - Fire Resistance	
Fire-resisting Structures & Exits	BCA Sections C & D & Fire Engineering Report prepared by Homes Fire, ref: 138309.FER001b, Ver B, dated 09/05/19 Annual inspection
Lightweight Construction	BCA Clause C1.8, BCA Specification C1.8 Annual inspection
Fire-rated (or non-combustible) Access Panels, Doors & Hoppers to Fire-resisting Shafts	BCA C3.13 To AS1851-2012
Fire Seals protecting openings in Fire-resisting components of the building (including Fire Collars & Fire-stopping/Mastic)	BCA Clause C3.15, BCA Specification C3.15 & C3.16, AS1530.4-2014 Annual inspection
Fire-rated Lift Landing Doors	BCA Part Clause C3.10, AS1735.11-1988 To AS1851-2012
Fire Doors	BCA Part C3, BCA Specification C3.4 (Clause 2), AS1905.1-2015 To AS1851-2012
Fire Shutters	BCA Clause C3.5, Specification C3.4 & Fire Engineering Report prepared by Homes Fire, ref: 138309.FER001b, Ver B, dated 09/05/19 To AS1851-2012
Fire Dampers	BCA Clause C3.15, AS/NZS 1868.1-2015, AS1882.1-2015 AS1882.2-2015 To AS1851.1
General - Egress	
Paths of Travel	BCA Clause 188 EP&A Regulation 2000, BCA Section D Monthly inspections to confirm exit doors are accessible, intact, operational & fitted with conforming hardware
Warning & Operational Signs	Fire & Smoke Door Signage - BCA Clause D2.23 Offences relating to Fire Stairs - Clause 183 of EP&A Regulation 2000 & Engineering Report prepared by Homes Fire, ref: 138309.FER001b, Ver B, dated 09/05/19 Annual inspection
General - Services & Equipment	
Portable Fire Extinguishers	BCA Clause E1.6, AS2444-2001 To AS1851-2012
Warning Systems associated with Lifts (including	BCA Part E3

SCHEDULE 2 – FIRE SAFETY SCHEDULE	
Fire Safety Measures	Standard of Performance
Signs)	Annual inspection
Mechanical Services	
Air-conditioning & Mechanical Ventilation/Air Handling Systems	BCA Clause E2.2, BCA Table E2.2a, BCA NSW Table E2.2b, AS186H.1-2015, AS186H To AS1HS1-2012
Electrical Services	
Automatic Fire Detectors & Alarm Systems including heat detectors	BCA Clause E2.2 (Clauses 3,4, 8), BCA Table E2.2a, BCA Specification E2.2a, AS1870.1-2015 & AS3786-2014 & Fire Engineering Report prepared by Homee Fire, ref: 13K308.FER001b, Ver B, dated 08/05/18 To AS1HS1-2012
Emergency Lighting	BCA E4.2, E4.4 & AS2293.1-2005 To AS 2293.2
Exit Signs	BCA E4.5, E4.8, E4.9, AS2293.1-2005 & Engineering Report prepared by Homee Fire, ref: 13K308.FER001b, Ver B, dated 08/05/18 To AS 2293.2
Hydraulic Services	
Fire Hydrants	BCA Clause E1.3, AS2418.1-2005 & Fire Engineering Report prepared by Homee Fire, ref: 13K308.FER001b, Ver B, dated 08/05/18 To AS1HS1-2012
Fire Hose Reel Systems	BCA Clause E1.4 & AS2441-2005 To AS1HS1-2012
Fire Engineering Report	
<p>Performance Solution 1 – FRL of Fire Rated Shutter</p> <p>The basement levels are to be separated into two fire compartments. Openings in fire walls are to be protected by doors that achieve an FRL of ~/120/30. The proposed fire shutter will achieve an FRL of ~/120/~.</p>	<p>Fire Engineering Report prepared by Homee Fire, ref: 13K308.FER001b, Ver B, dated 08/05/18</p> <ul style="list-style-type: none"> ⊕ The Shutter shall be 120/120/120 fire rated construction and be sealed/fire stopped against the spread of fire, and a blade wall (~/120/120 FRL) is to extend to the east of the southern column on Basement Level 1. ⊕ Smoke detector to be provided on the ceiling within 1.5m of both sides of the fire shutter, ⊕ Automatic closing of the carpark shutter is to be initiated by activation of smoke detector, any heat detector in the basement carpark and power failure. An audible warning device must be located near the shutter and a red flashing warning light of adequate intensity must be installed on each side of the doorway ⊕ Hatched line marking is to be provided to the floor surface on either side of the carpark fire shutter. These markings are to extend not less than 2.0 m but from the shutter. Signage within the hatching is to

SCHEDULE 2 - FIRE SAFETY SCHEDULE	
Fire Safety Measures	Standard of Performance
	<p>state 'KEEP CLEAR, NO PARKING, NO STORAGE'. The lettering is to be in capitals, no less than 100 mm in height and in a colour contrasting with the background.</p> <ul style="list-style-type: none"> ◆ The requirement to prohibit storage and parking is to be included in the strata by-laws. <p>To AS1851-2012</p>
<p>Performance Solution 2 - Residential Travel Distance The maximum travel distance from the entry door of a residential SOU to an exit is permitted to be 8 m. The travel distance from SOU 108, 208 and 308 is 8.25 m measured door leaf to door leaf</p>	<p>Fire Engineering Report prepared by Homes Fire, ref: 13H308.FER001b, Ver B, dated 08/05/18</p> <ul style="list-style-type: none"> ◆ The public corridors will be provided with internally illuminated exit and direction signs in accordance with BCA Part E4 and AS 2283.1-2005. The Concession within BCA Clause E4.7 is not to be applied. ◆ Security screen doors are not to be permitted to any of the SOU entry doors. <p>To AS1851-2012</p>
<p>Performance Solution 3 - Travel Distance in Basement Carpark</p> <p>The maximum travel distance in the basement carpark is permitted to be 20 m to a point of choice of exits and 40 m to an exit where two or more exits are available. The travel distance from the northwest corner of Basement Levels 1 and 2 is up to 30 m to a point of choice and 38 m to the nearest exit.</p>	<p>Fire Engineering Report prepared by Homes Fire, ref: 13H308.FER001b, Ver B, dated 08/05/18</p> <ul style="list-style-type: none"> ◆ Heat detection to be provided to the requirements of AS 1870.1-2015 to activate the carpark ventilation system (see per Clause 5 of AS/NZS 1898:2015) ◆ The stairs serving the basement are to be fire separated from the carpark on both levels with bounding construction achieving an FRL of not less than /120/120. Doors into the stair are to be self-closing fire rated doorsets achieving an FRL of not less than /120/30. <p>To AS1851-2012</p>
<p>Performance Solution 4 - Discharge of Residential Fire-isolated Stair</p> <p>Fire-isolated stairs are required to discharge to a road, open space, or a covered area with a ceiling height of at least 3 m and open for 1/3 of the perimeter.</p> <p>Fire-isolated stair F53 discharges into a covered area that is open for 38 % of the perimeter with a ceiling height of 2.4 m and a distance of 1.2 m to open space</p>	<p>Fire Engineering Report prepared by Homes Fire, ref: 13H308.FER001b, Ver B, dated 08/05/18</p> <p>To AS1851-2012</p>
<p>Performance Solution 5 - Fire Hydrant Booster Location</p> <p>The building is required to be provided with a fire hydrant system in accordance with AS 2419.1-2005, which includes a fire brigade booster connection. A remote booster is required to be located at least 10 m from the building. The proposed booster will be located in the southeast corner of the property, 8 m from the building.</p>	<p>Fire Engineering Report prepared by Homes Fire, ref: 13H308.FER001b, Ver B, dated 08/05/18</p> <ul style="list-style-type: none"> ◆ The walls to Unit 004 and 104 are to achieve an FRL of at least -/90/90 in both directions and the balustrade to Unit 104 is to be concrete for a height of at least 760mm. <p>To AS1851-2012</p>
<p>Performance Solution 6 - Hydrant System Design</p> <p>The building is required to be provided with a hydrant system in accordance with AS 2419.1-2005. Due to the size of the carpark, the system is required to be designed based on two hydrants flowing, requiring a flow inquiry, a flow rate of 12 L/s can only be achieved, it is proposed to design the system based on a single hydrant flowing such that the provision of on-site water storage and pumps is</p>	<p>Fire Engineering Report prepared by Homes Fire, ref: 13H308.FER001b, Ver B, dated 08/05/18</p> <ul style="list-style-type: none"> ◆ The hydrant system is to comply with AS 2419.1-2005 other than it may be designed based on one hydrant flowing. ◆ Signage is to be provided at the booster and within the hydrant block plan provided near the FIP advising



SCHEDULE 2 - FIRE SAFETY SCHEDULE

Fire Safety Measures	Standard of Performance
not required.	of the design pressures and flows of the system To AS1951-2012



Eagle Eye
BUILDING
CONSULTING

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F: 02 8072 6224
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Level 1/ 29 Kiora Road, Miranda, NSW 2228

EXPERT BUILDING DEFECTS AND COST OF RECTIFICATION REPORT

For the property at

11-15 Mitchell Avenue, Jannali NSW

Mitchell Avenue Development Pty Ltd
(APPLICANT)

v

Forte Sydney Constructions Pty Ltd
(RESPONDENT)

NSW DISTRICT COURT

The file number for the proceedings in the district court: 2021/00161286

COMMISSIONED BY:

Mitchell Avenue Development Pty Ltd
701/70 Castlereagh Street
Sydney NSW 2000

PREPARED BY:

Scott G Harper
Harper Building Consultants Pty Limited
Level 1/29 Kiora Road
MIRANDA NSW 2228
Ph: 1800 965 966; M: 0422 365 628
Email: scott.harper@eebc.com.au

Report Date: 25 February 2022

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E	INSTRUCTIONS	1495
F	Part 2C Statutory Warranties Section 18B and 18E of the Home Building Act 1989	1507

1 EXECUTIVE SUMMARY

1.1 This report was requested by **Sui & Co Legal** who act on behalf of Mitchell Avenue Development Pty Ltd (**Developer**).

1.2 This report addresses the alleged defective and incomplete building works carried out by Forte Sydney Construction Pty Ltd, all facts included in this report and instructions have been provided by Sui & Co Legal **and** Mitchell Avenue Development Pty Ltd (Developer)

1.3 The Authors observations and opinions in relation to the alleged defective and incomplete building works have been provided within this report.

1.4 In relation to the Authors instructions - *to provide a scope of repair of any allege defective work.*

Following assessment of the building works the Author has provided a proposed scope of rectification works in relation to items identified in table format included in the **Defect Schedule in Section 10** of this report.

1.5 In relation to the Authors instructions - *based on the scope of works, a cost for repair.*

Following assessment of the building works the Author has determined the total cost of **\$1,048,448 including GST**, as set out in the Scott Schedule in **Appendix A** of this report in relation to the defective and incomplete building works contained in the **Defect Schedule in Section 10 of this report.**

2 EXPERT WITNESS CODE OF CONDUCT

2.1 Confirming that the Author of this report has read the UNIFORM CIVIL PROCEDURE RULES 2005 - SCHEDULE 7, and this Report has been prepared in accordance with the Code and agrees to be bound by the provisions of these Codes.

2.2 The Author confirms that the Author has made all the inquiries which the Author believes are desirable and appropriate (save for any matters identified explicitly in this Report), and that no matters of significance which the Author regards as relevant have to the Authors knowledge been withheld from the court.

2.3 The Author reserves the right to amend this report and the opinions expressed should any additional information be made available after the date of this report or instances where additional defects manifest and/or observed during further inspections.

2.4 A copy of the code appears at **Appendix D** of this report.

3 BACKGROUND AND INSTRUCTIONS

- 3.1 This report is prepared in response to Sui & Co Legal emailed instructions dated 15 October 2021 regarding certain building work carried out by Forte Sydney Construction Pty Ltd, licence number 275960C, ACN 601561586, the Respondent and hereinafter referred to as the “**Builder**”.
- 3.2 A copy of email with Sui & Co Legal instruction dated 15 October 2021 appears at **Appendix E** of this report.
- 3.3 The Builder carried out building work at 11-15 Mitchell Street, Jannali, NSW 2226 (hereinafter referred to as “**the Site**”). The Author has been instructed that Mitchell Avenue Development Pty Ltd (Developer) are the Developers of the Site and are also the Applicants in these proceedings. are hereinafter referred to as the “**Developer**”.
- 3.4 Essentially, the Author has been instructed to provide a report in relation to:
- (a) Items identified on the BME (Building Manager) defect schedule contained in **Appendix B** have been repaired or remain outstanding.
 - (b) Inspect and if practicable identify if the defective works identified in ‘The Construction Adviser’ report prepared by Mr Stan Giaouris issued 28 January 2021 have been adequately rectified.
 - (c) Report on any defective or incomplete works not identified on the BME defect schedule or Mr Giaouris report.
 - (d) Prepare an expert report that identifies:
 - (i) the building defects
 - (ii) Incomplete works
 - (iii) A scope of work for repair of any defective work or incomplete works; and
 - (iv) Based on the scope of rectification work, provide a estimated cost of rectification of any defects or incomplete works.

Documents

- 3.5 To assist me in assessing the contract building works and preparing this report the Author relied on the following documents :
- (a) ‘The Construction Adviser’ expert building defects report prepared by Stan Giaouris issued 28 January 2021.
 - (b) BME defect schedule
 - (c) Building Contract - Principal’s Project Requirements
 - (d) PBD Architects construction plans Issue 1 January 2019

- (e) Council DA Consent DA18/0393
- (f) Construction Certificate issued by AED GROUP issued 10/05/2019
- (g) Final Occupation Certificate issued by Kudos Building Certification 11/11/2020
- (h) Recticel Flat Roofs Specification Guide (Eurothane Eurodeck)
- (i) JQC Constructions Pty Ltd – Waterproofing certificate dated 13/08/2020
- (j) Premium Consulting Engineers design certificate

3.6 A copy of the above documents appears in **Appendix B** of this report.

4 BASIS OF REPORT

4.1 The Author

Scott Harper is the sole Author of this Expert Building Report. The Author is a licenced Builder, accredited building consultant, chartered building professional, registered strata building inspector and Director of Harper Building Consultants Pty Ltd T/A Eagle Eye Building Consulting ACN 623 639 832 who has over thirty-two (32) years of experience in the construction industry.

Annexed to this report in **Appendix C** is the Authors curriculum vitae, which set out the Authors qualifications and experience in the building industry.

4.2 National Construction Code (NCC)

4.2.1 Based on a copy of the documentation pertaining to the Construction Certificate (CC) issued by AED GROUP 10/05/2019 in Appendix B of this report, the applicable version of the National Construction Code (NCC) has been adopted as the 2016 version.

4.2.2 Where there is evidence of defect rectification to works by the Builder originating from the building contract, the Author has relied on the applicable version of the NCC at the time the rectification works were carried out by the Builder.

4.3 Assessment of building elements

4.3.1 Unless notified otherwise within the report, the defective items outlined have been based on a visual inspection only.

4.3.2 Where I have observed that specific construction does not meet the mandatory performance requirements pursuant to the NCC (BCA) 2016 version, such construction is considered defective, and, additionally, in my opinion is a breach of S.18B(c) of the Home Building Act (NSW).

4.3.3 Where specific workmanship does not meet the standard of workmanship described in the relevant Australian Standards, Codes of Practice, handbooks, other recognized industry guides to

construction practice, or as described in the contractual documentation, such construction may be considered defective, and, in my opinion, may also be a breach of S.18B(a) and/or S.18B(e) and/or S.18B(f) of the Home Building Act (NSW).

- 4.3.4 Where specific materials are used in a construction that do not meet the standard of workmanship described in the relevant Australian Standards, Codes of Practice, handbooks, other recognized industry guides to construction practice, or contractual obligations, such construction may be considered defective, and, in my opinion, may also be a breach of S.18B(b) and/or S.18B(e) and/or S.18B(f) of the Home Building Act (NSW).
- 4.3.5 Where specific construction is not performed with reasonable diligence and within stipulated time program, such construction may breach of S.18B(d).
- 4.3.6 Where specific construction results in an apparent and obvious diminution of amenity for the occupant of a residential building, such construction is considered defective, and, additionally, in the Authors opinion, is a breach of S.18B(e) and/or S.18B(f) of the Home Building Act (NSW).
- 4.3.7 For clarity, please refer to **Appendix F** of this report to view copy of Part 2C Statutory Warranties Section 18B of the Home Building Act 1989
- 4.3.8 The defective items outlined in this report have in the opinion of the Author not been caused by a lack of building maintenance on behalf of the *Owners*. The defective items manifested within the building are in the opinion of the Author a consequence of poor workmanship undertaken at the time of construction of the residence.
- 4.3.9 Unless disclosed, the inspection(s) did not include any destructive testing including the dismantling of any building elements or the removal of finishes. Accordingly, this report does not provide any guarantee that defects do not exist in any areas that are either concealed or deemed inaccessible at the time of the inspection.
- 4.3.10 The Author, in assessing the defective building works may have also made reference to the Office of Fair Trading Guide to Standards and Tolerances: 2017. The Author recognises that this document if not referenced contractually between the developer and Builder does not carry any legal or legislative authority, however the guide provides an indication of reasonable standards and tolerances which are otherwise not articulated in the *Home Building Act 1989*, the applicable version of the *National Construction Code (NCC)* or *Australian Standard(s)*. As such, the Author has considered this document a reasonable guide for reference and inclusion in this report.

5 **GENERAL REPORT METHODOLOGY & ASSUMPTIONS**

Inspection Methodology

5.1 The Author inspected the property on various occasions between October 2021 and February 2022.

5.2 Access was provided by lot occupants or with BME (Building Manager) representative approval.

Photographs taken

5.3 During the site inspections a number of photographs were taken. Some of these photographs are included in this report. Photographs were taken using a Samsung Galaxy Note 9 12MP Camera and a Cannon IXUS 115 HS 12.1 MP Camera. The photographs were uploaded onto a computer directly from these devices and have not been altered in any way other than in some cases by cropping and the addition of an annotation for the purposes of clarification only. **Photographs used** in this report are included in the Defect Schedule of this report and where specific reference is given in this report to provide clarification.

5.4 The following diagnostic equipment was used during the site inspections:

- (a) Extech MO55 moisture meter
- (b) Positector 200 Ultrasonic coating thickness gauge
- (c) Canon IXUS 115 HS 12 mega pixel Digital camera;
- (d) Galaxy Note 9 12 mega pixel digital camera
- (e) Telescopic mirror
- (f) Protech borescope inspection camera
- (g) Shadowhawk XM-L2 torch 350 lms
- (h) Crack gauge.
- (i) 8 metre tape measure.
- (j) Leica DISTO D210Lazer distance meter
- (k) Digital level 600mm, 1200mm
- (l) 220mm, 600mm, 1200mm, 1800mm spirit level

5.5 The Author inspected the building works, and all safe accessible areas, and documented building defects affecting the residence that the Author believed to have arisen from the original construction or repairs that have been carried out by the Builder to the property. In forming an opinion, consideration was given as to whether:

- The work was performed in accordance with the statutory warranties under Section 18B of the Home Building Act 1989;
- The original building contract or defect rectification works was carried out in accordance with

the applicable version of the National Construction Code (NCC);

- The work was carried out in accordance with the relevant Australian Standards; and product and material manufacturing specifications; and
- Any defect rectification work(s) carried out was completed in accordance with the above

DOCUMENTS AND LEGISLATION

5.6 Where stated in this report the following referenced documents used include:

Home Building Act 1989

Building Code of Australia/National Construction Code 2016

Relevant Australian Standards; and

NSW Guide to Standards and Tolerances 2017

Where defective work has been identified in this report, the Author has noted that the *Architectural Building Contract Specification* require the building works shall be carried out in accordance with the relevant standard and/or manufacturers guidelines.

DEVELOPMENT APPROVAL & THE CONSTRUCTION CERTIFICATE & APPROPRIATE BCA EDITION

5.7 Sutherland Shire Council issued a Notice of Determination of Development Application (DA16/1689) on 18 July 2017.

5.8 Development Approval (DA18/0393) was issued by Sutherland Shire Council on 20 November 2018.

5.9 The Construction certificate was issued 10 May 2019 by AE&D Pty Ltd. The Author noted that the Occupation Certificate was issued by Kudos Building Certification Pty Ltd on 11 November 2020.

THE DEFECTS INSPECTED

5.10 The Author in carrying out inspection of the defects which come within the Authors area of expertise, the Author has generally done so by applying the following methodology:

- (a) Identify whether the issues raised fell within my area of expertise;
- (b) If the issues raised fell within my area of expertise, then conduct a site inspection and reviewing the relevant documentation as to whether I consider the issue a defect;
- (c) At the site inspection, I inspected the area, took photographs and conducted non-invasive tests/inspections, unless otherwise stated in this report.
- (d) From the information obtained through the documents and my site observations, and after considering the applicable Standards and the NCC (BCA), I formed an opinion as to whether the issue is defective work or incomplete work or not; and
- (e) For issues that in the Authors opinion were major and minor defects, the Author also considered the implications and the statutory warranty periods under Section 18E of

the Home Building Act 1989.

For clarity - Extracts of Section 18B and 18E of the Home Building Act 1989 are included in **Appendix F** of this report

ASSUMPTIONS

- 5.11 Where I have made any assumptions in formulating my opinion, I have included those assumptions in the defect schedule of this report at the point where the relevant issue is discussed. I have adopted this practice so that any assumptions I have made are encapsulated in the matter being discussed, and therefore immediately obvious to the reader of this report.
- 5.12 The Author has collated the information taken from the site inspections, including without prejudice commentary from the Lot Owners and available documentation, and subsequently prepared this report.
- 5.13 The Author has assessed the defects as defined under Section 18E of the Home Building Act, within the statutory warranty period applicable to major and minor defects.
- 5.14 The Author has carried out the investigations he considers to be appropriate but reserves the right to amend his opinions if other information becomes available that affects the Authors advice.
- 5.15 Where the Author has referred Mr Giaouris report, the Author may not have been able to fully assess the alleged defects identified by Mr Giaouris as the works had been completed at the time of the Authors inspection.

6 **THE SITE & THE BUILDING WORK**

THE SITE

6.1 The site is a class 2 building located at 11-15 Mitchell Street, Jannali under Sutherland Shire LGA.



Photograph of front of building on Mitchell Street Jannali

6.2 Below, labelled Figure 5.1, is an aerial photograph copied from Google Earth showing the geographical location of the Site in relation to Sydney CBD, being approx. 31 km south of Sydney CBD.

Figure 6.1 – Location of the Site 11-15 Mitchell Street, Jannali (Google Earth)

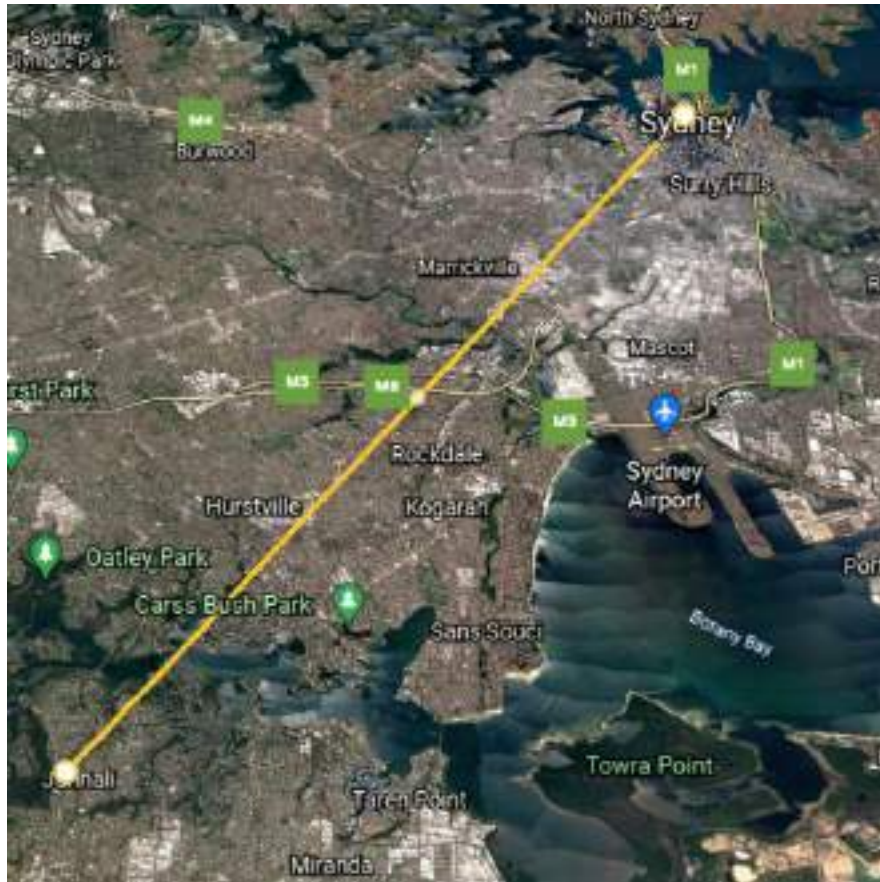


Figure 6.2 below shows the location of the Site, for the purposes of this report the front of the dwelling is South facing. It follows that the rear of the Site is the northern elevation.

Figure 6.2 Aerial view of 11-15 Mitchell Street, Jannali



7 BUILDING EVALUATION

7.1 Site Orientation

7.1.1 The subject property is located at 11-15 Mitchell Street, Jannali. For the purpose of this report, the front on the building is facing south.

7.2 Building Classification

7.2.1 The building attracts the following classifications under the National Construction Code (NCC):

- Class 2 – A building containing 2 or more sole-occupancy units; and
- Class 7a – Carpark

7.3 Building Description

7.3.1 The building is an apartment complex built over four (4) levels with two (2) levels of basement carparking.

7.3.2 The building is of reinforced concrete frame construction, with a combination of Hebel panel, and masonry walls, light weight steel frame clad walls and flat concrete roof.

7.3.3 The building features a combination of painted render finish composing of non-structural steel frame clad with fibre-cement sheet and HEBEL Power Panel, structural and non-structural Dincel walls.

7.3.4 The building features aluminium framed windows and doors.

7.3.5 The balconies throughout the building are enclosed by rendered Dincel and glass balustrades.

7.4 Building Age

7.4.1 The Author noted that the occupation certificate was issued in 11 of November 2020.

7.5 Architectural Plans

7.5.1 ELEVATIONS



1 SOUTH ELEVATION
SCALE 1:100 @ A1



2 WEST ELEVATION
SCALE 1:100 @ A1

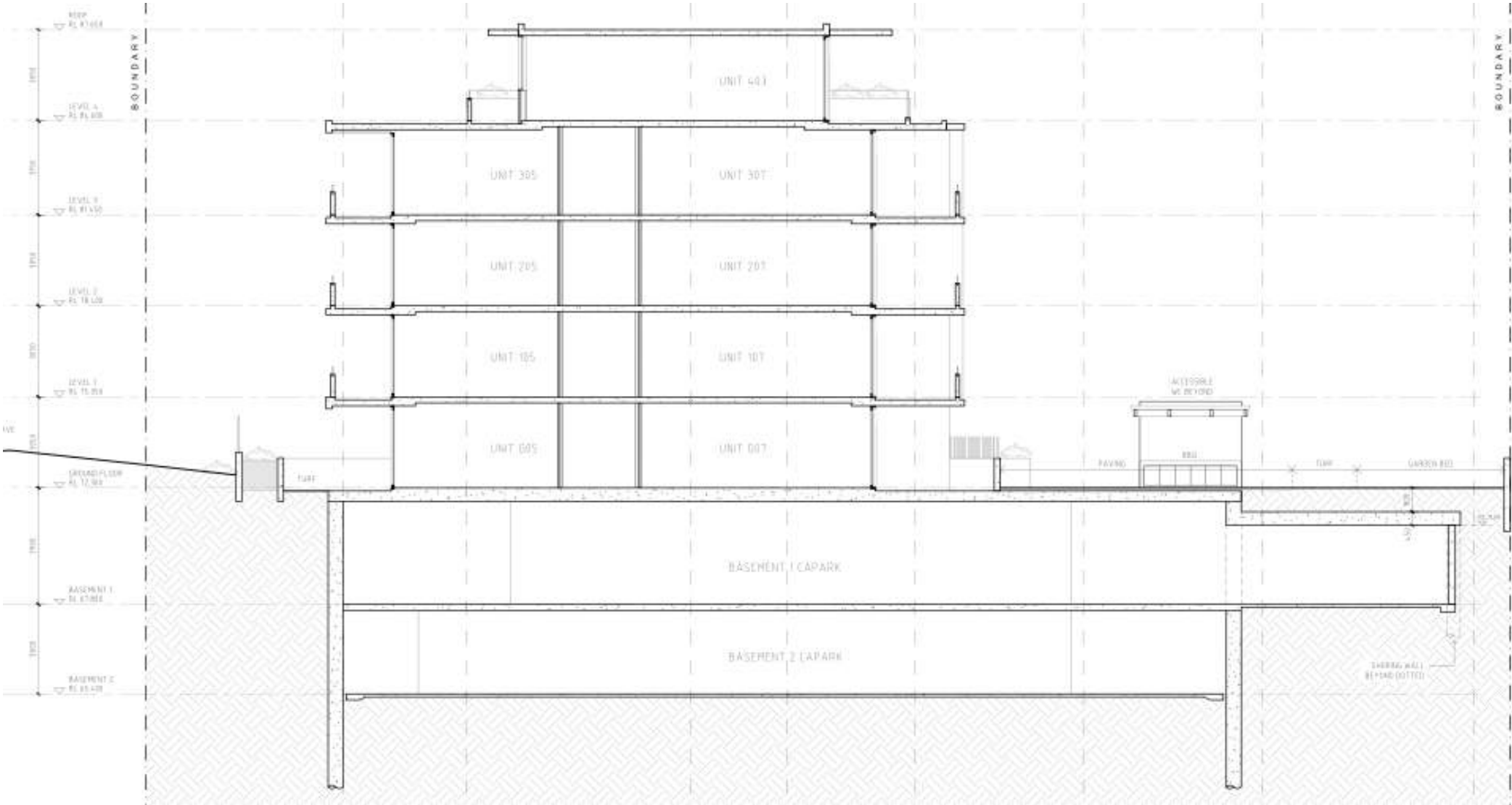


1 NORTH ELEVATION
SCALE: 1:100

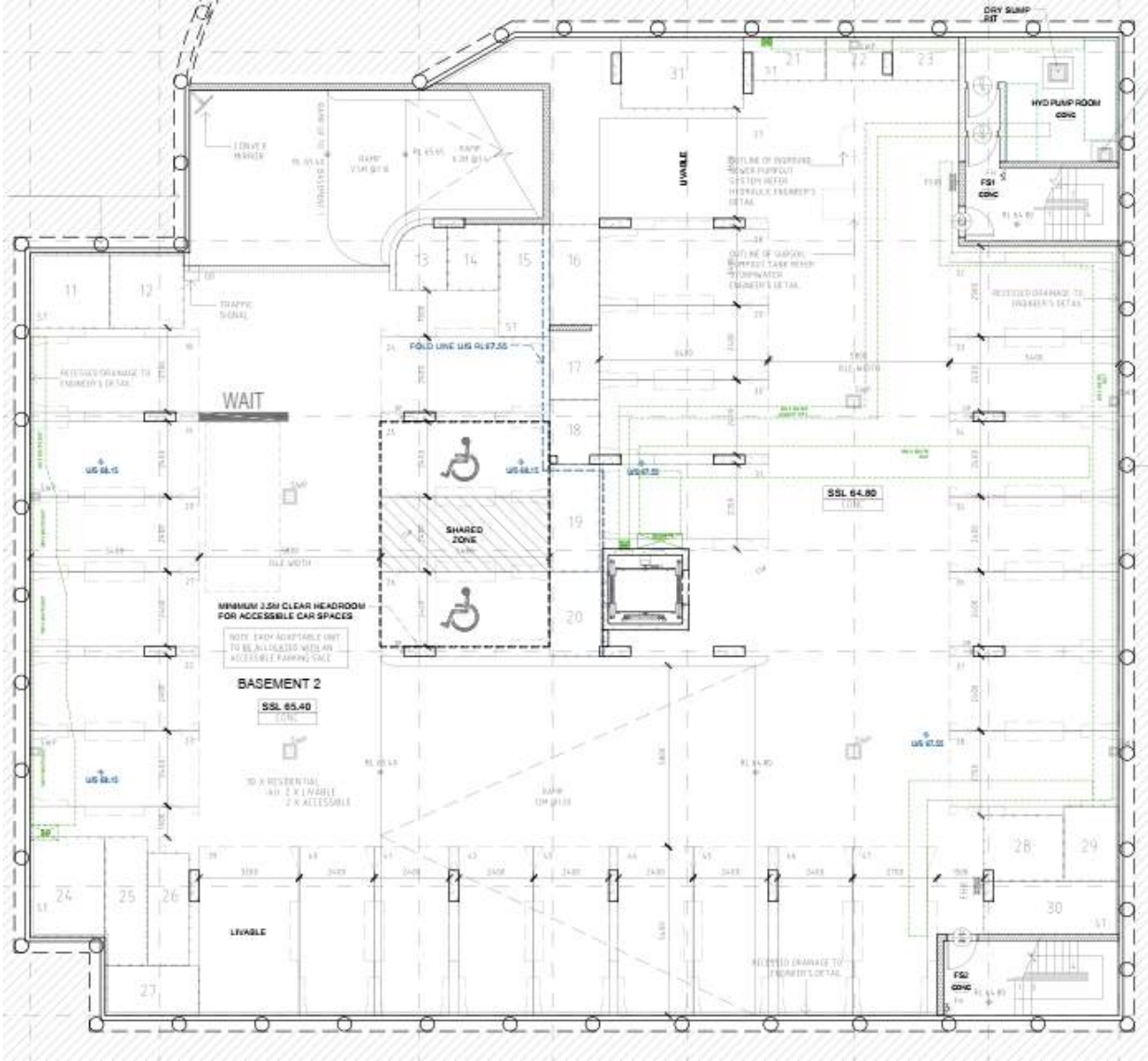


2 EAST ELEVATION
SCALE 1:100 @ A1

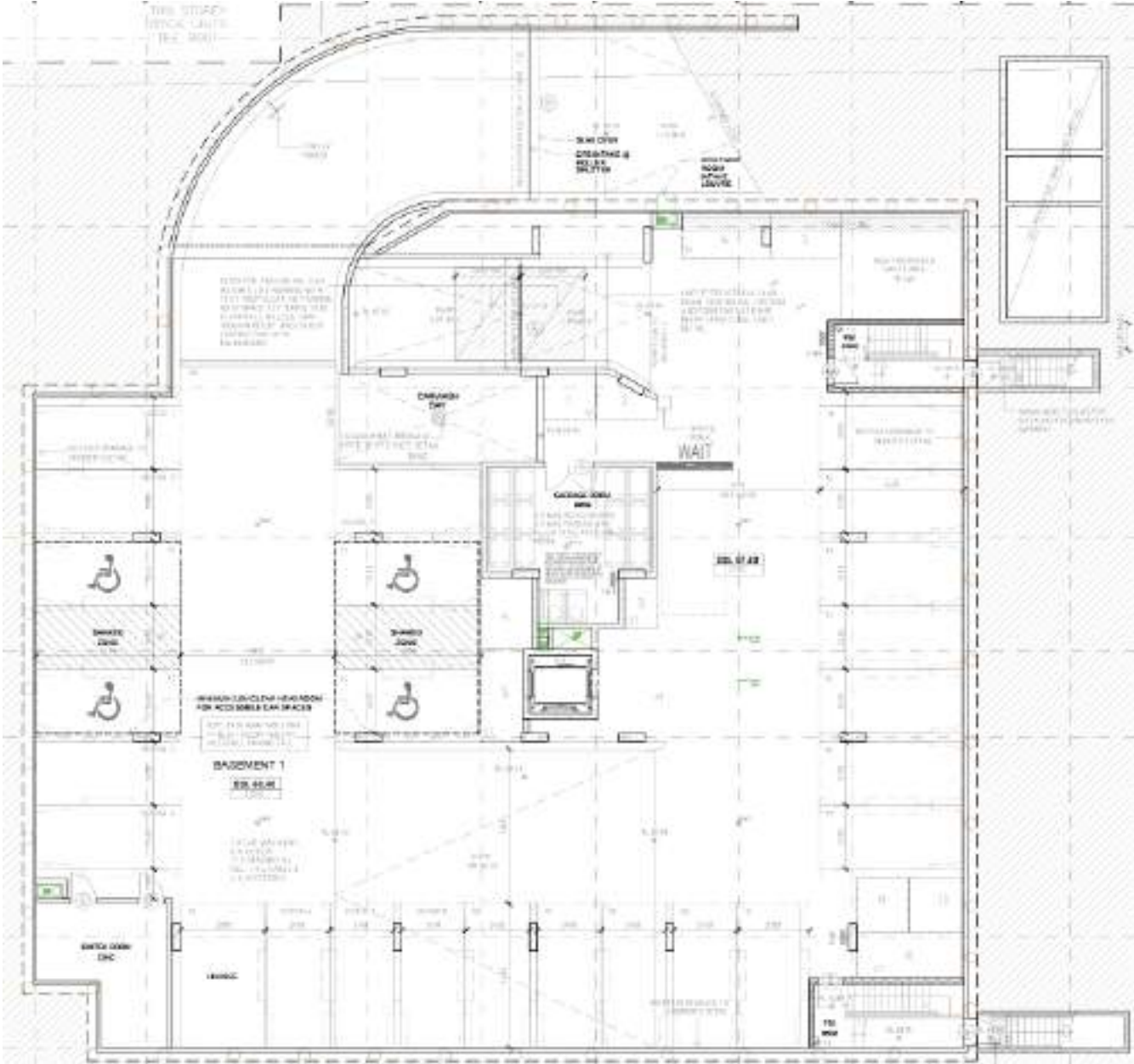
7.5.2 SECTION OF EASTERN ELEVATION



7.5.3 BASEMENT LEVEL 2 PLAN



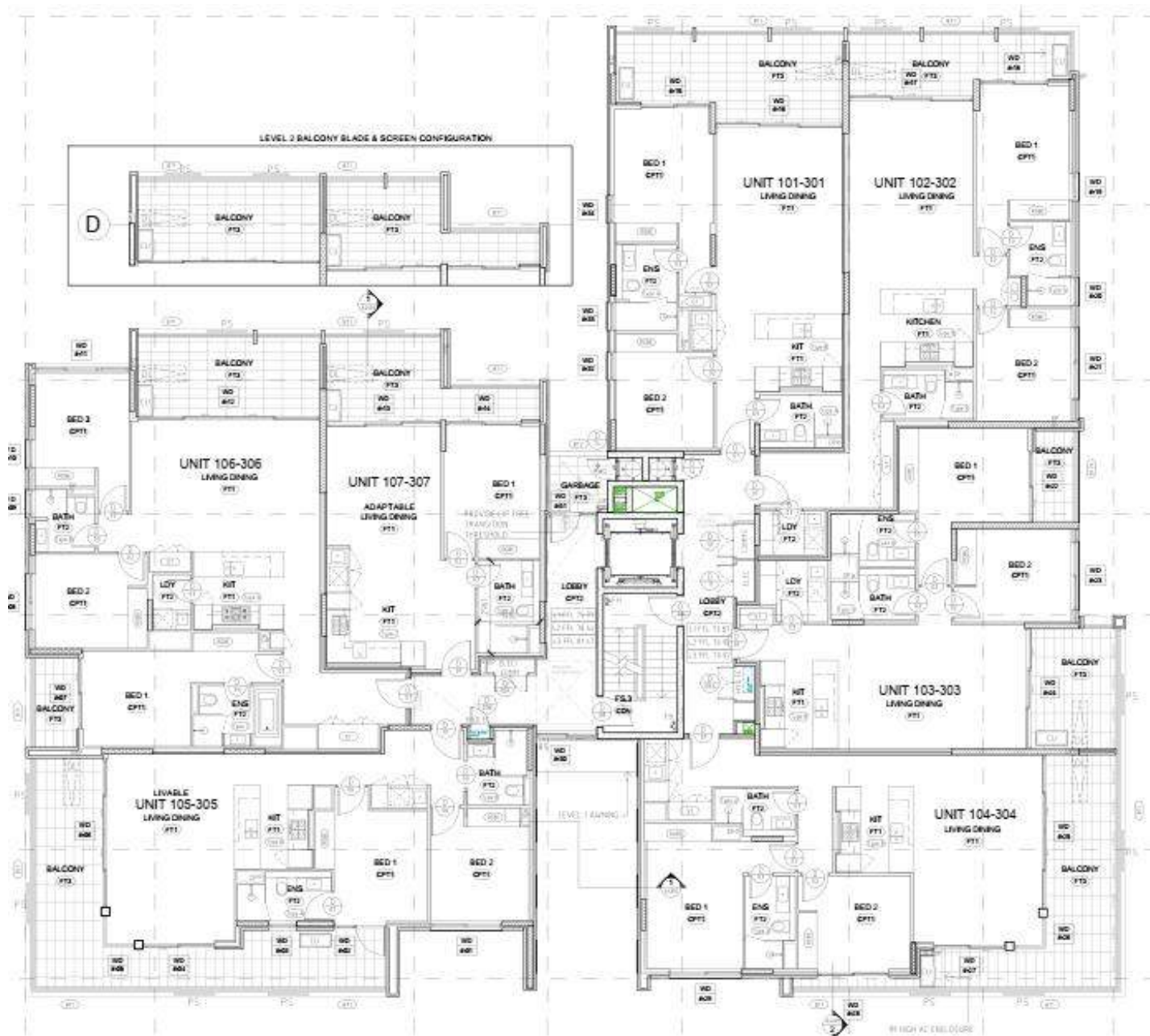
7.5.4 BASEMENT LEVEL 1 PLAN



7.5.5 GROUND FLOOR PLAN



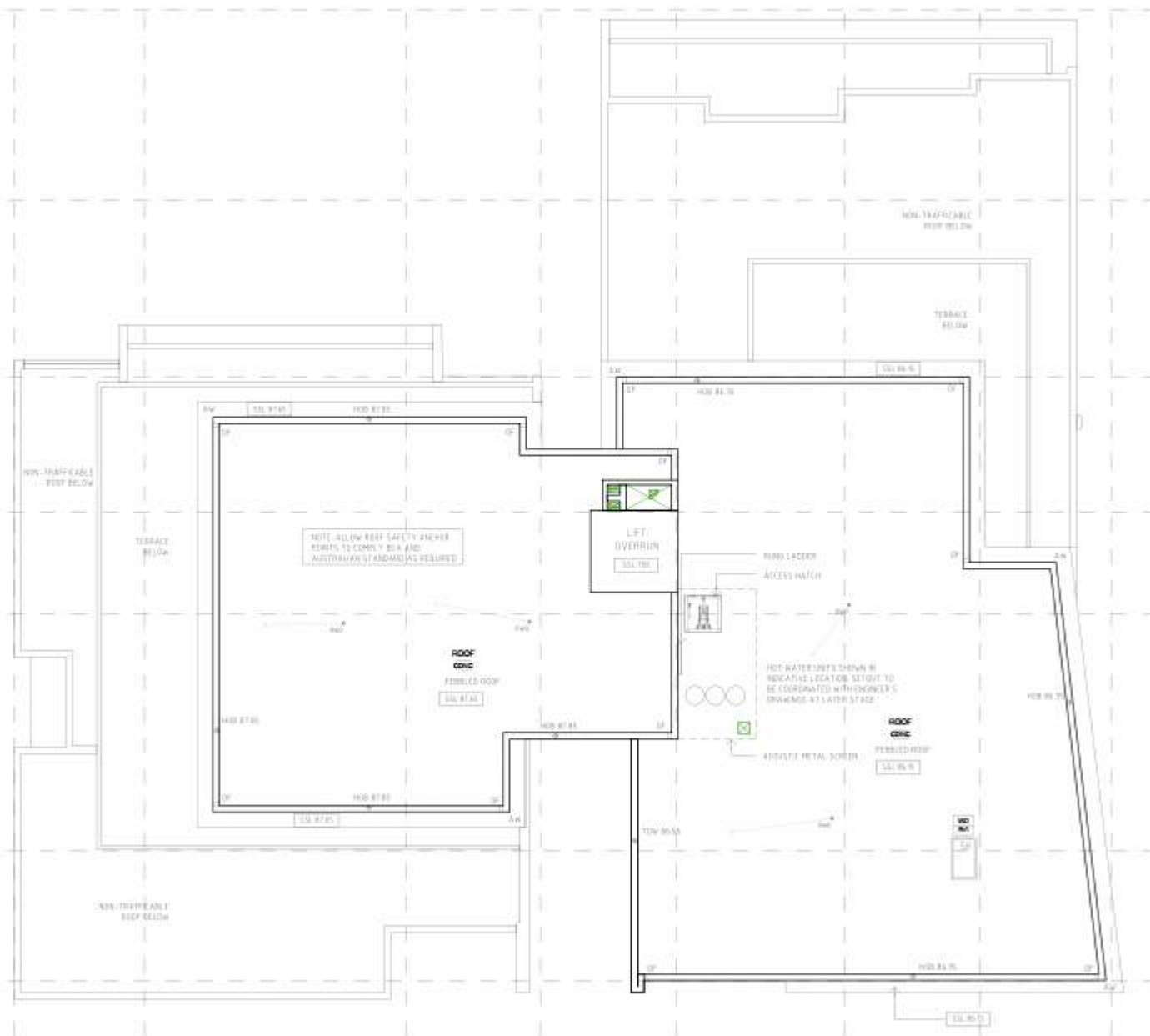
7.5.6 TYPICAL LEVEL 1-3 PLAN



7.5.7 LEVEL 4 PLAN



7.5.8 ROOF PLAN



8.0 COST OF RECTIFICATION OF DEFECTIVE AND INCOMPLETE WORKS

- 8.1 The costs of rectification of defective and incomplete works identified in the Defect and Incomplete Works Schedule of this report are set out in the Scott schedule included in Appendix A of this report.
- 8.2 Where I have made any assumptions in formulating my opinion, I have included those assumptions in at the appropriate part of this report.
- 8.3 Any reference to Construction Costs have been prepared using industry standard procedures and with reference to, where applicable Rawlinson's Construction Cost Guide 2021.
- 8.4 Where possible, published rates for the work listed have been adopted. However, where the published rate was inappropriate or not applicable, the author has used his experience to either adjust the published rate to suit the situation, or I have calculated an applicable rate. In this instance in the Authors experience, it is common for Builders and subcontractors to use rounded monetary rates i.e., the rate detailed in the Rawlinson's Construction Cost Guide may be \$72.99 per hour, but this would be rounded to either \$70, or more likely \$75 per hour, depending on the specific trade etc. In some cases, in the cost estimates detailed in this report, the author has adopted rounded monetary figures, in lieu of the rate detailed in the Rawlinson's Construction Cost Guide.
- 8.5 The hourly rates for labour excluding GST and used to calculate the cost estimates in the report below, are as follows:

Trade Description	Hourly rate excluding GST
Labourer	\$60/ Hour
Skilled Labourer	\$70 / Hour
Carpenter	\$90 / Hour
Metal Fabricator	\$90 / Hour
Bricklayer	\$85 / Hour
Concreter	\$85/Hour
Painter	\$70 / Hour
Tiler	\$85 / Hour
Plasterer/Renderer	\$85 / Hour
Plasterer – Dry linings	\$70 / Hour
Plumber – Licenced	\$95 / Hour
Electrician – Licenced	\$95 / Hour
Site foreman	\$90/ hour

Site Assistant	\$45/Hour
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8.6 In arriving at my determination for costs, the following criteria have been applied:

- (a) Labour rates have been primarily founded on the rates contained in the Rawlinsons costing guides.
- (b) Materials and plant hire prices have been sourced from Rawlinsons, and if Rawlinsons did not contain a price then the Author used his experience in cost estimating to provide a rate.
- (c) Where a Rawlinson cost rate is not directly available, I modified the appropriate Rawlinsons via adjusting the labour hours or the materials price rate to arrive at an appropriate cost rate; and
- (d) In the instance where no Rawlinsons rate is applicable I have derived from estimating first principles an appropriate rate. That is, I have calculated the material quantity, assessed the labour time to carry out the task and then expressed the monetary amount as a per unit of work.

Allowances used in the cost Estimate

8.7 Throughout the cost estimates documented in this report, I have, where appropriate used a lump sum allowance as the cost for a particular work item. I have used an allowance in the situations where:

- (i) the full scope of work for the rectification of an item has not been fully developed and or not documented for whatever the reason; or
- (j) the cost of item is minor, and it would not be cost effective to calculate an exact cost. For example, the supply of nails, sealants sandpaper and the like. That is, the supply of incidental materials to complete an item of work.

8.8 In the instances of the rectification work not having been fully documented/described, I have examined the overall scope of work required to be carried out and based on my understanding of the work to be carried out together with my experience in the building industry, I have developed a budget estimate that in my opinion would reflect a reasonable cost to rectify.

8.9 Any estimates provided in the Report are merely opinions of possible costs that could be encountered, based on the knowledge and experience of the author, and are not estimates in the sense of being a calculation of the likely costs to be incurred. The estimates are NOT a guarantee or quotation for work to be carried out. The inspector accepts no liability for any estimates provided throughout this report and recommends that independent quotations should be sort for the same work.

Preliminaries and Builders Overhead and Profit.

8.10 The Author applied a 25 percent margin for profit and offsite overheads for his calculations, based on the Authors experience, the rate for this type of work varies from 20- 30 percent, depending on the complexity of the work, amount of co-ordination required by the superintendent and the risk. The Author assumed the 25 percent rate for the following reasons:

- a) The rectification works require an elevated degree of co-ordination between trades and material suppliers.
- b) The rectification works have an elevated degree of complexity and extend to the majority of the elements of the property.
- c) The property is three levels
- d) Occupants may be living in the property during portions or full time during remedial repairs.
- e) Work access times will not be as flexible as those for a non-occupied property.
- f) The methodology to be adopted must be carefully considered so that it does not impact on the occupants.
- g) There is a possibility of staggered workflow.
- h) By its nature, the work is more complicated than new construction work

Contingency

8.11 The Author has applied a 5 percent contingency allowance to costs to provide for price escalation, unforeseen costs, and overruns.

Site supervision and Safety Management

8.12 Due to access requirements, safety of trades and occupants and complexity of remediation works, the Author has included costs for a suitably qualified Site Manager/Building Supervisor and Assistant.

Warranty

8.13 The Author has allowed for the proposed remediation works to extend to or replace existing finishes to achieve an even finish and to provide a full warranty on the work.

Alternative Accommodation

8.14 The Author has not included the costs for the rent for alternative accommodation in the costings in the Scott Schedule in this report. The actual market cost of suitable accommodation will need to be researched and determined by the Owners and if required, added to the overall costs of the claim.

Goods and Services Tax

8.15 To the totals calculated I have provided 10 percent for the Goods and Services Tax.

9.0 FINDINGS

9.1 Based on the Authors assessment and investigation of the building works and building contract, please refer to the following summary of the Authors findings in relation to items described in Section 10 Defect and Incomplete Schedule of this report –

9.2 **Tiling movements joints** – tile movement joints have not been provided in accordance with the relevant Australian standards.

9.3 **Drummy and delaminating (debonding) tiling** – Drummy or delaminating tiling.

9.4 **Water ponding on tile surface** – Insufficient fall to drain water in areas to the exterior and interior of the building, resulting in water ponding and potential risk of injury to the occupants

9.5 **Waterproofing** – Waterproofing has not been carried out in accordance with the relevant Australian Standards and manufacturers guidelines.

9.6 **Weatherproofing damage** – Damage and deterioration of building elements originating from defective waterproofing.

9.7 **Water leaks**– Rainwater leaks resulting in water entering the building, resulting in damage, deterioration of building elements and potentially affecting the health of occupants.

9.8 **Mould** – Evidence of mould potentially affecting the health of occupants

9.9 **Distortion and structural movement** – Evidence of deflexion (sag) to cantilevered concrete causing distortion and damage to building elements.

9.10 **Efflorescence** – There is Efflorescence due to insufficient weatherproofing and defective waterproofing.

9.11 **Roof and floor insulation** – has not been installed in accordance with the manufactures guideline or plans and specifications.

9.12 **Corrosion** – causing damage and deterioration of building elements.

9.13 **Cavity drainage** – Cavity drainage has not been provided in accordance with the NCC and relevant Australian standards and manufacturers guidelines.

9.14 **Cavity pressurisation** – No provision for wall cavity pressurisation to HEBEL walls in accordance with the manufacturers guidelines.

- 9.15 **Termite treatment** – The Author noted, that there is no evidence of termite management provided on the copy of the Occupation certificate in Appendix B of this report, as required under Clause B1.4, F1.9 of the NCC Volume 1 2016 in accordance with AS3600-2014 Termite Management, and the Final Occupation certificate issued 11/11/2020 by Kudos Building Certification has no record of termite management.
- 9.16 **Painting** – There are various painting defects internally and external throughout the residence.
- 9.17 **Remedial works** – There is defective and incomplete remedial works carried out by the Builder.
- 9.18 **Poor workmanship** – Where stated in this report the defective works have originated from poor workmanship employed by the Builder at the time of construction.
- 9.19 **Damage to materials and finishes** – Where stated in this report damage has originated from poor workmanship employed by the Builder at the time of construction or the Builder in carrying out remedial works.
- 9.20 **Product failure** – Materials installed have not been installed in accordance with the manufacturers guidelines.
- 9.21 **Suitability of materials** – Materials are not suitable for the intended purpose and/or do not conform with the manufacturers guidelines.
- 9.22 **Metal door operation** – Do not operate as intended.
- 9.23 **Incomplete works** – Where specified in this report the works have not been completed by the Builder in accordance with the building contract specification.
- 9.24 Details of the Authors observations and assumptions in relation to the above findings are included in the Defect and Incomplete works schedule in **Section 10** of this report.
- 9.25 In relation to the Authors instructions, to provide a scope of repair of any alleged defective works –

Following assessment of the building works the Author has provided a proposed scope of rectification works in relation to the items identified in the **Defect and Incomplete Works Schedule in Section 10** of this report.
- 9.26 In relation to the Authors instructions, based on the scope of works and estimated cost for repair –

Following assessment of the building works the Author has determined the total cost of **\$1,048,448 including GST**, as set out in the Scott Schedule in **Appendix A** of this report in relation to the defective and incomplete building works contained in the Defect Schedule in **Section 10** of this report.

Signed:

A handwritten signature in black ink, appearing to read 'Scott Harper', written over a light grey rectangular background.

Scott Harper - Director

Scott.harper@eabc.com.au Mobile 0422365628


10.0 DEFECT AND INCOMPLETE WORKS SCHEDULE TABLE




10.1 For ease of reference, the Author has addressed the alleged defective and incomplete works in a following Section of this report.

10.2 The columns to the table in Section 10 of this report are best described as:

Item reference:	The reference number given to the item
Location:	The location of the item within the building.
Description:	The observations and issues recorded by the Author
Cause:	The Authors opinion as to the cause of the defect
Breach:	Identifies the non-compliance with the applicable law, agreement, code, standard or manufacturers requirements
Proposed Scope of Rectification:	The Authors proposed scope of rectification works
Source and Reference materials:	Source and Reference materials related to item description
Description Photograph(s):	Photographs in relation to defective identified.

10.0 DEFECTIVE AND INCOMPLETE WORKS SCHEDULE

ITEM	COMMENTARY	PHOTOGRAPH(S)
R-1		
A	<p>Location & Description Roof – Waterproofing</p> <p>Waterproofing System</p> <p>The Author has observed that the waterproofing contract JQC Constructions Pty Ltd waterproofing certificate states that the only product applied to the roof waterproofing system was <i>Sikalastic-488 polyurethane UV</i>. The Author found on review of the Sika product data sheet that Sikalastic 488 is the base coat used within the SikaRoof MTC-UV systems.</p> <p>On review of the SikaRoof MTC-12 UV product data sheet the Author found that the standard SikaRoof MTC-12 UV system is a three stage process consisting of primer, basecoat, and topcoat layers.</p> <p>The Author is of the view, that the waterproofing has not been carried out in accordance with manufacturers guidelines or to the AS4654.2-2012 Waterproofing membranes for external above-ground use Part 2: Design and installation.</p> <p>For clarity, please refer to the extract in R-1-1 of this table for details sketch on system structure from the SikaRoof MTC-12 UV product data sheet and R1-1-4 copy of Waterproofing certificate provided by JQC Constructions Pty Ltd.</p> <p>Sikalastic 488 application</p> <p>The Author conducted testing of the membrane thickness applied to the roof using a ultrasonic coating thickness gauge and found the thickness of the membrane varied significantly over the roof area ranging from 209 to 919 microns. On review of Sika 488 product data sheet the Author that Sika specifies a minimum thickness of 1.2mm DFT consisting of 2 x coats of 750 micron to provide 1500 micron total thickness.</p> <p>For testing details and location, please refer to the extract in R-1-2 & R1-1-3 of this table.</p>	 <p>Support and waterproofing not in accordance with AS4654.2</p>

	<p>Termination of membrane – Mechanical ventilation service supports</p> <p>The Author observed that the waterproofing termination to the ventilation mechanical service supports has not been carried out in accordance with AS4654.2 in that a plinth is required as provided for the hot water services.</p> <p>Termination and Waterproofing - Perimeter of roof and roof hobs</p> <p>The Author observed that waterproofing has not been provide to the roof perimeter and roof hobs and the waterproofing to the interior of the roof hobs has not been carried out in accordance with AS4654.2. Furthermore, the Author noted that the building contract specifies ‘waterproofing membrane even if not over habitable spaces’.</p> <p>Please refer to following Extract – Building contract page 50 of PPR 6.4.4 Roof and roof finishes.</p> <p>PPR for 11-15 Mitchell Avenue Jannall</p> <hr/> <p>6.4.4 Roof and Roof Finishes</p> <p>3) Any concrete flat roofs are to have a waterproof membrane even if not over habitable spaces.</p> <p>Findings</p> <p>The Author is of the view that the Builder has failed to carry out the works in accordance with manufacturers guidelines, AS4654.2 and National Constructions Code 2016 Volume 1 F1.4.</p>	 <p>Plinths provided for hot water services</p>  <p>Section of roof not waterproofed to Building U</p>  <p>Waterproofing not terminated in accordance with AS4654.2</p>
<p>B</p>	<p>Cause(s)</p> <ul style="list-style-type: none"> • Failure of the Builder to carry out the works with due care, skill and diligence • Failure of the Builder to carry out works in accordance with manufacturers guidelines. • Failure of the Builder to carry out works in accordance with AS4654.2:2012 • Failure of the Builder to carry out the works in accordance with the National Construction Code 2016 Volume 1 F1.4 	
<p>C</p>	<p>Breach(es)</p> <p>Failure to comply with the following:</p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) & (c); ▪ Manufacturers guidelines. ▪ AS4654.2:2012 Waterproofing membranes for external above-ground use Part 2: Design and installation. ▪ National Construction Code 2016 Volume 1 F1.4 	<p>For more description photographs, please refer to R-1-5 of the table.</p>

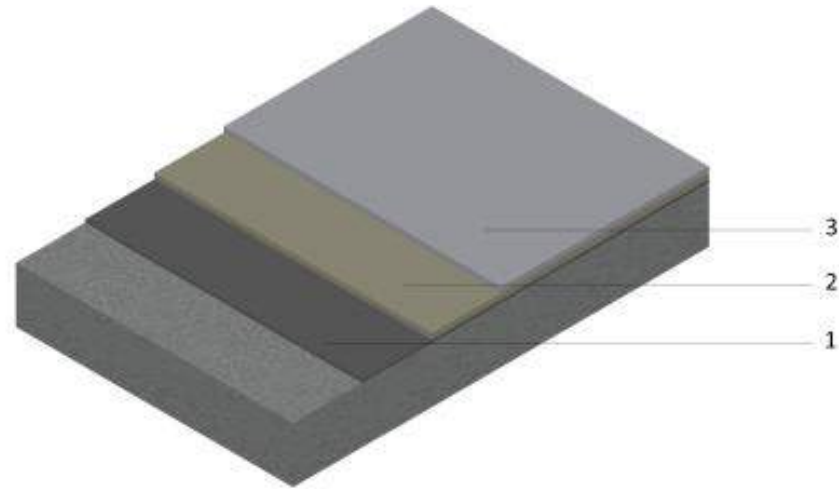
D	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none">1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process.2. Gain access to required areas in accordance with Safework requirements.3. Supply and install temporary guard rail to perimeter of roof4. Cover and protect adjacent surfaces during the rectification work.5. Supply and install temporary props to mechanical ventilation service6. Labour to cut existing metal supports to ventilation service7. Supply and erect formwork to provide plinths to mechanical ventilation services8. Supply premixed concrete for plinths9. Labour to mix premixed concrete, place and finish10. Labour to extend metal supports and fix to concrete plinths, remove temporary support11. Labour grind horizontal channel to perimeter of concrete hob and walls to install over flashing in accordance with AS4654.212. Labour to grind and prepare rough surface areas13. Labour to fill low spots, prepare and prime existing waterproofing basecoat as to manufacturers guidelines14. Labour to install fillet bond breaker to roof junctions15. Supply fillet bond breaker as to manufacturers guidelines and AS4654.216. Labour to apply waterproofing system in accordance with manufacturers guidelines17. Supply waterproofing materials and ancillaries18. Labour to install and seal aluminium termination over-flashing the roof perimeter and walls19. Supply custom aluminium over-flashing and sealant20. Labour to install flashing to pipes and penetrations in accordance with AS4654.221. Supply pipe and penetration flashing and ancillaries22. Labour to paint concrete plinths to similar colour to existing finishes in accordance with contract specifications23. Supply paint and ancillaries24. Labour to place waste material in waste bin, clean site and leave in a tidy condition upon completion of work25. Dismantle and remove temporary guard rail26. Waste disposal	
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R-1-1 - Extract from the SikaRoof MTC-12 UV product data sheet

SYSTEM INFORMATION

System structure

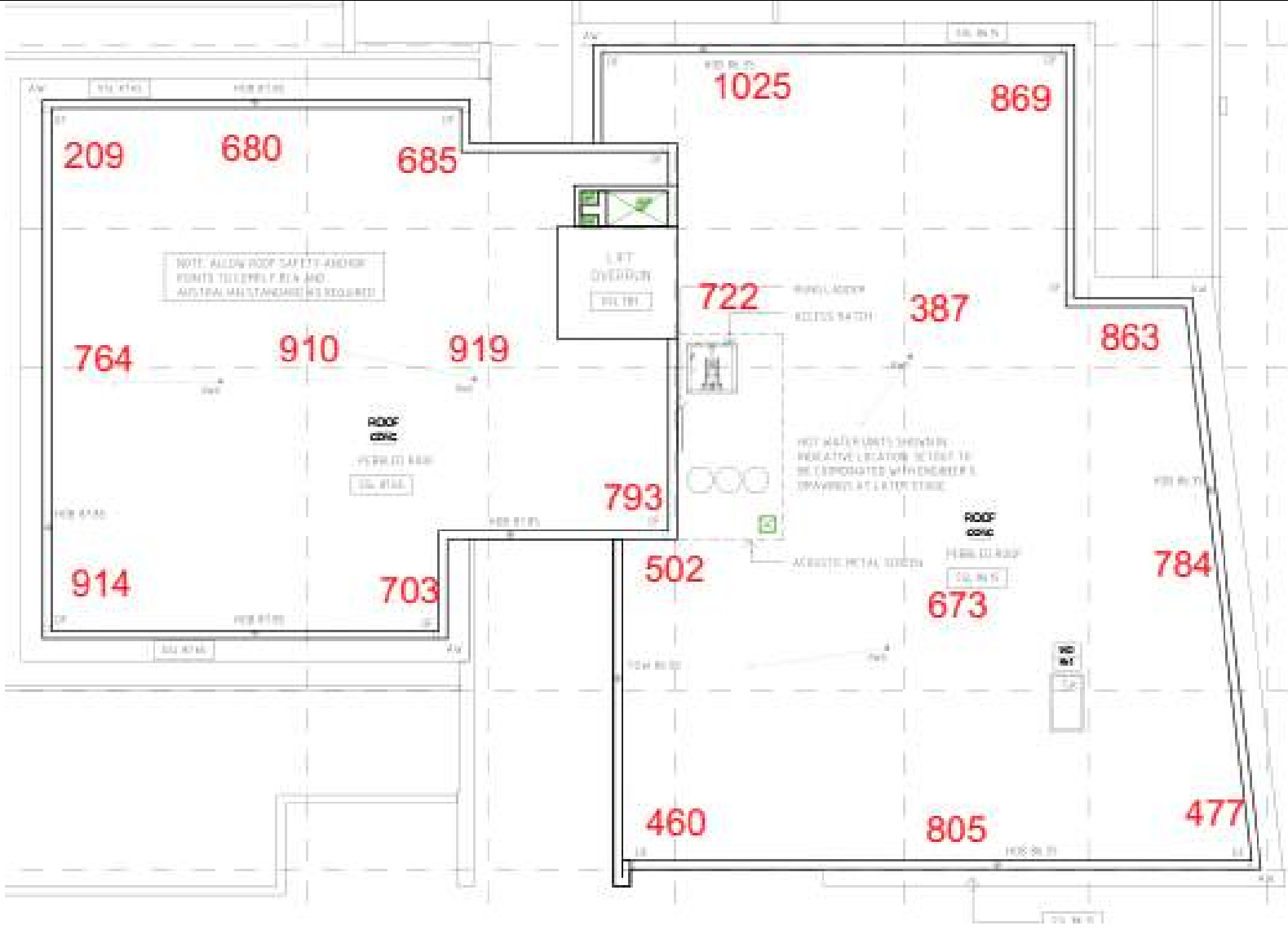
Standard SikaRoof® MTC-12 UV application without non-slip addition:



Layer	Product	Required DFT
1. Primer	Sikalastic® Moisture Seal or Sikalastic® -100 EP Primer	Please refer to PDS of the Primer
2. Base coat	Sikalastic® -488	1.2mm DFT
3. Top coat	Sikalastic® -622 Excel Top PLUS	0.35mm DFT

SikaRoof® MTC-12 UV application with non-slip addition:

R-1-2 Approximate location of ultrasonic testing and indicating membrane thickness



R-1-3



Test indicating 722 micron thickness



Test indicating 477 micron thickness

R-1-4 JQC Constructions Pty Ltd - Waterproofing certificate

JQC Constructions Pty Ltd

ABN 67 605 012 977

Tel: 0422 075 332

Postal Address:
12 Docos Cres
Bexley NSW 2207

13/08/2020

Project: 11-15 Mitchell Ave Jannali NSW 2226

Waterproofing Certificate & Warranty

I, Qian HE of JQC Constructions Pty Ltd, as a qualified and approved applicator, certify that the following waterproofing membranes have been applied to areas as listed. All areas were waterproofed in accordance with AS 3740-2010 and NCC Clause F1.7 & Table F1.7.

Treated Areas: All internal wet areas
External balconies
Roof Level
Planter Boxes

Waterproofing System: Krytol KGM-200 for internal walls & floors
Krytol KGM-100 polyurethane for External balconies
Sikalastic-488 polyurethane UV resistance polyurethane for roof area
Krytol KGM-100 polyurethane for planter boxes

The above waterproofing system has been applied in accordance with the manufacturer's specifications and recommendations.

JQC Constructions Pty Ltd warrants the applied waterproofing system to the treated areas for 7 years against ingress of water or moisture, providing the treated areas do not suffer spalling, damage from after trades or structural cracking. This warranty is limited to rectifying the ingress of moisture only.

For and on behalf of JQC Constructions Pty Ltd



.....
Qian He - Supervisor
(Lic. 296668C)

R-1-5 Description Photograph(s)



Building L south east side of roof





Location of hotwater services and ventilation Building L



Southern side of roof Building U



Building U – Section of the roof to the southeast over unit 403 not waterproofed

ITEM	COMMENTARY	PHOTOGRAPH(S)
R-2		
A	<p>Location & Description Lower roof Insulation – Building L and U</p> <p>The Author has observed that the roof insulation identified as RECTICEL Eurothane Eurodeck –</p> <ol style="list-style-type: none"> Evidence of deterioration of insulation material. Geo fabric used in place of vapour barrier specified by manufacturer. No mechanical fixings provided as specified by manufacturer. Waterproofing has not been provided in accordance with manufacturers guidelines. Falls to drainage inlets not in accordance with manufacturers guidelines <p>For clarification, please refer to following details following Section R-2-1, R-2-2, R-2-3 and in Appendix B of this report.</p> <p>The Author noted that the BASIX commitments on PBD Architects construction certificate drawings A0000 issue B require roof insulation to have a thermal insulation R-value of R4.0. The Author observed that the Builder has installed 40mm thick insulation panels with an R-Value of R1.8. Please refer to R-2-4 Extract Insulation requirements PBD Architects drawings A0000 issue B in the following tables.</p> <p>The Author is of the view, that the roof insulation has not been installed in accordance with the manufacturers guidelines and contract plans and specifications.</p>	 <p data-bbox="1599 708 2029 735">Evidence identifying product installed</p>  <p data-bbox="1520 1238 2107 1299">Location of evidence of product at Build L Level 4L adjacent to foyer balcony</p>
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by the builder at the time of construction. Failure to carry out the works in accordance with the manufacturers guidelines and contract specifications. 	
C	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1 (a) Manufacturers installation guidelines Contract plans and specifications 	

<p>D</p>	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Supply and install temporary guard rail to perimeter of roof 4. Cover and protect adjacent surfaces during the rectification work. 5. Labour to remove pebbles and store in a secure location 6. Remove and dispose of insulation panels and geofabric 7. Labour to clean roof surface and prepare roof as to manufacturers guidelines 8. Labour to install new insulation and provide falls to drainage inlets as manufacturers guidelines 9. Supply new insulation panels, vapour control layer materials and fixings as to manufacturers guidelines 10. Labour grind horizontal channel to perimeter of concrete hob and walls to install over flashing in accordance with AS4654.2 11. Labour to clean surfaces and prepare surfaces for waterproofing 12. Labour to install fillet bond breaker to roof junctions 13. Supply fillet bond breaker as to manufacturers guidelines 14. Labour to apply single ply sheet waterproofing system in accordance with manufacturers guidelines 15. Supply waterproofing materials and ancillaries 16. Labour to install and seal aluminium termination over-flashing the roof perimeter and walls 17. Supply custom aluminium over-flashing and sealant 18. Labour to install flashing to pipes and penetrations in accordance with AS4654.2 19. Supply pipe and penetration flashing and ancillaries 20. Labour to reinstate and place pebbles 21. Labour to makegood affected finishes 22. Materials and ancillaries to make good, affected finishes 23. Labour to place waste material in waste bin, clean site and leave in a tidy condition upon completion of work 24. Dismantle and remove temporary guard rail 25. Waste disposal 26. Waste chute hire, install and dismantle 27. Cranage permit and cranage to remove, place roof pebbles in a secure location and return to roof reinstate following waterproofing 28. Labour to lay Hebel to increase height of hob to provide for thickness of manufacturers R4.0 insulation. 29. Supply Hebel and ancillaries 	 <p>Northside side of Building L Lower roof</p>  <p>Southern side of Building U Lower roof</p>
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Section R-2-1 – RECTICEL Eurothane Eurodeck Installation details

Flat Roofs Specification Guide

Eurothane Eurodeck

Thermal Performance

Typical U-values (W/m^2K) achieved in common flat roof constructions

Warm Flat Roof



- Waterproofing
- Recticel Eurothane® Eurodeck, mechanically fixed
- Vapour control layer
- Structural deck
 - Timber deck: 18mm ply
 - Concrete deck: 150mm high density concrete
 - Metal deck: unsealed galvanised steel deck
- Ceiling
 - Timber deck: 150mm joists with plasterboard finish
 - Concrete and metal decks: 50mm timber battens with plasterboard finish






Eurothane Eurodeck

New Build

- Lay the specified VCL on the clean, dry deck. Ensure all laps are minimum 150mm and well-sealed, and turn up at the edge of the roof.
- If a fully-sealed metal deck is used, a separate VCL is not required.
- Mechanical fixing into a concrete deck may require pre-drilling of the deck.
- Install the Eurothane Eurodeck® boards in a tightly-butted brick bond pattern, mechanically fixing them using a minimum of 6 fixings per board (see 'Wind Uplift' and 'Mechanical Fixing Pattern').
- On a metal deck, the insulation boards should either be laid with the long edges at right angles to the troughs to ensure the short ends are fully supported, or diagonally across the deck corrugations.
- Thermally broken telescopic tube fixings are recommended to reduce thermal bridging, each incorporating a 50mm square or circular washer and positioned within 50 to 150mm of board edges and corners.
- If the desired insulation thickness comprises two layers, board joints should be staggered and the thicker layer positioned outermost. One or two fixings can be used to secure the lower boards, prior to securing the top layer with the required number of fixings.
- Lay and fix the single ply membrane in accordance with manufacturer's instructions.

Description Photograph(s) R-2-2	
Manufacturers installation detail showing vapour control barrier and Single ply waterproofing membrane on top of insulation panel	Manufacturers installation guidelines requires VCL vapour layer, mechanical fixing and single ply membrane
	
Evidence of deterioration of insulation	Evidence of deterioration of insulation

Description Photograph(s) R-2-3	
<p>Roof Drainage</p> <p>'Ponding' adds additional load to a roof, looks unsightly, and can shorten the lifespan of the roofing membrane. To ensure adequate drainage, any flat roof should have a minimum finished fall of 1:80. In reality, this means designing for twice the minimum fall to account for building inaccuracies, roof deflection and building settlement.</p>	
<p>Extract RECTICEL Flat Roof Specification Guide requires minimum finish fall of 1:80</p>	<p>Insufficient fall to drainage inlets</p>
	
<p>Location of drainage inlet lower roof southwest of Building L</p>	<p>Thickness measured 40mm. Author noted, 90mm thickness to achieve R4.0 as to BASIX commitments</p>

R-2-4 Extract Insulation requirements PBD Architects drawings A0000 issue B



Assessor Construction Summary


Project: **Address:** 11-15 Mitchell Avenue, Jannali NSW
Applicant: Truland Development Pty Ltd

Contact: **Name:** Layla Kim - PBD
Contact: layla@pbdarchitects.com.au

Assessor: **Name:** Victor Lin **Company:** Victor Lin & Associates
Address: PO Box 5080, 5th Turramurra, 2074 **Number:** BDAV/12/1454
Contact: 0412-988088 **Email:** vlin007@hotmail.com


Ext. Walls:	Construction	Insulation	Colour	Details
	Hebel wall	None R1.5	Med	As per plans See table below
	Weatherboard Cavity	None		As per plans
Int. Walls:	Construction	Insulation	Colour	Details
	Hebel wall	None		As per plans
Floors:	Construction	Insulation	Colour	Details
	Concrete	None R2.0 R3.0		Carpet, Tiles, Timber Floor above car park See table below
Ceilings:	Construction	Insulation	Colour	Details
	Suspended Plasterboard	R4.0		Under all roofs & Ceiling with balcony above



ITEM	COMMENTARY	PHOTOGRAPH(S)
R-3		
A	<p>Location & Description Lower roof drainage - Building L and U</p> <p>The Author has observed that</p> <p>A) Metal mesh has been loosely placed over the stormwater drainage inlet and no netting to pebbled roof areas.</p> <p>B) No bird netting has been provided as to contract specifications.</p> <p>The Author is of view,</p> <p>A) The use of the metal mesh and installation is not a suitable solution to prevent materials and stone ballast from falling into drainage inlet and the defect originated due to poor workmanship employed by the builder at the time of construction.</p> <p>B) The building contract Page 50 Clause 6.4.4 Roof and Roof finishes of the Principal's Project Requirements specifies <i>'All non-trafficable areas to be covered with pebbles and netting (ensuring the pebbles cannot be removed by birds).'</i></p> <p>The Author is of the view that the Builder has failed to carry out the works in accordance with the contract plans and specifications.</p>	 <p>Metal mesh placed over darinage inlet located southwestern side of roof</p>  <p>Location of drainage inlet southwestern side of roof</p>
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Poor workmanship employed by the builder at the time of construction. • Drainage material/product not fit for purpose • Builder has failed to carry out the works in accordance with the contract specifications. 	
C	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1 (a) ▪ Contract plans and specifications ▪ NCC Volume 3 Part A5.0 – Suitability <p>(1) A building and <i>plumbing</i> or <i>drainage</i> installation must be constructed using materials, products, <i>plumbing products</i>, forms of construction and designs fit for their intended purpose to achieve the relevant requirements of the NCC.</p>	

<p>D</p>	<p>Proposed Rectification Scope of Works</p> <p>CONCURRENT AND IN CONJUNCTION WITH REPAIRS IN RELATION TO ITEM R-2</p> <p>Allow to:</p> <ol style="list-style-type: none"> 1. Labour to install galvanized inlet grates to stormwater inlets to Buildings L and U 2. Supply galvanized inlet grates 3. Labour and install bird netting to pebbled roof areas to Building L and U 4. Supply bird netting and ancillaries 5. Clean site and leave in a tidy condition upon completion of work 	 <p>Location of drainage inlet to southwest lower roof Building U NOTE: No bird netting provided to pebbled roof areas</p>
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Description Photograph(s) R-3



			
<p>Metal mesh placed over drainage inlet located on eastern side of roof</p>			<p>Location of drainage inlet eastern side of roof NOTE: No bird netting provided to pebbled roof areas</p>

Description Photograph(s) R-3	
<p>PPR for 11-15 Mitchell Avenue Jannall</p> <p>6.4.4 Roof and Roof Finishes</p> <ul style="list-style-type: none">a) Any concrete flat roofs are to have a waterproof membrane even if not over habitable spaces.b) All non-trafficable areas to be covered with pebbles and netting (ensuring the pebbles cannot be removed by birds), except plantroom deck area.	 A photograph showing a flat roof area covered with small, light-colored pebbles. A white concrete parapet wall runs along the edge of the roof. In the foreground, a circular drainage inlet is visible, circled in red. A small blue object, possibly a mobile phone, lies on the pebbles near the inlet. The background shows some greenery and a building under construction.
<p>Extract page 50 PPR 6.4.4 specifying netting to pebbles</p>	<p>Image showing location of drainage inlet to norther side of Building L</p> <p>NOTE: No bird netting provided to pebbled roof areas</p>




ITEM	COMMENTARY	PHOTOGRAPH(S)
R-4		
A	<p>Location & Description Building L – Ladder</p> <p>The Author has observed an aluminum ladder is in use to access roof of Building U from Building L.</p> <p>The Author noted that the building contract Page 50 Clause 6.4.4 Roof and Roof finishes of the Principal’s Project Requirements specifies ‘Safety access system to be provided for maintenance and services as required for safe working standards on roof as per health and safety codes.’</p> <p>For clarity, please refer to the following extract page 50 PPR 6.4.4 -</p> <p>PPR for 11-15 Mitchell Avenue Jannali</p> <hr/> <p>6.4.4 Roof and Roof Finishes</p> <ul style="list-style-type: none"> a) Any concrete flat roofs are to have a waterproof membrane even if not over habitable spaces. b) All non-trafficable areas to be covered with pebbles and netting (ensuring the pebbles cannot be removed by birds), except plantroom deck area. c) Metal deck roofing areas to manufacturer’s specification and to include for all vapour barriers, insulation and sarking, with all matching fascia boards and gutters. All downpipes to be concealed as per hydraulics design. d) All services and plant equipment located on the roof must be adequately screened. e) In the case that any plant on the roof can be viewed pre-completion or post construction, additional screening will have to be provided to an approved standard. f) Any hob constructed on the roof must receive a waterproof paintable membrane or painted finish. g) All roofing to have the required drainage and/or syphonic drainage as necessary. h) Safety access systems and latching points are to be provided for maintenance and services as required for safe working standards on roofs as per health and safety codes. 	 <p>Ladder used to access roof of Building U</p>  <p>Sample of roof ladder</p>

	<p>The Author is of the view that the ladder is comply with AS1657:2018 7.3.1 and 7.44 Fixed platforms, walkways, stairways and ladders – Design, construction and installation, as the width of the upper steps is less than 450mm and ladder is not securely fastened. For clarity, please refer to following before-mentioned extracts -</p> <p style="text-align: center;">37 AS 1657:2018</p> <p>7.3 STEP-TYPE LADDERS</p> <p>7.3.1 Width and angle of slope</p> <p>The width of the step-type ladder between the stiles shall be not less than 450 mm and not greater than 750 mm.</p> <p>The angle of slope of step-type ladders shall be in accordance with the requirements of Section 2.</p> <p>7.4.4 Fastenings</p> <p>The ladder shall be secured with fastenings at the top and at the foot of the ladder, and secured at intervals as necessary for conformance with the requirements of Clause 7.1.2.</p>	
<p>B</p>	<p>Cause(s)</p> <ul style="list-style-type: none"> • Safety access system not provided as to contract specifications. 	
<p>C</p>	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ <i>Home Building Act 1989 (NSW) under Section 18B Clauses 1 (a)</i> ▪ <i>NCC Volume 1 2016 - D2.18 Fixed platforms, walkways, stairways and ladders - A fixed platform, walkway, stairway, ladder and any going, and riser, landing, handrail or barrier attached thereto may comply with AS1657</i> ▪ <i>Contract plans and specifications</i> ▪ <i>AS1657:2018 7.3.1 and 7.44 Fixed platforms, walkways, stairways and ladders – Design, construction and installation</i> 	

D	<p>Proposed Rectification Scope of Works</p> <p>CONCURRENT AND IN CONJUNCTION WITH REPAIRS IN RELATION TO ITEM R-1</p> <p>Allow to:</p> <ol style="list-style-type: none">1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process.2. Gain access to required areas in accordance with Safework requirements.3. Supply and install ladder in accordance with AS1657:2018 7.3.1 and 7.444. Labour to place waste material in waste bin, clean site and leave in a tidy condition upon completion of work	
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ITEM	COMMENTARY	PHOTOGRAPH(S)
R-5		
A	<p>Location & Description Building L – Exposed Roof Services</p> <p>The Author has observed that mechanical and plumbing service to the northern side of Building L have not been screened.</p> <p>The Author noted that the building contract Page 50 Clause 6.4.4 Roof and Roof finishes of the Principal’s Project Requirements specifies ‘All services and plant equipment located on the roof must be adequately screened.’</p> <p>For clarity, please refer to the following extract from PPR 6.4.4 –</p> <p>PPR for 11-15 Mitchell Avenue Jannali</p> <hr/> <p>6.4.4 Roof and Roof Finishes</p> <ul style="list-style-type: none"> a) Any concrete flat roofs are to have a waterproof membrane even if not over habitable spaces. b) All non-trafficable areas to be covered with pebbles and netting (ensuring the pebbles cannot be removed by birds), except plantroom deck area. c) Metal deck roofing areas to manufacturer’s specification and to include for all vapour barriers, insulation and sarking, with all matching fascia boards and gutters. All downpipes to be concealed as per hydraulics design. d) All services and plant equipment located on the roof must be adequately screened. 	 <p>Exposed mechanical services to roof of Building L & U</p>
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Failure of the Builder to carry out the works in accordance with the contract specifications. 	 <p>18 Mitchell Street Jannali Service on roof screened</p>
C	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1 (a) ▪ Contract plans and specifications 	

D	<p>Proposed Rectification Scope of Works</p> <p>CONCURRENT AND IN CONJUNCTION WITH REPAIRS IN RELATION TO ITEM R-1</p> <p>Allow to:</p> <ol style="list-style-type: none">1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process.2. Gain access to required areas in accordance with Safework requirements.3. Supply powder coated metal louvre panels, posts, railing, gate, gate furniture and ancillaries4. Labour to install screening materials and ancillaries5. Labour to place waste material in waste bin, clean site and leave in a tidy condition upon completion of work6. Dispose of building waste	
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ITEM	COMMENTARY	PHOTOGRAPH(S)
C - 1		
A	<p>Location & Description Door installation – Waterstop and weatherproof flashing</p> <p>The Author has observed that no water stop has been provided to the doors to all units.</p> <p>The Author noted that the defect was identified in Section 8.3 of the Construction Adviser (Giaouris) Report.</p> <p>The Author concurs with Giaouris view that the installation has not been carried out in accordance with AS4654.2.</p> <p>The Author is of the view that the defect is systematic failure of the Builder to carry out the works with due care and diligence in accordance with AS4654.2 and the NCC Volume 1 2016.</p> <p>The Author noted that the NCC Volume 1 2016 Part F1.4 states –</p> <p><i>Waterproofing membranes for external above ground use must comply with AS 4654.1 and AS4654.2; and that the</i></p> <p><i>Performance Requirements FP1.4 Weatherproofing require - A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause—</i></p> <p><i>(a) unhealthy or dangerous conditions, or loss of amenity for occupants; and</i></p> <p><i>(b) undue dampness or deterioration of building elements.</i></p> <p>The Author is of the view that based on the NCC Verification Methods FV1.1 Weatherproofing methods of assessing and testing that where the doors have been installed there is a Very high Risk Severity that door installation is defective.</p> <p>It then follows that the doors identified by the Author in Table C-1-1 of this item in relation to the defective works should be rectified to comply with requirements of the NCC and AS4654.2.</p>	 <p>Unit G02 Bed 2</p>  <p>Unit G03 No waterstop</p>  <p>Unit G04 Bed 2</p>
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Failure of the Builder to carry out the works with due care and diligence. 	




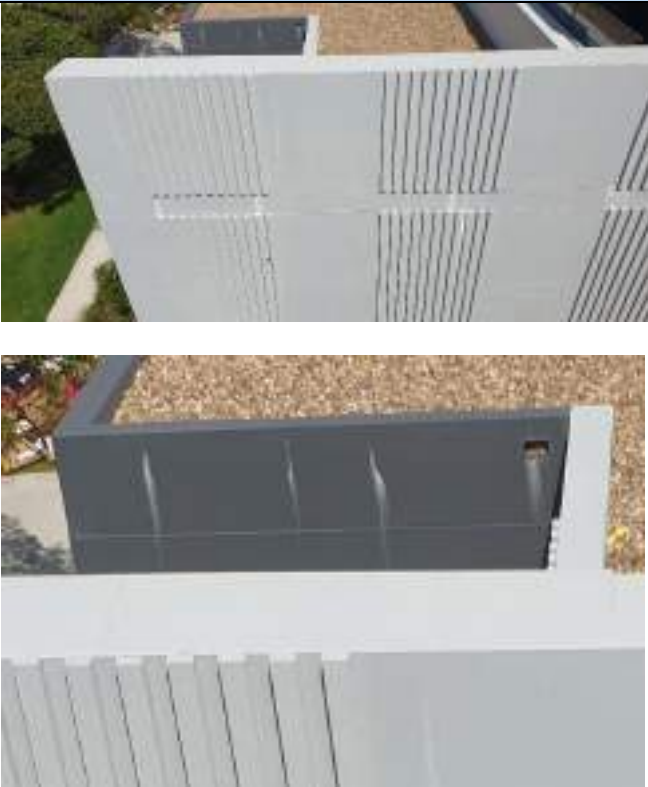



<p>C</p>	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1 (a) ▪ NCC Volume 1 2016 FP1.4 – Weatherproofing ▪ AS4654.2 	
<p>D</p>	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <p>Apply following rectification methodology to each unit and door identified in Table C-1-1</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Cover and protect adjacent surfaces during the rectification work 4. Labour to pull back carpet to provide access to carry out repairs 5. Labour to remove sliding door and store in a secure location 6. Labour to clean down existing waterproofing, reactivate waterproofing, install new waterproofing waterstop angle behind sliding door, aluminium angle colour matched to aluminium frame, Install new waterproofing, angle and fillet to hob and waterstop 7. Labour to reinstall sliding door suite, finishes, sealant to vertical and horizontal tile junction, install storm moulds to sliding door frame 8. Labour to complete paint repair affected finishes 9. Supply paint ancillaries 10. Labour to reinstate carpet 11. Make good any surfaces affected as part of the works, to their prior condition. 12. Clean site and leave in a tidy condition upon completion of work 	<p>Unit 204 Bed 2 sliding door</p>  <p>Unit 304 No Waterstop</p>  <p>Unit 403 doors to southside of balcony terrace</p>

TABLE C-1-1

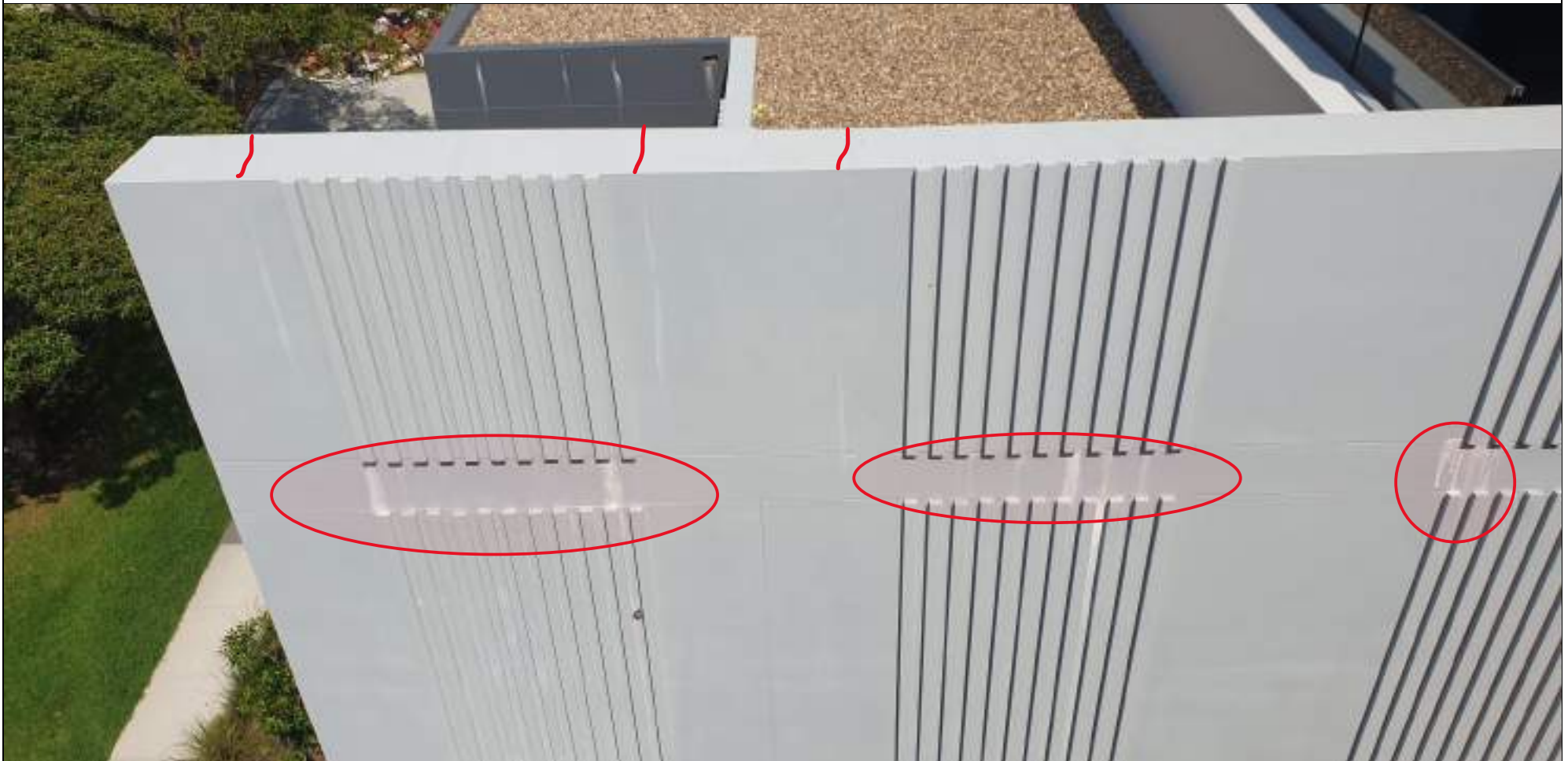
Unit Number	Location of Doors
G02	Bedroom 2
G03	Bedroom 2
G04	Bedroom 1 and 2
G05	Bedroom 2
104	Bedroom 2
204	Bedroom 2
304	Bedroom 2
401	Bedroom 1 and 2
402	Bedroom 2
403	Bedroom 1 and 2

ITEM	COMMENTARY	PHOTOGRAPH(S)
C-2		
A	<p>Location & Description Efflorescence</p> <p>The Author has observed that there is efflorescence staining to the buildings rendered façade on all elevations and primary located below areas of the building that have no flashing provided or waterproofing to the building parapets, hobs, or roof perimeter.</p> <p>The Author noted that Mr Giaouris had identified the issue in his report, and that no rectification works had been carried by the builder.</p> <p>Furthermore, the Author is of the view, that based on the Mr Giaouris observations, the presents of efflorescence staining had increased following his inspection of the building works.</p> <p><u>Metal flashing and defective render to terrace balcony balustrade units 401 and 403</u></p> <p>The Author has observed that metal flashing has been installed to the rendered terrace balcony balustrade of units 401 and 403, and repair works had been carried but not completed to the rendered finish, to the balustrade wall of unit 403.</p> <p>The Owner occupant stated to the Author at the time of inspection, that the builder had commenced repair works to the render as the render was delaminating and found to be drummy, and that the builders repair works had failed to resolve the issue.</p>	 <p>Efflorescence staining to building façade</p>

	<p>The Author observed that the render repair applied had crazed cracking and was drummy.</p> <p><u>Provision of flashing and waterproofing to parapets, hobs and roof perimeter</u></p> <p>The Author is of the view that the efflorescence and damage to the rendered finish has originated due to the lack of flashing and waterproofing to the buildings parapets, hobs and roof perimeter, that has allowed water to penetrate and migrate the wall and substrate, causing the efflorescence staining, cracking and delamination of the rendered finish.</p> <p>The Author is of the view, that the builder had identified the requirement for flashing, as the builder has provided metal flashing to the terrace balcony balustrade of units 401 and 403, and that a similar methodology should have been applied to the parapets, hobs and roof perimeter that are also fully exposed to the weather.</p> <p>The Author is of the view that the builder has failed to carry out the works with due care and skill and in accordance with National Construction Code Volume 1 2016 FP1.4 Weatherproofing.</p>	
<p>B</p>	<p>Cause(s)</p> <ul style="list-style-type: none"> • <i>Failure of the Builder to carry out the works with due care and skill</i> • <i>Failure of the Builder to provide flashing and waterproofing to prevent undue dampness and deterioration of building elements.</i> 	
<p>C</p>	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ <i>Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) & (c);</i> ▪ <i>National Construction Code 2016 Vol1 FP1.4 Weatherproofing</i> 	<p>Efflorescence staining to building façade</p>

D	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none">1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process.2. Gain access to required areas in accordance with Safework requirements.3. Supply and install scaffold in hard to reach areas4. Supply and install custom made powder coated metal flashing to parapets and roof perimeter5. Supply fixings, sealants, and ancillaries6. Labour to remove efflorescence staining and repair paint finish to nearest junction and make good, affected finishes7. Supply paint, cleaning materials and ancillaries8. Dismantle and remove scaffold9. Labour to place waste material in waste bin, clean site and leave in a tidy condition upon completion of work10. Dispose of building waste	
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C-2 Description Photograph(s)



Efflorescence staining to western of building U façade above entry inline with cracks on top of façade parapet indicated in and horizontal joint

C-2 Description Photograph(s)



Location of efflorescence staining to building façade above balcony to unit 305



No flashing or waterproofing provided to building parapets



Efflorescence staining to western side of building L façade above entry inline with crack on top of façade parapet indicated in red



Image showing metal flashing installed to rendered balustrade to unit 401



C-2 Description Photograph(s)



Image showing balustrade metal capping and evidence of Builders repair to unit 403 to southern side of balcony terrace



Image showing balustrade metal capping and evidence of builders repair to unit 403 to western side of balcony terrace

ITEM	COMMENTARY	PHOTOGRAPH(S)
C-3		
A	<p>Location & Description Northern exterior – Courtyard Unit G07 and Balcony Unit 107 – Lightweight rendered column</p> <p>Background</p> <p>The Author has observed that opening had been made to the northeast column in the courtyard above and below the slab of unit 107 at the northeast corner of the column. It was reported to the Author that the Builder had made the opening to investigate the source of moisture damage to the cladding. The Author observed that the northeast corner of the balcony column to the above levels had evidence of water penetration from the rendered cladding.</p> <p>The Author observed evidence of corrosion to the interior steel frame of the column.</p> <p>It was reported to the Author by the lot owner in of unit 107 directly above Unit G07, that the Builder had carried out a diagnostic investigation by flooding the balcony and dye testing using a red dye to the balcony of unit 107.</p> <p>On inspection of unit 107 balcony the Author observed that a small section of sealant to junction of the floor tiling and northeast column had been removed. The Authors Images taken at G07 of the interior of the column from holes cut in column the Author assumed was done by the Builder while carried the diagnostic investigation works.</p> <p>Diagnostic Investigation and testing</p> <p>Flood testing</p> <p>The Author conducted a diagnostic investigation by carrying out a flood test to the balcony of unit 107 using a green, fluorescent dye. The Author observed during the flood test water penetrating at the concrete slab level to the northeast corner of the column. A destructive investigation involving removing the render to the slab edge and a small section of tiling at the balcony overflow revealed that the water leak had originated at the balcony overflow.</p> <p>Waterproofing Installation</p> <p>The Author removed the tile screed to the location described and observed -</p>	 <p>Image showing northeast corner of column taken from courtyard of unit G07</p>  <p>Image showing column extending above all levels to roof</p>

- A section 45mm PVC angle had been used to form the vertical waterproofing termination to the inlet of the overflow, and that the waterproofing membrane did not extend fully to the height and over the surface of the overflow and that the rendered column cladding was abutting the edge of the overflow hob.
- From a small section of the waterproofing membrane removed, that no fillet of bond breaker had been used at the horizontal and vertical junctions.
- Evidence of pin holes to the waterproof membrane.

The Author is of the view that –

- The Builder has failed to carry out the waterproofing to the balcony in accordance with AS4654.2
- The Builder has failed to weatherproof the building

Weatherproofing

The Author observed evidence of water leaks directly below the parapet to the northside of the column that balconies and northwest corner of Building U.

The Author is of the view that the water leak originated due to the failure of the building to provide a weatherproof capping to the parapets above.

Building distortion, settlement deterioration of building elements

The Author observed that the gasket seal to the horizontal joint to the eastside and northside of the column below the slab had ruptured and the alignment between the underside of concrete slab and the top of the rendered lining was distorted primary to the eastern side of the column, and that sections of the render finish had cracked and were delaminating from the slab edge above the render lightweight cladding.

The Author is of the view that the damage caused to the horizontal gasket seal and rendered finish described is due to the deflection of the cantilevered slab and settlement of the building.

The Author recommends that the issue be investigated by suitable qualified structural engineer.



Images showing openings cut in column to northeast corner reported by occupants to have been done by the Builder., and evidence of damage caused due to deflexion of cantilevered concrete slab.



Yellow staining to interior surface of cladding

	<p>Findings The Author is of the view that the defects described originated due -</p> <ul style="list-style-type: none"> • Poor workmanship employed by the Builder at the time of construction • Failure of the Builder to carry out the works in accordance with plans and specification. • Failure of the Builder to carry out the works in accordance with AS4654.2 • Failure of the Builder to carry out the works in accordance with NCC FP1.4 - Weatherproofing 	
<p>B</p>	<p>Cause(s)</p> <ul style="list-style-type: none"> • Poor workmanship employed by the Builder at the time of construction • Failure of the Builder to carry out the works in accordance with plans and specification. 	
<p>C</p>	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1(a)&(c); ▪ National Construction Code 2016 Vol1 FP1.4 Weatherproofing ▪ AS4654.2:2012 Waterproofing membranes for external above-ground use Part 2: Design and installation. ▪ Contract Plans and specifications 	
<p>D</p>	<p>Proposed Rectification Scope of Works</p> <p>Provisional allowance: Structural engineers inspection and report</p> <p>Prior to the commencement of rectification works, provide for a structural engineer to carry out inspection and provide report in relation to the defective works and structural impact due to the deflection of cantilevered concrete balconies.</p> <p>CONCURRENT AND IN CONJUNCTION WITH REPAIRS IN RELATION TO ITEM C-2</p> <p>Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Supply and install scaffold to provide a safe working platform 4. Cover and protect adjacent surfaces during the rectification work. 5. Labour to remove furniture, affected fixtures and place in secure location 6. Provide waste chute to balcony level to remove demolition and building material waste from balcony 7. Labour to demolish and remove tiling, tile bed (screed), and waterproofing membrane, expose concrete slab substrate, remove demolition waste and place in 	

	<p>waste bin for disposal</p> <ol style="list-style-type: none">8. Labour to grind concrete surface and prepare surface for new waterproofing system9. Labour to provide proprietary waterproofing system in accordance with AS4654.1&2 to balcony terrace10. Labour to carry and load materials throughout remediation works11. Labour to place sand and cement tile screed and provide positive falls to drainage inlets in accordance with AS3958.1 and in accordance with building contract specifications12. Labour to mix sand and cement for tile screed and assist trades13. Supply sand and cement for tile screed14. Supply 'Efflock' to prevent efflorescence15. Supply and apply waterproofing system on top of tile bed to prevent efflorescence16. Supply and install preformed tile movement joint in accordance with AS3958.1 and building contract specifications17. Supply and fix new selected tiles and grout in accordance with AS3958.1:2007 and building contract specifications18. Supply 'Efflock' for tile adhesive and grouts to prevent efflorescence19. Labour to seal all joints and junctions20. Supply sealants21. Remove and dispose of all building waste22. Make good any surfaces affected as part of the works, to their prior condition.23. Dismantle and remove scaffold24. Clean site and leave in a tidy condition upon completion of work25. Dispose of building waste	
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Description Photograph(s) C-3



Image showing flexibale sealant that removed by the Builder to conduct dye test at the junction on the southwestern corner of the column to unit 107 that was reported at the time inspection to the Author by the owner occupant of unit 107.



Evidence of moisture damage to northeast corner of column



Evidence of corrosion to steel frame to interior of column exposed on northeast corner.



Evidence of moisture penetration following rain on day of inspection



Evidence of rupturing of gasket sealant to horizontal joint and distortion to alignment of building elements caused due to deflexion of cantilevered concrete slab



Column material exposed to northwest side of the column reported to the Author at the time inspection to have been done by the Builder.

Description Photograph(s) C-3



Flood testing using effluorescent dye to U107 Balcony



Flood testing using effluorescent dye to U107 Balcony



Evidence of water flood test penetrating column to northeast column of unit 107



Evidence of water flood test penetrating column to northeast column of unit 107



Evidence of water flood test penetrating column to northeast column of unit 107



Evidence of water flood test penetrating column to northeast column of unit 107

Description Photograph(s) C-3



Tile removed adjacent to northeast column and overflow to balcony



Overflow built up above PVC has not been waterproofed



45mm PVC angle used at form upturn to waterproofing



Height of upturn to waterproofing to northeast column above 70mm



No bond breaker or fillet provided at horizontal junction



Evidence of pin holes to waterproof membrane

Description Photograph(s) C-3



Evidence of water flood test penetrating interior of column to northeast column of unit 107. PVC angle used to form vertical termination penetrating lining to column.



Evidence of water flood test penetrating column to northeast column to balcony of unit 107



Evidence of rainwater leaks above northeast lightweight wall to Building U



Evidence of rainwater leaks above northwest lightweight balcony wall to Building U



Evidence of rainwater leaks above northwest light weight balcony wall to Building U



Evidence of rainwater leaks to northwest corner of Building U

Description Photograph(s) C-3



**EVIDENCE OF DEFLEXION (SAG) TO CANTILEVERED CONCRETE SLAB CAUSING DISLODGE-
MENT OF SEALANT AND DAMAGE TO RENDERED LININGS TO NO
STRUCTURAL LIGHT WEIGHT WALL AT GROUND LEVEL TO NORTHEAST COLUMN OF BUILDING U.**

Description Photograph(s) C-3




Evidence of water penetration to linings on northeast column to Building U



Evidence of water penetration and deflexion in cantilevered concrete slab northeast balconies of Building U



Location of cantilevered concrete deflection, distortion of building elements and water leaks to north east of Building U

ITEM	COMMENTARY	PHOTOGRAPH(S)
C-4		
A	<p>Location & Description Light weight balcony columns and walls to units G07-107, G06-206</p> <p>The Author observed at the time of inspection –</p> <ul style="list-style-type: none"> • Water damage to the northeast and northwest light weight rendered wall and columns to units G07-107, 106, G06-206. • An opening has been made to the northeast column in the courtyard above and below the slab of unit 107 at the northeast corner of the column. The Author was informed by the Owner/Occupant of unit 107 at the time of inspection, that the opening had been made by the Builder in carrying out an invasive investigation and testing to determine cause of water leaks. • Evidence of repair to base of light weight wall to northwest corner of unit 106. <p>The Author is of the view that the defects described originated due -</p> <ul style="list-style-type: none"> • Poor workmanship employed by the Builder at the time of construction • Failure of the Builder to carry out the works in accordance with plans and specification. • Failure of the Builder to carry out the works in accordance with AS4654.2 • Failure of the Builder to carry out the works in accordance with NCC FP1.4 - Weatherproofing 	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Poor workmanship employed by the Builder at the time of construction • Failure of the Builder to carry out the works in accordance with plans and specification. 	
C	<p>Breach(es) Failure to comply with the following:</p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1(a)&(c); ▪ National Construction Code 2016 Vol1 FP1.4 Weatherproofing ▪ AS4654.2:2012 Waterproofing membranes for external above-ground use Part 2: Design and installation. ▪ Contract Plans and specifications 	<p>Evidence of water penetration to column on western side of balcony to unit 206</p>

D	<p>Proposed Rectification Scope of Works</p> <p>CONCURRENT AND IN CONJUNCTION WITH REPAIRS IN RELATION TO ITEM C-2</p> <p>NOTE: WEATHERPROOFING, SCAFFOLD, COVER AND PROTECTION OF ADJACENT FINISHES INCLUDED IN ITEM C-2</p> <p>Allow to:</p> <ol style="list-style-type: none">1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process.2. Gain access to required areas in accordance with Safework requirements.3. Labour to repair damaged finishes4. Materials and ancillaries to repair damaged finishes5. Clean site and leave in a tidy condition upon completion of work6. Dispose of building waste	
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Evidence of destructive investigation carried out by Builder and moisture damage to eastern coloumn to unit G07 and unit 107



Description Photograph(s) C-4



Evidence of moisture damage and repair carried out by Builder to column on northwestern corner of unit 106



No flashing provided to top of columns on northern side of building. Evidence of efflorescence staining to eastern side of parapet.

ITEM	COMMENTARY	PHOTOGRAPH(S)
C-5		
A	<p>Location & Description Balcony Unit 205 – Efflorescence</p> <p>The Author observed efflorescence staining to the top of concrete slab at the southeast balcony of Unit 205 that evidence of a moisture penetration.</p> <p>During inspection following periods of rain, the Author observed moisture penetrating at the top of the concrete slab in the location of efflorescence staining to unit 205, and moisture penetrating the eastern side of the lightweight rendered wall in location above unit 205 and below at the balcony slab to unit 105.</p> <p>The Author noted that the defect was identified in Attachment F Section 10.6 of TCA report.</p> <p>The Author is of the view that the defect originates due to the failure to provide weatherproofing to the wall parapet at the roof level.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Poor workmanship employed by the Builder at the time of construction • Failure of the Builder to carry out the works in accordance with plans and specification. 	
C	<p>Breach(es) Failure to comply with the following:</p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1(a)&(c); ▪ National Construction Code 2016 Vol1 FP1.4 Weatherproofing ▪ Contract Plans and specifications 	
D	<p>Proposed Rectification Scope of Works</p> <p>CONCURRENT AND IN CONJUNCTION WITH REPAIRS IN RELATION TO ITEM C-2</p> <p>Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework 	<p>Location and evidence of efflorescence staining to southeast unit 205 balcony.</p>

requirements.


3. Cover and protect adjacent surfaces during the rectification work.
4. Supply and install scaffold to provide safe working platform
5. Labour to repair damaged finishes
6. Materials and ancillaries to repair damaged finishes
7. Dismantle and remove scaffold
8. Clean site and leave in a tidy condition upon completion of work
9. Dispose of building waste




Location of moisture penetration and efflorescence staining



Evidence of efflorescence staining to parapet wall at roof level

ITEM	COMMENTARY	PHOTOGRAPH(S)
C-6		
A	<p>Location & Description Building L and U Façade - Decorative battens</p> <p>The Author has observed evidence of –</p> <ol style="list-style-type: none"> 1. Corrosion of the metal fixings to southern side Building L and U façade. 2. Cracks to the aerated concrete decorative battens installed to the building façade to north and west of building L and south of building U. 3. Gaps to decorative battens installed to the building façade to north and west of building L and south of building U. <p>During inspection the found metal fixings with the demolition waste from waterproofing repair to southern building side of entry with evidence of corrosion.</p> <p>The Author noted that the Item had been identified in Attachment F Section 10.6 item C20 of TCA report.</p> <p>The Author is of the view that Builder originated due to the has failure to use suitable fixings for installation of aerated decorative battens and poor workmanship employed by the Builder at the time of construction.</p>	 <p>Evidence of corrosion of fixings to aerated concrete battening on eastern side of main entry</p>
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Poor workmanship employed by the Builder at the time of construction. 	
C	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1(a)&(c); ▪ NCC 2016 Volume 1 Part A5.0 (2)(b) – Suitability of materials and products 	

	<p>A5.0 Suitability</p> <p>(1) A building and <i>plumbing or drainage</i> installation must be constructed using materials, products, <i>plumbing products</i>, forms of construction and designs fit for their intended purpose to achieve the relevant requirements of the NCC.</p> <p>(2) For the purposes of (1), a material, product, <i>plumbing product</i>, form of construction or design is fit for purpose if it is—</p> <p>(a) supported by evidence of suitability in accordance with—</p> <p>(i) A5.1; and</p> <p>(ii) A5.2 or A5.3 as appropriate; and</p> <p>(b) constructed or installed in an appropriate manner.</p>	
<p>D</p>	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Cover and protect adjacent surfaces during the rectification work. 4. Supply and install scaffold to provide safe working platform 5. Labour to remove damaged, poorly installed battens and prepare surface for install of new battens 6. Supply new batten material, ancillaries, and fixings 7. Labour to full seal new and existing battens, apply textures finish and paint new and existing battens, repair and make good, affected finishes 8. Supply paint and ancillaries 9. Labour to remove and dispose of building waste 10. Dismantle and remove scaffold 11. Clean site and leave in a tidy condition upon completion of work 12. Waste disposal 	<p>Location of evidence of corrosion of fixings to aerated concrete battening on eastern side of main entry</p>

Description Photograph(s) C-6



Evidence of corrosion to aerated concrete battening to upper levels on western side of main entry

Location of corrosive fixings to aerated concrete battening on upper levels on western side of main entry



Evidence of damage to battening to eastern wall of main entry

Location of battening to eastern side of main entry

Description Photograph(s) C-6



Evidence of damage to aerated concrete battening to eastern wall of main entry



Evidence of damage to aerated concrete battening to eastern wall of main entry



Evidence of corrosion to metal screws used to fix battens found with demolition waste located in Basement 2 storage area



14 gauge timber screws used to fix aerated concrete battens

Description Photograph(s) C-6	
 <p>A photograph showing a pile of demolition waste, including concrete and metal debris, on a basement floor. A date stamp '10/11/2021' is visible in the bottom right corner.</p>	 <p>A close-up photograph of the end of an aerated concrete batten. The batten is positioned above a waterproofing repair on the south side of an entry. A date stamp '10/11/2021' is visible in the bottom right corner.</p>
<p>Fixings found with demolition waste in storage on Basement 2</p>	<p>End of aerated concrete batten located above waterproofing repair to south side of entry</p>
 <p>A close-up photograph of a vertical aerated concrete batten. A red circle highlights a crack and gap in the batten. A date stamp '10/11/2021' is visible in the bottom right corner.</p>	 <p>A close-up photograph of a vertical aerated concrete batten. A red circle highlights a crack and gap in the batten. A date stamp '10/11/2021' is visible in the bottom right corner.</p>
<p>Evidence of cracks and gaps to battens fixed to southwestern side of entry</p>	<p>Evidence of cracks and gaps to battens fixed to southwestern side of entry</p>

Description Photograph(s) C-6



Image showing cracks and gaps to battens



Location of defects western façade Building L northwestern side of entry



Evidence of cracks and gaps to battens fixed to southeastern side of entry




Location of defects western façade Building L southeastern side of entry






Evidence of poor workmanship to install to Building L façade battens above southern entry



Location of poor workmanship to Building L above main entry

ITEM	COMMENTARY	PHOTOGRAPH(S)
C-7		
A	<p>Location & Description HEBEL cladding installation</p> <p>Hebel panel drainage and pressure equalisation – Item C7 identified in Attachment F Section 10.6 and 8.26 of TCA report.</p> <p>The Author has observed that there is no provision for drainage or pressure equalization to the Hebel panels to the façades of building L and U.</p> <p>The Author noted that the defective works had been identified in Section 10.6 and 8.26 of Mr Giaouris report dated 7 December 2020. However, the Author noted that Hebel installation guidelines referenced by Mr Giaouris states PE/drainage slots to be located no greater than 3 metre spacing. Therefore, the Author is of the view that work is defective in the locations where the spacing exceed or do not conform to the manufacturers guidelines.</p> <p>To clarify, please refer to extract from Section 8.26.3 of Mr Giaouris report -</p> <p>Pressure Equalisation Slots</p> <div style="border: 1px solid red; border-radius: 10px; padding: 5px; margin: 10px 0;"> <p>PE Slots (Weepa) allow pressure equalisation to the wall cavity and permit drainage of any water from the cavity. Ideally located at control joints (CJ) and at no greater than 3 metre spacing.</p> </div> <p>The Author is of the view that where the works have not been carried out in accordance with manufacturers guidelines that the works are defective and the defect originated due to poor workmanship employed by the Builder at the time of construction.</p>	 <p>No provision for Hebel panel drainage and pressure equalisation to southwestern façade above southern entry building L</p>
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by the Builder at the time of construction. 	

<p>C</p>	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ <i>Home Building Act 1989 (NSW) under Section 18B Clauses 1 (a)</i> ▪ <i>Manufacturers installation guidelines</i> 	
<p>D</p>	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Cover and protect adjacent surfaces during the rectification work. 4. Supply and install scaffold to provide working deck to all levels in location described to western façade to Building L and northern façade of Building U. 5. Labour to cut slot in Hebel panel to install Weepa protector, install Weepa protectors and patch and repair affected finishes in accordance with manufacturers guidelines. 6. Labour to repair render and paint façade to provide even finish 7. Supplier Weepa protectors 8. Supply Dulux render system materials, paint and ancillaries 9. Make good any surfaces affected as part of the works, to their prior condition. 10. Dismantle and remove scaffold 11. Clean site and leave in a tidy condition upon completion of work 12. Waste disposal 	<p>Insufficient provision for Hebel drainage and pressure equalisation under windows drainage to western façade building L</p>  <p>Insufficient provision for Hebel drainage and pressure equalisation under windows drainage to northwestern façade building U</p>

ITEM	COMMENTARY	PHOTOGRAPH(S)
C-8		
A	<p>Location & Description Main Foyer Entry – Waterproofing repair</p> <p>Moisture affecting habitable areas</p> <p>The Author has observed the progress of the waterproofing repair affecting unit G04 to the southside of the entry.</p> <p>Works not carried out in accordance with architectural plans</p> <p>The Author observed sections of blue board have been used to close voids in the base of the wall and that the Builder has applied to waterproofing membrane of the before mentioned sections.</p> <p>On review of the construction certificate architectural plans the Author observed the design required a concrete hob to south of entry above G04.</p> <p>Please refer to extract – PBA Architects construction certificate plans drawing A4001 Section details 01 for further details in the following table.</p> <p>Drummy render</p> <p>The Author carried out testing of the rendered finish and found the render to be drummy.</p> <p>Weepa installation</p> <p>The Author has observed that Weepa's have been installed to the base of wall within the rendered finish and is of the view that the Weepa's have no useful functions.</p> <p>Findings</p> <p>The Author is of the view that Builder has failed to carry out the works in accordance with plans and specifications and that the remediation works are defective.</p>	 <p>Waterproofing repair to east side of entry above Unit G04. Location of blue board used to close voids to base of wall.</p>

<p>B</p>	<p>Cause(s)</p> <ul style="list-style-type: none"> • Failure to carry out the works in accordance with the plans and specifications • Poor workmanship employed by the Builder at the time construction and repair works 	
<p>C</p>	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1 (a) ▪ Plans and specifications 	
<p>D</p>	<p>Proposed Rectification Scope of Works</p> <p>BEFORE COMMENCING REPAIR CHECK MOISTURE LEVEL TO INTERIOR WALL TO UNIT G04</p> <p>If there is no evidence of ongoing moisture originating for the defective works carried out at the time of construction, then allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Cover and protect adjacent surfaces during the rectification work. 4. Labour to remove drummy render and prepare wall surface for waterproofing 5. Labour to apply primer wall, binding material, and waterproofing membrane in accordance with waterproofing manufacturers guidelines 6. Labour to mix and apply polymer cement render 7. Labour to install decorative ACC battens to match existing architectural finishes 8. Labour to seal batten materials, apply paint and texture to match existing architectural finish and provide even finish. 9. Supply waterproofing materials polymer cement render, paint, and ancillaries 10. Supply ACC battens and ancillaries 11. Make good any surfaces affected as part of the works, to their prior condition. 12. Clean site and leave in a tidy condition upon completion of work 13. Waste disposal 	 <p>Progress of waterproofing repair location of blue board used to seal voids</p>



Render base coat applied to waterproofing membrane



Render base coat applied to waterproofing membrane



Render finish applied to waterproofing



Render finish applied to waterproofing is drummy



Weepa's installed to base of wall have no useful function



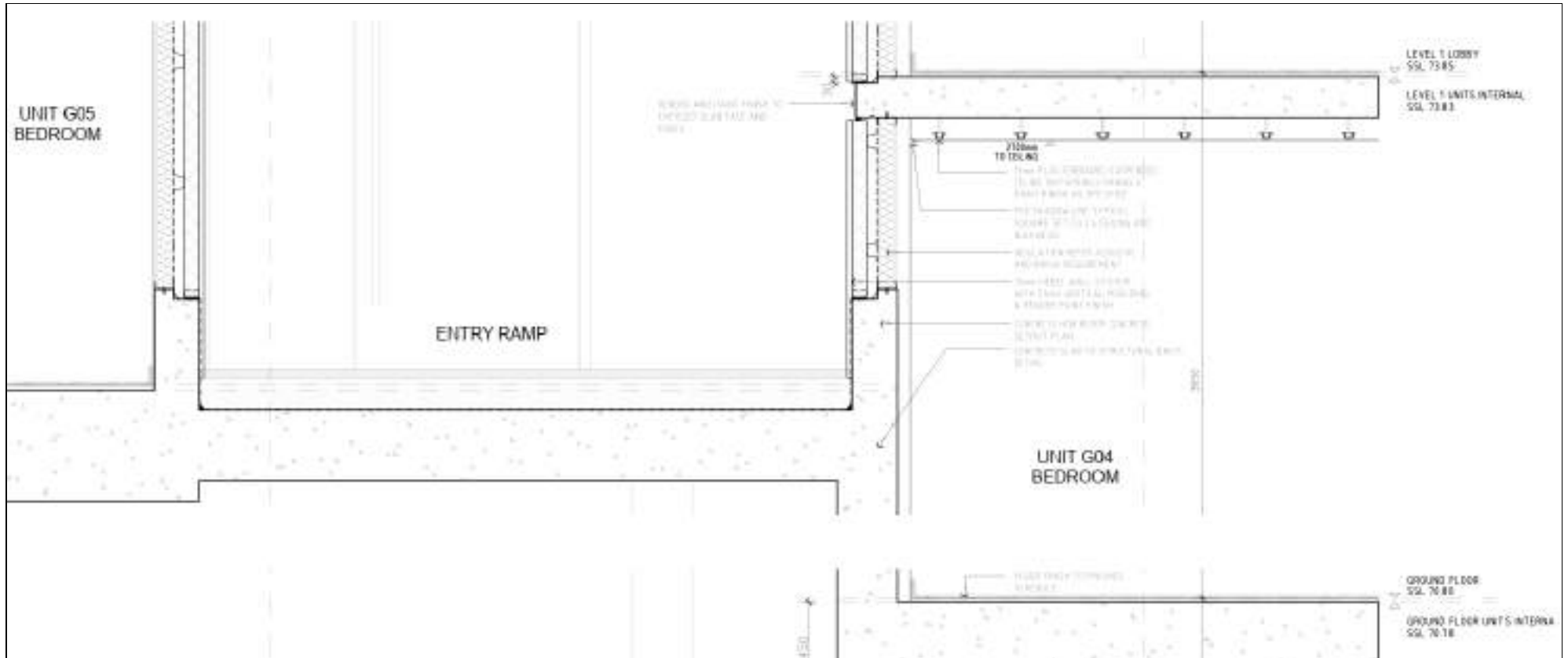
Weepa's installed to base of wall have no useful function





Waterproofing applied over stormwater grate





Waterproofing membrane applied over rough substrate





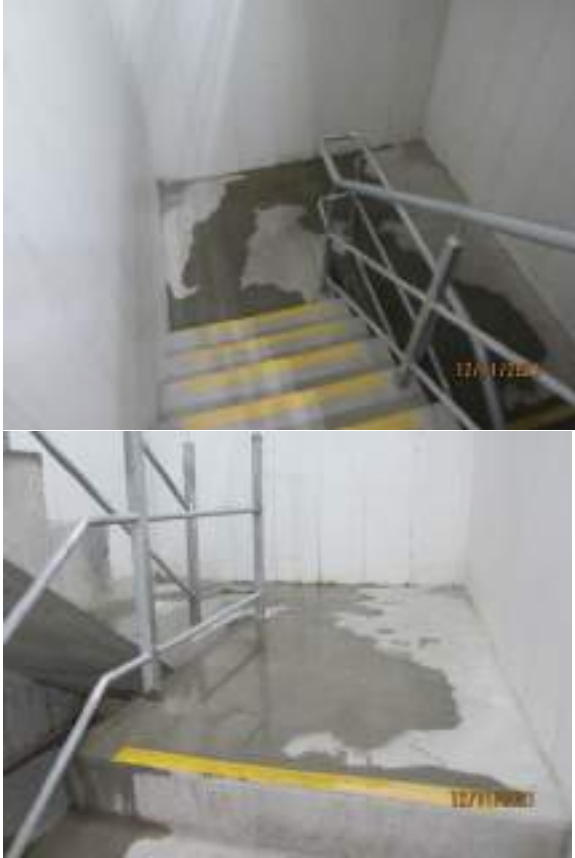
**Extract – PBA Architects construction certificate plans drawing A4001 Section details 01 showing hobs were to be constructed to both side of entry ramp
Item identified in Attachment F Section 10.6 of TCA report.**

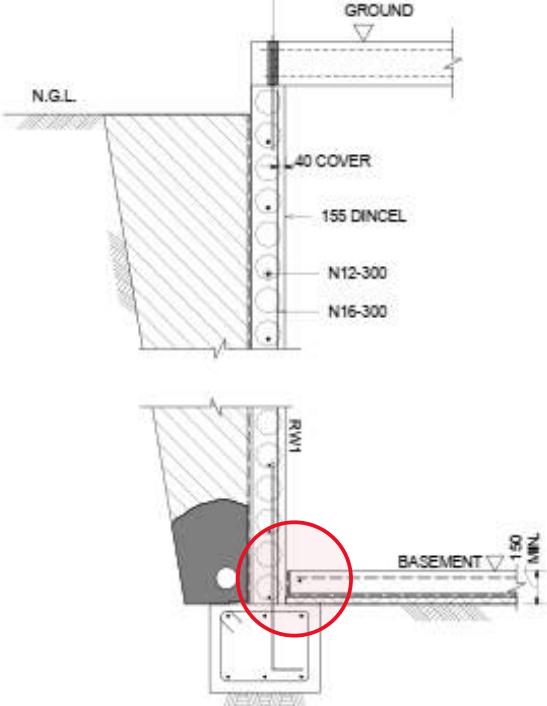
ITEM	COMMENTARY	PHOTOGRAPH(S)
C-9		
A	<p>Location & Description Eastern façade - Northern side of entry</p> <p>The Author observed at the time of inspection that the paint finish to Eastern façade - Northern side of entry has uneven cover.</p> <p>The Author is of the view that the defect originated due to poor workmanship employed by the Builder at the time construction.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Poor workmanship employed by the Builder at the time of construction. 	
C	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) ▪ NSW Guide to Standards and tolerances 2017 13.2 Surface finish of paintwork <i>Paintwork is defective if the application has blemishes such as paint runs, paint sags, wrinkling, dust, bare or starved painted areas, colour variations, surface cracks, irregular and coarse brush marks, sanding marks, blistering, non-uniformity of gloss level and other irregularities in the surface that are visible from a normal viewing position. (Highlighting added)</i> 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Cover and protect adjacent surfaces during the rectification work. 4. Labour to apply paint system to provide even cover 5. Supply paint to match existing architectural finishes 6. Supply paint ancillaries 7. Clean site and leave in a tidy condition upon completion of work 	

ITEM	COMMENTARY	PHOTOGRAPH(S)
C-10		
A	<p>Location & Description Northern side of entry – Stone paving</p> <p>The Author observed that the rainwater is ponding at the western end of the stormwater drain to the south side of the entry.</p> <p>The Author conducted fall test using a digital level and found that the paving surface did not have sufficient fall. The Author noted that the defect was identified in TCA (Giaouris) report Item C3 identified in Attachment F Section 10.6.</p> <p>The Author is of the view, the water ponding on the surface presents risk of injury resulting from slipping due to ponding water, and therefore the works do not conform to the requirements of the NCC 2016 Volume 3 FP2.1.</p> <p>For clarity, please refer to following extract from National Construction Code 2016 Volume 3 FP2.1 –</p> <p>Surface drainage systems (2) b) The severity of potential damage to property, loss of amenity, illness or injury that would result from the failure of the system.</p> <p>The Author is of the view that the defect originated due to poor workmanship employed by the Builder at the time of construction.</p>	 <p>Test indicating insufficient fall to southside of drain</p>  <p>Rainwater ponding to south and north at western end of stormwater drain</p>
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Poor workmanship employed by the Builder at the time of construction. 	
C	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) ▪ NCC 2016 Volume 3 FP2.1. (2) (b) 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Cover and protect adjacent surfaces during the rectification work. 	

	<ol style="list-style-type: none">4. Labour to remove stone paving with insufficient fall to the south and north side of stormwater drain and storage in secure location5. Labour to place and form tile screed to provide sufficient fall to stormwater drain, reinstate stone paving and grout joints and provide flexible sealant to wall and tile joints6. Supply tile screed materials, grouts, and sealants7. Clean site and leave in a tidy condition upon completion of work	
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ITEM	COMMENTARY	PHOTOGRAPH(S)
C-11		
A	<p>Location & Description Planter Box – Northwestern side of Building L</p> <p>The Author has observed that damage and incomplete repair to render finish to the top of planter box wall at the water tap located to the south end of the planter box.</p> <p>The Author is of the view that the damage and incomplete works originated due to poor workmanship employed by the Builder at the time of construction.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by the builder at the time of construction. 	
C	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1 (a) NSW Guide to Standards & Tolerances 2017 G – Responsibility to rectify – Builders are liable to repair damage caused to property in the course of completing their building work. 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Cover and protect adjacent surfaces during the rectification work. Labour to repair damaged render and apply paint to match existing architectural finishes Supply polymer cement render, paint and ancillaries Clean site and leave in a tidy condition upon completion of work 	

ITEM	COMMENTARY	PHOTOGRAPH(S)
B1-1		
A	<p>Location & Description Basement level 2 Stairs - Eastern wall</p> <p>The Author has observed that there following rain, water is penetrating location of the Dintel wall at –</p> <ol style="list-style-type: none"> 1. To the northern wall above stair landing Basement 2 level of the Fire stair 2 <ol style="list-style-type: none"> 1. The Author conducted a percussion test in the location of the water leak above stair landing Basement 2 level of the Fire stair 2 and found the location of the leak to be drummy. The Author is of the view that the percussion test indicated there is a concrete void in the core of the Dintel in the location of leak. <p>The Author is also of the view that as the stormwater drain at the to the ground level door has not been fully sealed at both end of the top of the grated drain allows rainwater to flow above the location of leak to the Dintel wall.</p> <ol style="list-style-type: none"> 2. At the base of the wall to the southern wall at Basement 2 level of Fire stair 2 <ol style="list-style-type: none"> 2. In relation to the water leak at the base of the wall to the southern wall at Basement 2 level of Fire stair 2, the found that the Dintel wall had not been set down below the slab as to the manufacturers guidelines. <p>The Author is of the view that the Builder has failed to carry out the works in accordance with the manufacturers installation guidelines and engineers design, and that the defects originated due to poor workmanship employed by the Builder at the time of construction.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Poor workmanship employed by the Builder at the time of construction. 	<p>Water pooling on floor due to water leak from Dintel at northern wall above stair landing Basement 2 level of the Firestair 2</p>
C	<p>Breach(es) Failure to comply with the following:</p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) ▪ Manufacturers guidelines ▪ Plans and specifications 	

	<ul style="list-style-type: none"> National Construction Code Volume 1 2016 FP1.2 Preventing rainwater from entering buildings <i>Surface water</i> must not enter the building. 	
<p>D</p>	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Cover and protect adjacent surfaces during the rectification work. 4. Labour to break out Dincel lining to reveal void in location of water leak, fill void with epoxy based two part waterproofing compound and make flush with Dincel surface. 5. Supply two part epoxy waterproofing product 6. Labour saw cut, demolish and remove concrete approximately 200mm out from base of wall in location of water leak to south, and extend cutting and demolition of concrete to provide drain to other side of wall to southwest corner to drain in location of stormwater inlet at base of excavation adjacent to southwest corner of Firer stairs. 7. Labour to install galvanized angle to base of Dincel wall at newly formed drain and fix galvanized metal grated drainage material over drainage channel. 8. Supply galvanized grated drainage materials and ancillaries 9. Clean site and leave in a tidy condition upon completion of work 10. Dispose of building waste 	<p>TYPICAL RW1 DINCEL RETAINING WALL</p> <p>Xavier Knight footing detail Drawings S0211 – Showing slab located above base of Dincel wall.</p>



Water pooling on floor at Basement 2 level in Stairway 2 orinating from water leak to northern wall above stair landing



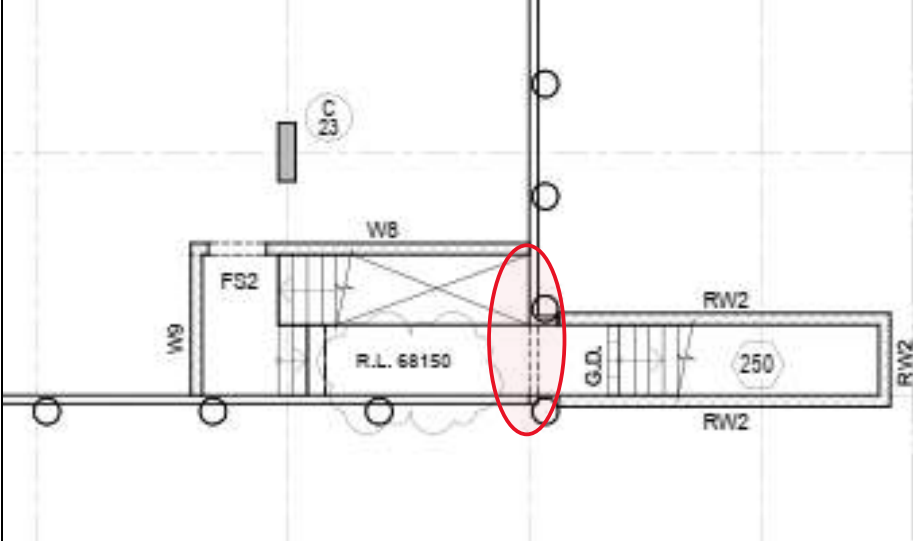
Water penetrating base of Dintel to southern wall in Stairway 2 at Basement 2 level



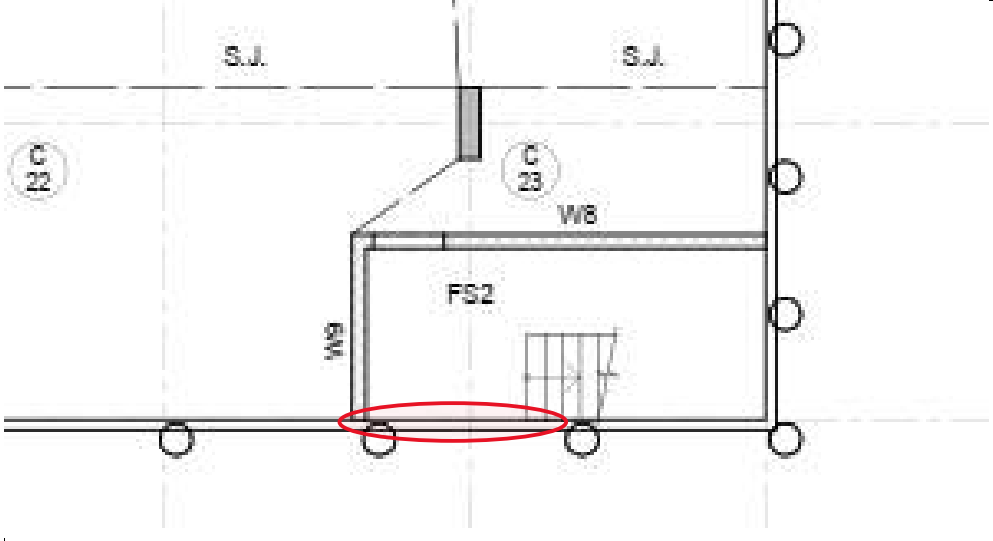
Water penetration identified at stair landing on eastern wall above basement level 1



Location of water penetration at eastern wall on stair landind above basement level 1



Basement level B1 Southeast stairway – Location of water leak



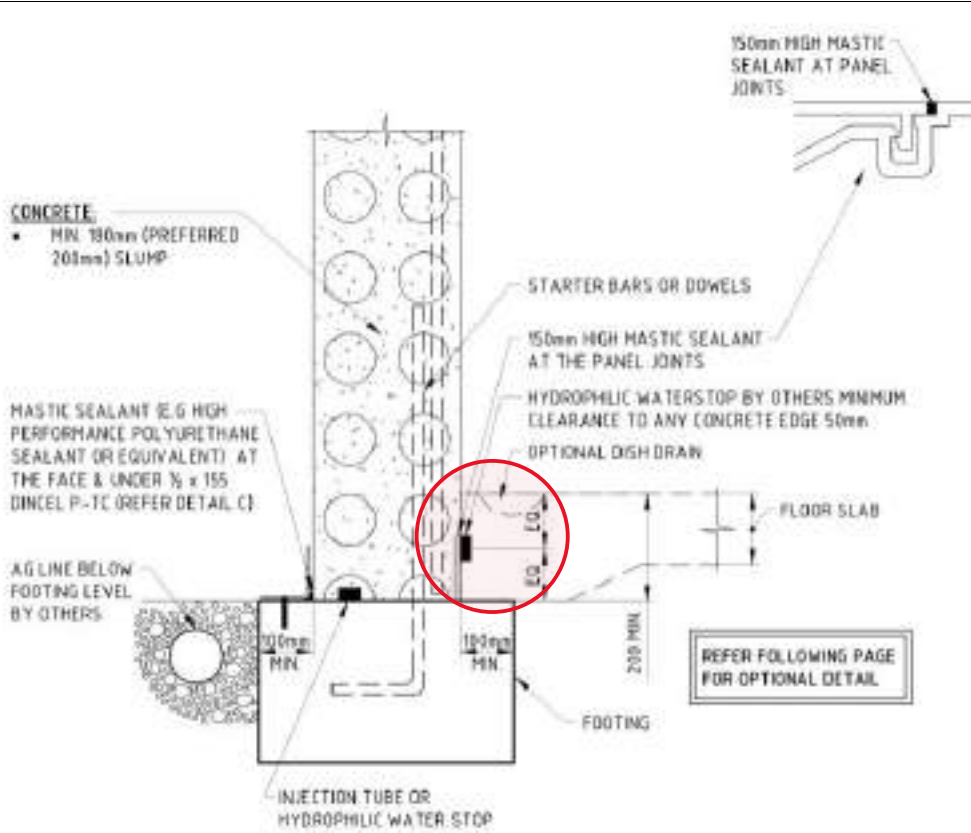
Basement level B2 Southeast stairway – Location of water leak



Gaps to drain at base of Fire stair door







Drain located at base of external stairs Fire stair door



Based of Dincel not set down below slab as to manufacturers guidelines

Dincel basement wall detail showing slab above base of wall

ITEM	COMMENTARY	PHOTOGRAPH(S)
B1-2		
A	<p>Location & Description Basement level 1 North retaining wall Entry – Evidence of moisture penetration</p> <p>The Author has observed water penetrating the northern retaining wall at the entry basement 1, and evidence of isolated waterproofing repairs carried in the location of the water leaks.</p> <p>The Author noted that the building contract requires completed basements <u>must be dry at all times</u>.</p> <p>Please refer to extract 6.3.1 from PPR of the building contact -</p> <p>6.3 Basement</p> <p>6.3.1 Drainage and Waterproofing</p> <p>a) Completed basements must be dry at all times.</p> <p>b) Subsoil drainage systems and vapour barriers must be installed as per design.</p> <p>c) The proposed method of mitigation of ground water ingress through the basement structure is to be confirmed via a brief, sketches or details prior to commencement. The Principal reserves the right to review the scope if required.</p> <p>The Author is of the view, that Builder has failed to carry out the waterproofing in accordance with the plans and specification, and that the defect originated due to poor workmanship employed by the Builder at the time of construction.</p>	 <p>Water ponding originating from water leaks to northern retaining wall at basement 1 entry</p>
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Defective waterproofing to retaining wall originating from poor workmanship employed by the Builder at the time of construction. 	
C	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(a);(c) Plans and specifications Building contract 	

<p>D</p>	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Cover and protect adjacent surfaces during the rectification work. 4. Labour to break out masonry in location of water leaks, fill opening with epoxy based two part waterproofing compound and make flush with wall surface. 5. Supply two part epoxy waterproofing product 6. Labour to apply Drizoro Max seal over wall to provide even texture over wall surface 7. Labour to paint masonry wall to provide even finish 8. Supply epoxy waterproofing compound, Drizoro Max seal, paint and ancillaries 9. Clean site and leave in a tidy condition upon completion of work 10. Dispose of building waste 	 <p>Water ponding orinating from water leaks to northern retaining wall at basement 1 entry</p>
		
<p>Water ponding orinating from water leak to western end basement 1 entry retaining wall</p>	<p>Water ponding orinating from water leak to western end basement 1 entry retaining wall</p>	



Evidence of failed waterproofing repair to water leaks





Evidence of failed waterproofing repair to water leaks



Image of northern retaining at basement entry with evidence of waterproofing repair




Evidence of waterleak to base of retaining wall on northern side of basement entry


ITEM	COMMENTARY	PHOTOGRAPH(S)
B1-3		
A	<p>Location & Description Basement 1 - Car wash bay The Author has observed that the car wash bay has no fall to the drainage inlet.</p> <p>The Author noted that the condition 21 of the development consent DA 18/0393 requires that the wash-bay must be graded to an internal drainage point. Please refer to extract from the Development consent DA 18/0393 condition 21</p> <p>21. Car Wash Bays To prevent contamination of the stormwater drainage system a car-wash bay must be provided on site:</p> <p>A. Design The wash-bay must be graded to an internal drainage point and connected to the sewer.</p> <p>The Author is of the view that the Builder has failed to carry out the works in accordance with the council conditions and that the defects originated from poor workmanship employed by the builder at the time of construction.</p>	 <p>Location of floor waste</p>  <p>Zero fall indicated to western side of drainage inlet</p>
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by the Builder at the time of construction. 	
C	<p>Breach(es) Failure to comply with the following:</p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(a);(c) Condition 21 of the development consent DA 18/0393 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Cover and protect adjacent surfaces during the rectification work. Labour to remove perimeter barrier to south and west of carwash bay 	





5. Labour to acid etch concrete surface to prepare for Roxset Epoxy Mortar Screed.
6. Supply, place and finish Roxset Epoxy Screed with grades to drainage inlet
7. Labour to reinstate barriers to west and south of carwash bay
8. Clean site and leave in a tidy condition upon completion of work
9. Dispose of building waste



Zero fall indicated to eastern side of drainage inlet

ITEM	COMMENTARY	PHOTOGRAPH(S)
B1-4		
A	<p>Location & Description Basement 1 Switch room – Evidence of waterproofing failure</p> <p>The Author has observed evidence of defective waterproofing to the base of the southwestern wall in the basement 1 switch room.</p> <p>On further investigation of the defective works the Author is of the view that the waterproofing system applied to the interior and external side of the wall has been carried out to repair or mitigate waterproofing issues that originated at the time of construction.</p> <p>The Author noted that the building contract requires completed basements <u>must be dry at all times.</u></p> <p>Please refer to extract 6.3.1 from PPR of the building contract - 6.3 Basement 6.3.1 Drainage and Waterproofing</p> <p>a) Completed basements must be dry at all times.</p> <p>b) Subsoil drainage systems and vapour barriers must be installed as per design.</p> <p>c) The proposed method of mitigation of ground water ingress through the basement structure is to be confirmed via a brief, sketches or details prior to commencement. The Principal reserves the right to review the scope if required.</p> <p>The Author is of the view that defective works originated due to poor workmanship employed by the Builder at the time of construction and that the remediation work carried out the Builder has failed to rectify the defect.</p>	 <p>Evidence of waterproofing failure to southwest wall of switch room</p>
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Poor workmanship employed by the Builder at the time of construction • <i>Plans and specifications</i> • <i>Building contract</i> • Failure of the Builder to rectify the defective works 	

<p>C</p>	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ <i>Home Building Act 1989 (NSW) under Section 18B Clauses 1(a);(c)</i> ▪ <i>National Construction Code Volume 1 2016 FP1.2 Preventing rainwater from entering buildings</i> ▪ <i>Surface water</i> must not enter the building. ▪ <i>Building contract</i> 	
<p>D</p>	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Cover and protect adjacent surfaces during the rectification work. 4. Labour saw cut, demolish and remove concrete the rear of masonry wall 5. Labour to prepare rear base of masonry wall 6. Labour to apply cementitious waterproofing to extend from the top of the wall to the base of slab below masonry wall 7. Labour to extend drainage connect into stormwater system and provide drainage inlets to rear of masonry wall 8. Labour to place blue metal to rear of masonry wall 9. Provide plant hire and temporary lighting and mechanical ventilation 10. Supply waterproofing, drainage, blue metal material and ancillaries 11. Clean site and leave in a tidy condition upon completion of work 12. Dispose of building waste 	

 A photograph showing a close-up of a concrete wall base where water is visible. The wall has a recessed area, and the floor below is wet and stained. A date stamp '18/01/2022' is visible in the bottom right corner.	 A photograph showing a close-up of a concrete wall base with water. The wall surface is light-colored, and there is a dark, wet area at the base. A date stamp '18/01/2022' is visible in the bottom right corner.
<p>Evidence of water penetrating base of southwest wall to interior of swtch room</p>	<p>Evidence of water penetrating base of southwest wall to interior of swtch room</p>
 A photograph showing a wall with a waterproofing repair. The wall is covered in a white, textured material, possibly a membrane or sealant. A date stamp '19/01/2022' is visible in the bottom right corner.	 A photograph showing a wall with a waterproofing repair. The wall is covered in a white, textured material, possibly a membrane or sealant. A date stamp '19/01/2022' is visible in the bottom right corner.
<p>Evidence of waterproofing repair to rear of southwest wall of switch room</p>	<p>Evidence of waterproofing repair to rear of southwest wall of switch room</p>



Evidence of bond breaker failure to waterproofing repair at rear of southwest wall of switch room






Evidence of bond breaker failure to waterproofing repair at rear of southwest wall of switch room






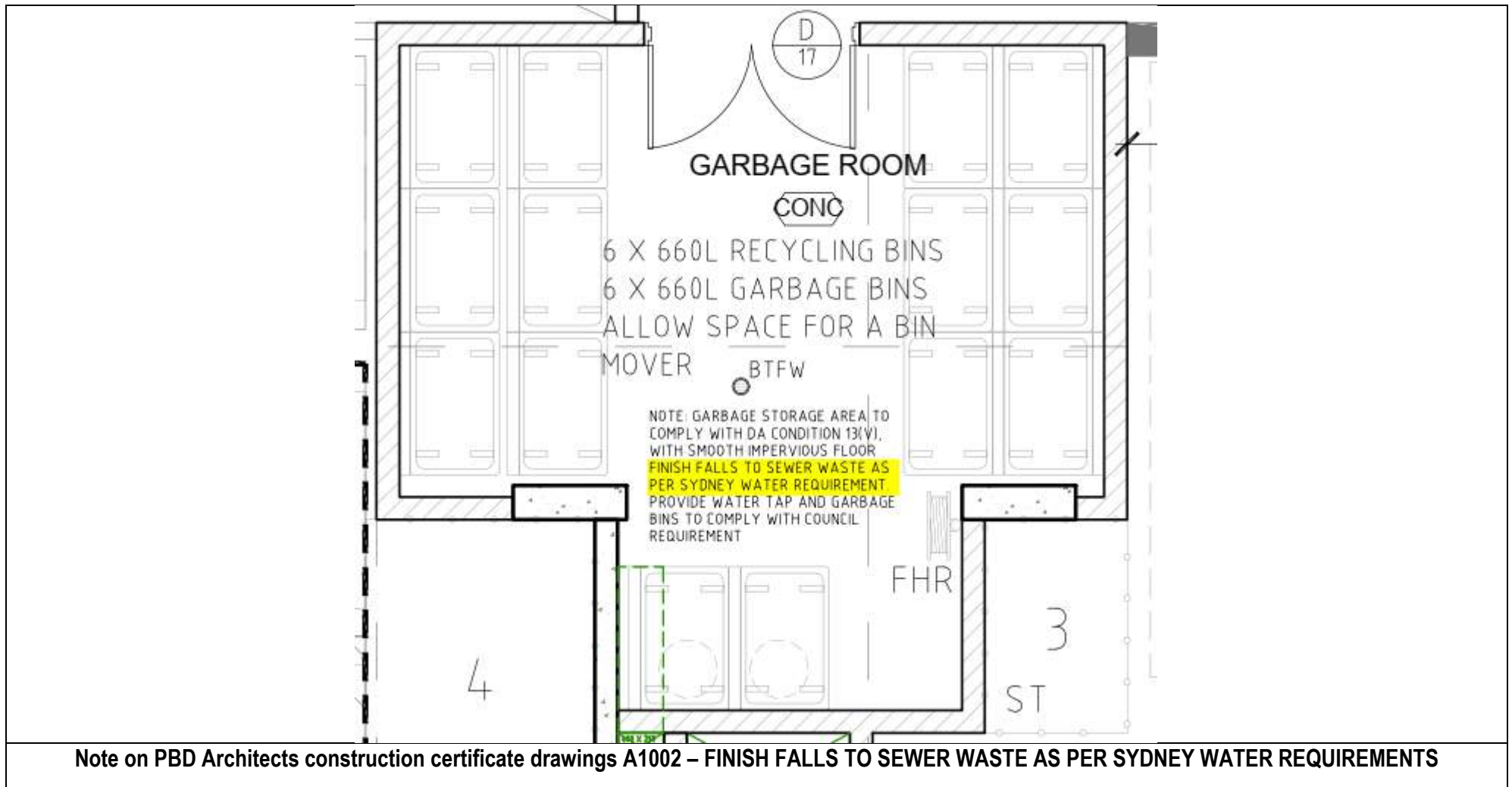
Image showing moisture penetrating southwestern masonry wall above waterproofing membrane






Waterproofing membrane terminated approximately 400mm above rear of southwestern wall

ITEM	COMMENTARY	PHOTOGRAPH(S)
B1-5		
A	<p>Location & Description Basement 1 – Switch room</p> <p>The Author has observed that there is a significant amount of cement slurry and cement staining on the floor the eastern side of the switch room and at the base of the main switch board.</p> <p>The Author is of the view that Builder has failed to adequately clean the work area of completed of works, and that the defect originated due to poor workmanship employed by the Builder at the time of construction.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by the Builder at the time of construction. 	
C	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) Incomplete contract works 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Labour to remove cement mortar and staining from floor and wall Clean site and leave in a tidy condition upon completion of work Dispose of building waste 	

ITEM	COMMENTARY	PHOTOGRAPH(S)
B1-6		
A	<p>Location & Description Basement 1 -Garbage Room</p> <p>The Author has observed while carry out testing using a spirit level, that the surface finish fall was directed away from the sewer drainage inlet.</p> <p>The Author noted that the PBD Architects construction certificate drawings A1002 – Note: Finish falls to sewer waste as per Sydney Water requirements. Please refer to following extract in this items table.</p> <p>The Author is of the view that the Builder has failed to carry out the works in accordance with the plans and specifications and that the defect originated due to poor workmanship employed by the Builder at the time of construction.</p>	 <p>Surface fall directed away from inlet to northeast of drain</p>
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by the Builder at the of construction. 	
C	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(a);(b) To carry out the works in accordance with the plans and specifications 	 <p>Surface fall directed away from inlet to western side of drain</p>
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Cover and protect adjacent surfaces during the rectification work. Labour to remove bins and materials and place in a secure location Labour to acid etch concrete surface to prepare for Roxset Epoxy Mortar Screed. Supply, place and finish Roxset Epoxy Screed with grades to drainage inlet Labour to reinstate bins and equipment on completion of floor finish Clean site and leave in a tidy condition upon completion of work Dispose of building waste 	 <p>Garbage room</p>



ITEM	COMMENTARY	PHOTOGRAPH(S)																											
B1-7																													
A	<p>Location & Description Basement 1 – Floor insulation Units G01 to G07</p> <p>The Author has observed that there is no insulation installed to the concrete floor slab to units G01 to G07 as specified on the construction certificate architectural plans.</p> <p>For clarity, please refer to following from BASIX commitments on drawings A0000 construction certificate plans prepared by PBD Architects -</p> <table border="1" data-bbox="383 512 974 1075"> <tr> <td colspan="3" data-bbox="383 512 974 555">Certification Number: 0003200790</td> </tr> <tr> <th data-bbox="383 560 546 730">Unit No.</th> <th data-bbox="546 560 748 730">Floor Insulation R2.0</th> <th data-bbox="748 560 974 730">Wall insulation R1.5</th> </tr> <tr> <td data-bbox="383 730 546 770">G001</td> <td data-bbox="546 730 748 770">X</td> <td data-bbox="748 730 974 770">X</td> </tr> <tr> <td data-bbox="383 770 546 810">G002</td> <td data-bbox="546 770 748 810">X</td> <td data-bbox="748 770 974 810"></td> </tr> <tr> <td data-bbox="383 810 546 850">G003</td> <td data-bbox="546 810 748 850">X</td> <td data-bbox="748 810 974 850"></td> </tr> <tr> <td data-bbox="383 850 546 890">G004</td> <td data-bbox="546 850 748 890">X</td> <td data-bbox="748 850 974 890">X</td> </tr> <tr> <td data-bbox="383 890 546 930">G005</td> <td data-bbox="546 890 748 930">R3.0</td> <td data-bbox="748 890 974 930">X</td> </tr> <tr> <td data-bbox="383 930 546 970">G006</td> <td data-bbox="546 930 748 970">X</td> <td data-bbox="748 930 974 970"></td> </tr> <tr> <td data-bbox="383 970 546 1010">G007</td> <td data-bbox="546 970 748 1010">X</td> <td data-bbox="748 970 974 1010"></td> </tr> </table> <p>The Author noted that no evidence of insulation certification provided on the occupation certificated 5325 issued by Kudos Building Certification dated 11.11.2020.</p> <p>The Author is of the view, that the Builder has failed to carry out the works in accordance with plans and specifications.</p>	Certification Number: 0003200790			Unit No.	Floor Insulation R2.0	Wall insulation R1.5	G001	X	X	G002	X		G003	X		G004	X	X	G005	R3.0	X	G006	X		G007	X		 <p data-bbox="1496 1283 2141 1347">No evidence of insulation to under side of concrete slab of units G01 to G07.</p>
Certification Number: 0003200790																													
Unit No.	Floor Insulation R2.0	Wall insulation R1.5																											
G001	X	X																											
G002	X																												
G003	X																												
G004	X	X																											
G005	R3.0	X																											
G006	X																												
G007	X																												
B	<p>Cause(s)</p> <ul style="list-style-type: none"> <li data-bbox="434 1353 1458 1385">Failure by the Builder to carry out the works in accordance with the plans and specifications. 																												

C	Breach(es) <i>Failure to comply with the following:</i> <ul style="list-style-type: none">▪ <i>Home Building Act 1989 (NSW) under Section 18B Clauses 1(a)</i>▪ <i>Incomplete contract works</i>	
D	Proposed Rectification Scope of Works Allow to: <ol style="list-style-type: none">1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process.2. Gain access to required areas in accordance with Safework requirements.3. Cover and protect adjacent surfaces during the rectification work.4. Supply mobile scaffold to provide working platform5. Labour to install Kingspan insulation panels6. Supply R2.0 and R3.0 insulation as per plans and specifications7. Supply fixings and ancillaries8. Clean site and leave in a tidy condition upon completion of work9. Dispose of building waste	 <p>No evidence of insulation to under side of concrete slab of units G01 to G07.</p>



Assessor Construction Summary





Project: **Address:** 11-15 Mitchell Avenue, Jannali NSW
Applicant: Truland Development Pty Ltd


Contact: **Name:** Layla Kim - PBD
Contact: layla@pbdarchitects.com.au

Assessor:	Name: Victor Lin	Company: Victor Lin & Associates
	Address: PO Box 5080, Sth Turramurra. 2074	Number: BDAV/12/1454
	Contact: 0412-988088	Email: vlin007@hotmail.com

Ext. Walls:	Construction	Insulation	Colour	Details
	Hebel wall	None	Med	As per plans
		R1.5		See table below
	Weatherboard Cavity	None		As per plans
Int. Walls:	Construction			Details
	Hebel wall	None		As per plans
Floors:	Construction	Insulation		Details
	Concrete	None		Carpet, Tiles, Timber
		R2.0		Floor above car park
		R3.0		See table below

ITEM	COMMENTARY	PHOTOGRAPH(S)
B1-8		
A	<p>Location & Description Basement 1 – Switch room</p> <p>The Author has observed that there is exposed electrical wiring to the northern side of the switch room at the entry that is crudely covered above a small concrete plinth at the floor.</p> <p>The Author is of the view that the electrical works described do not comply with AS3000:2018 Electrical installations, and that the defect originated due to poor workmanship employed by the Builder at the time of construction.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by the Builder at the time of construction. 	
C	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) AS3000:2018 Electrical installations Incomplete contract works 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Labour to remove cement mortar and staining from floor Labour to install custom metal trunking to exposed wiring Supply custom metal trunking and fixings Clean site and leave in a tidy condition upon completion of work Dispose of building waste 	

ITEM	COMMENTARY	PHOTOGRAPH(S)
B2-1		
A	<p>Location & Description Basement 2 – Parking bay 2</p> <p>The Author has observed a rainwater leak from above the northeast corner of parking bay 2.</p> <p>The Author noted that the building contract requires completed basements <u>must be dry at all times</u>.</p> <p>6.3 Basement</p> <p>6.3.1 Drainage and Waterproofing</p> <p>a) Completed basements must be dry at all times.</p> <p>b) Subsoil drainage systems and vapour barriers must be installed as per design.</p> <p>c) The proposed method of mitigation of ground water ingress through the basement structure is to be confirmed via a brief, sketches or details prior to commencement. The Principal reserves the right to review the scope if required.</p> <p>The Author is of the view that the defect originated due to poor workmanship employed by the Builder at the time of construction.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by the Builder at the time of construction. 	
C	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(a);(b) Contract plans and specifications 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Labour to install flashings to prevent water from leaking onto basement floor Supply flashings materials and ancillaries Clean site and leave in a tidy condition upon completion of work 	 <p>Location of pooling water from rainwater leak at carpark 2</p>

ITEM	COMMENTARY	PHOTOGRAPH(S)
B2-2		
A	<p>Location & Description Basement 2 – Storage area near stairway 1 (Ventilation)</p> <p>The Author has observed evidence of mould grow forming on materials in storage area. During several inspections the Author noted, there was a damp smell in the air and in the early mornings a strong smell of motor vehicle fumes.</p> <p>The Author is of the view that due to the sections of the perimeter of the basement carpark and storage and exposure to moisture from seepage from rainwater and pump out tank located under the slab of the basement and that the presents of moisture from the sources has caused the development of mould.</p> <p>During inspection an owner occupant of the property stated to the Author that the mechanical ventilations is set to activate 2 hours in the morning and 2 hours in the early evening.</p> <p>The Author is of the view that the mechanical ventilation as a measure mitigate the presents of moisture is inadequate.</p> <p>The Author noted that Premium Consulting Engineers provided mechanical design certificate in relation to the mechanical ventilation, however the Author has not been provided with evidence of testing that the mechanical ventilation system is adequate to mitigate the presents of moisture in the basement area. Please refer to copy of Premium Consulting Engineers design certificate in Appendix B of this report.</p> <p>The Author noted that Premium Consulting Engineers mechanical design certificate does not state that the <i>'certification shall confirm that the system will protect the health of occupants of the carpark at anytime it is used and satisfies the atmospheric contaminate exposure rates specified in the Worksafe Australia document: Workplace Exposure Standards for Airborne Contaminants.'</i> For clarity, please refer to extract of condition 27 of the development consent DA18/0393 in the following sections of this table.</p> <p>The Author is of the view testing should be carried out by a suitably qualified consultant to confirm if the mechanical ventilation system satisfies the conditions of the development approval.</p>	 <p>Evidence of mould on surface of materials on storage to southeast of Basement 2</p>

<p>B</p>	<p>Cause(s)</p> <ul style="list-style-type: none"> • Presents of moisture from rainwater seepage • Insufficient ventilation
<p>C</p>	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ <i>Home Building Act 1989 (NSW) under Section 18B Clauses 1(a);(b)</i> ▪ <i>Condition 27 DA 18/0393</i> ▪ <i>National Construction Code Volume 1 2016 FP4.4 – FP4.4 Mechanical ventilation to control odours and contaminants</i> <i>A mechanical air-handling system installed in a building must control—</i> <i>(a) the circulation of objectionable odours; and</i> <i>(b) the accumulation of harmful contamination by micro-organisms, pathogens and toxins.</i>
<p>D</p>	<p>Proposed Rectification Scope of Works Allow:</p> <p>PROVISIONAL ALLOWANCE FOR A SUITABLE QUALIFIED VENTILATION ENGINEER TO CARRY OUT TESTING AND PROVIDE REMEDIATION SOLUTION TO MITIGATE DAMAGE RESULTING FROM MOULD GROWTH AND HEALTH OF BUILDING OCCUPANTS.</p>



Evidence of mould on surface of materials in storage to southwest corner of Basement 2

Description Photograph(s) B2-2



Tarp installed by lot owner to prevent moisture damage originating from slab to southwest storage of Basement 2

Tarp installed by lot owner to prevent moisture damage originating from slab to southwest storage of Basement 2

Location of storage area to southwest corner of Basement 2

Extract Car-Park Ventilation - Condition 27 of the development consent DA18/0393.

27. Car-Park Ventilation - Alternate System

To ensure adequate ventilation for the car park:

A. Design

As the basement car-park does not appear to comply with the natural ventilation requirements of Section 4 of Australian Standards AS1688.2 -1991, the car-park must be either mechanically ventilated by a system complying with AS1688.2 -1991 or alternatively, the natural ventilation system must be certified by a qualified mechanical ventilation engineer to the effect that the system is adequate. **The certification shall confirm that the system will protect the health of occupants of the car park at anytime it is used and satisfies the atmospheric contaminant exposure rates specified in the Worksafe Australia document: Workplace Exposure Standards for Airborne Contaminants.**

B. Before Construction

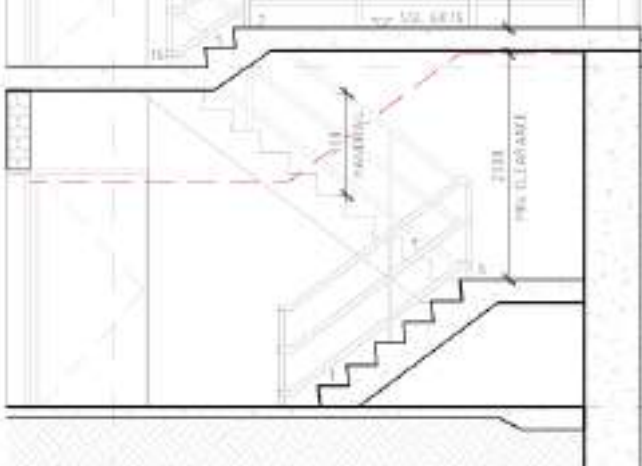

Details of compliance with 'A' above must form part of the application for a Construction Certificate.


C. Before Occupation

Certification must be provided by a qualified mechanical ventilation engineer that the installation of the ventilation system has been carried out in accordance with 'A' above.


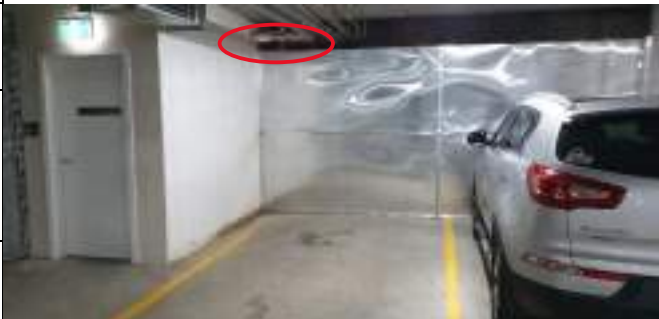
D. Ongoing




The ventilation system must be operated and maintained in accordance with 'A' above.


ITEM	COMMENTARY	PHOTOGRAPH(S)
B2-3		
A	<p>Location & Description Basement 2 – Stairway 1</p> <p>The Author has observed that the height clearance of 1954mm at the landing to the stairway on basement 2, does not meet the minimum required height of 2000mm noted on PBD Architects construction certificate plan drawing no. A4101 Fire Stair 2 details.</p> <p>For clarity, please refer to following extract from before mentioned reference -</p> <p>Extract – PBD Architects construction certificate plan drawing no. A4101 Fire Stair 1 details</p>  <p>The Author noted that the defect was identified in Section 8.14 of Mr Giaouris report date 7 December 2020.</p> <p>The Author is of the view, works have not been carried out in accordance with the contract plans specifications and do not meet the requirements of the NCC Volume 1 2016 F3.1(iii).</p> <p>For clarity, please refer relevant extract from NCC –</p> <ul style="list-style-type: none"> ▪ <i>National Construction Code Volume 1 2016 F3.1(iii) – F3.1 (iii) above a stairway, ramp, landing or the like — 2 m measured vertically above the nosing line of stairway treads or the floor surface of the ramp, landing or the like</i> 	 <p>Height clearance measured from landing 1954mm</p>




<p>B</p>	<p>Cause(s)</p> <ul style="list-style-type: none"> Pour workmanship employed by the Builder at the time of construction. 	
<p>C</p>	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(a);(b);(d) &(f) Contract plans and specifications National Construction Code Volume 1 2016 F3.1(iii) – F3.1 (iii) above a stairway, ramp, landing or the like — 2 m measured vertically above the nosing line of stairway treads or the floor surface of the ramp, landing or the like 	
<p>D</p>	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Cover and protect adjacent surfaces during the rectification work. Labour to lay bricks to underside of bottom riser above stair landing to underpin and support stairs above. Labour to demolish and remove landing and bottom stair flight to provide access to rectify landing height clearance Labour to provide formwork to form up new stairs and landing, fix reinforcement to engineers detail, place and finish concrete Supply steel reinforcement, ancillaries, concrete and pump Labour to install new stair railing in accordance with NCC Volume 1 2016 D2.17(v) Supply steel railing materials and ancillaries Labour to apply non-slip finish to tread nose in accordance with AS4586 Supply non-slip materials for stair tread Provisional allowance for Registered Structural engineers design, inspection and certification Clean site and leave in a tidy condition upon completion of work Dispose of building waste 	



Digital measurement reading 1954mm

ITEM	COMMENTARY	PHOTOGRAPH(S)
B2-4		
A	<p>Location & Description Basement 2 – Parking bay 25 (Water leak)</p> <p>The Author has observed a rainwater leak from above the northeast corner of parking bay 25.</p> <p>The Author noted that the building contract requires completed basements <u>must be dry at all times</u>.</p> <p>6.3 Basement</p> <p>6.3.1 Drainage and Waterproofing</p> <p>a) Completed basements must be dry at all times.</p> <p>b) Subsoil drainage systems and vapour barriers must be installed as per design.</p> <p>c) The proposed method of mitigation of ground water ingress through the basement structure is to be confirmed via a brief, sketches or details prior to commencement. The Principal reserves the right to review the scope if required.</p> <p>The Author is of the view that the defect originated due to poor workmanship employed by the Builder at the time of construction.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by the Builder at the time of construction. 	
C	<p>Breach(es)</p> <p>Failure to comply with the following:</p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(a);(b) Contract plans and specifications 	
D	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Labour to install flashings to prevent water from leaking onto basement floor Supply flashings materials and ancillaries Clean site and leave in a tidy condition upon completion of work 	<p>Location of rainwater link originating from seepage above at carpark 25</p>

ITEM	COMMENTARY	PHOTOGRAPH(S)
FS-1		
A	<p>Location & Description</p> <p>Fire stairs – Non-Slip finish</p> <p>The Author noted that the issue had been identified in TCA (Giaouris) Report Item C-52 Attachment F Section 10.6</p> <p>The Author observed that the Fire Stairs to the property had a yellow paint strip to the nose of threads that did not have a non-slip finish.</p> <p>The Author found has assumed that the yellow line marking paint found in the storage at Basement 1 was used to paint the stairs.</p> <p>The Author is of the view that the Builder has failure to carry out the works with due care and diligence and in accordance with AS4586.</p>	 <p>Eastern external stairs have not been provide with non-slip edge</p> 
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Failure of the Builder to carry out the works with due care and diligence. 	
C	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1 (a)&(d) ▪ AS4586 Slip resistance 	
D	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Cover and protect adjacent surfaces during the rectification work. 4. Labour to apply non-slip resistant painted finish to nose of stair treads to all areas 5. Supply non-slip resistant paint and ancillaries 6. Clean site and leave in a tidy condition upon completion of work 7. Dispose of building waste 	<p>Internal Fire Stairs have not been painted with non-slip finish</p>  <p>Line marking paint found in storage Basement 1</p>

ITEM	COMMENTARY	PHOTOGRAPH(S)
FS-2		
A	<p>Location & Description Fire Stairs 2 (Ground floor) East- Railing</p> <p>The Author has observed that the cut end to the metal railing has sharp edges and that a section Dincel at the junction to the masonry wall has not been trimmed.</p> <p>The Author noted that the issue had been identified in TCA (Giaouris) Report Item C-54 Attachment F Section 10.6</p> <p>The Author is of the view that the Builder has failed to carry out the works with due care and skill.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by the builder at the time of construction. 	
C	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1 (a) Incomplete contract works 	<p>Fire Stairs 2 (Ground floor) East - Sharp edges to end of railing and section of Dincel not trimmed</p>
D	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Labour to machine off sharp edges to make safe and trim Dincel wall material Clean site and leave in a tidy condition upon completion of work Dispose of building waste 	

ITEM	COMMENTARY	PHOTOGRAPH(S)
OSD-1		
A	<p>Location & Description</p> <p>Driveway OSD metal access grate</p> <p>The Author observed that metal OSD access grate located to the northeast corner of the driveway has damage to the western side of the grate at the hinge.</p> <p>The Author is of the view, that the damage originated from poor workmanship employed by the builder at the time of construction.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by the builder at the time of construction. 	
C	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> <i>Home Building Act 1989 (NSW) under Section 18B Clauses 1 (a)</i> <i>NSW Guide to Standards & Tolerances 2017 G – Responsibility to rectify – Builders are liable to repair damage caused to property in the course of completing their building work.</i> 	
D	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Labour to remove damaged grate and install new grate Supply new steel grate Clean site and leave in a tidy condition upon completion of work Dispose of building waste 	

ITEM	COMMENTARY	PHOTOGRAPH(S)
1-GRD		
A	<p>Location & Description Entry Lobby – Interior finishes</p> <p>The Author has been instructed that the Builder did not complete the interior fit out to the Entry Lobby in accordance with the contract plans and specifications.</p> <p>The Author noted that the following clauses in Annexure Part P-PPR of the building contract in relation to the Entry Lobby works -</p> <p>6.4.5 f) Lobby finishes are to be documented by the Architect and/or as approved by the Principal</p> <p>6.4.5 h) Lobby has special interior design from contractor, which need approval from principal. And additional finish package of lobby will implementation of the interior design by contractor.</p> <p>For clarity, please refer to following extract from building contract as stated above -</p> <p>6.4.5 Entry Lobby</p> <ul style="list-style-type: none"> a) Lobby entry doors are to be glazed swing doors or as specified by the architect. b) All lobby access is to be via security access system. c) Audio and video intercom door stations are to be recessed and in proximity to the door and protected from the elements. These are to be connected to all apartments where each unit is to have an audio-visual handset of a high quality standard to be approved by the Principal. d) Main entry lobbies are to receive additional lighting beyond principle requirements. e) Egress from lobby doors are to be via an approved mortise lock and handle. f) Lobby finishes are to be as documented by the Architect, and/or as approved by the Principal. g) All lobbies that permit entry from the street or basement carpark are to have a tile floor finish or as specified by the architect. h) Lobby has special interior design from contractor, which need approval from principle. And additional finish package of lobby will implementation of the interior design by contractor <p>Page 50 of 57</p> <p style="text-align: right;">H2 X16</p>	 <p>Entry Lobby entry from South</p>  <p>Entry Lobby entry from North</p>


	<p>The Author has been instructed that the interior design prepared by the Studio91 jbw for in the following Tables 1-GRD-1, 1-GRD-2 and 1-GRD-3 of this report had been approved by the Principal to be constructed by the Builder.</p> <p>The Author has observed on inspection that the interior finishes to the Entry Lobby that the works have not been completed as to Studio 91 jbw design and plans.</p> <p>The Author is of the view that the interior finishes and works have not been completed in accordance with contract plans and specifications.</p>	
<p>B</p>	<p>Cause(s)</p> <ul style="list-style-type: none"> • Failure to complete the works in accordance with the contract plans and specifications 	
<p>C</p>	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1 (a) ▪ Contract plans and specifications 	
<p>D</p>	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Cover and protect adjacent surfaces during the rectification work. 4. Labour to prepare walls and ceilings for installation of custom joinery and fixtures 5. Supply interior custom joinery, finishes and signage as to Studio 91 jbw design and plans 6. Electrical labour to isolate to make safe, pre-wire and fit electrical services, lighting following install of interior joinery and commission on completion. 7. Supply feature light fittings and ancillaries 8. Supply framing materials, ancillaries, custom joinery, signage and finishes 9. Labour to fix and install custom joinery and finishes 10. Labour to paint affected finishes 11. Supply paint and ancillaries 12. Labour to make good, affected finishes 13. Clean site and leave in a tidy condition upon completion of work 14. Dispose of building waste 15. Waste disposal 	

Table 1-GRD -1 Interior design prepared by studio91 jbw for Forte Sydney Property Group Pty Ltd (Builder)

Feature LED Lighting (translucent Acrylic for diffused lighting)

Downlights

Feature LED lighting with translucent acrylic panel

optional downlights (3x) in batten ceiling

Feature LED lighting with translucent acrylic panel

Champagne Mirror Finish

LIGHTING

Sculptform Timber Battens
Feature Wall & Ceiling
Spotted Gum (Raw/Clear Oil)
32mm x 32mm

Smoky Sapelle Door/Cabinet Finish

Tasmanian Oak Timber Look Tile

Feature LED Lighting with translucent acrylic panel

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 verify all dimensions on site.

CLIENT
FORTE SYDNEY PROPERTY GROUP Pty Ltd
 Level 2/ 3 Rider Boulevard, Rhodes NSW 2138

Concept Design Interiors
 Mitchell Avenue, Jannali
 Materials & Finishes
 MF01 Lobby

studio91 jbw
 contemporary luxury design solutions
 11 Campbell Street, Sydney NSW 2000
 02 9550 1000

Table 1) 1-GRD -1 Interior design finishes and plans prepared by studio91 jbw for Forte Sydney Property Group Pty Ltd (Builder)



Horizontal Strip Lighting
 SET IN 20mm from face of
 mirror to create shadow line



Diagonal Strip Lighting

ELEVATION B



ELEVATION C



ELEVATION D



ELEVATION E

studio91 jbw
 Floor plan, this is a concept drawing only and subject to
 discussion and change. This drawing is intended for concept
 discussion or publication of the work on site. The drawing
 artist or a member of the staff of the draughtsman is an obligation
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 studio91 jbw Pty Ltd

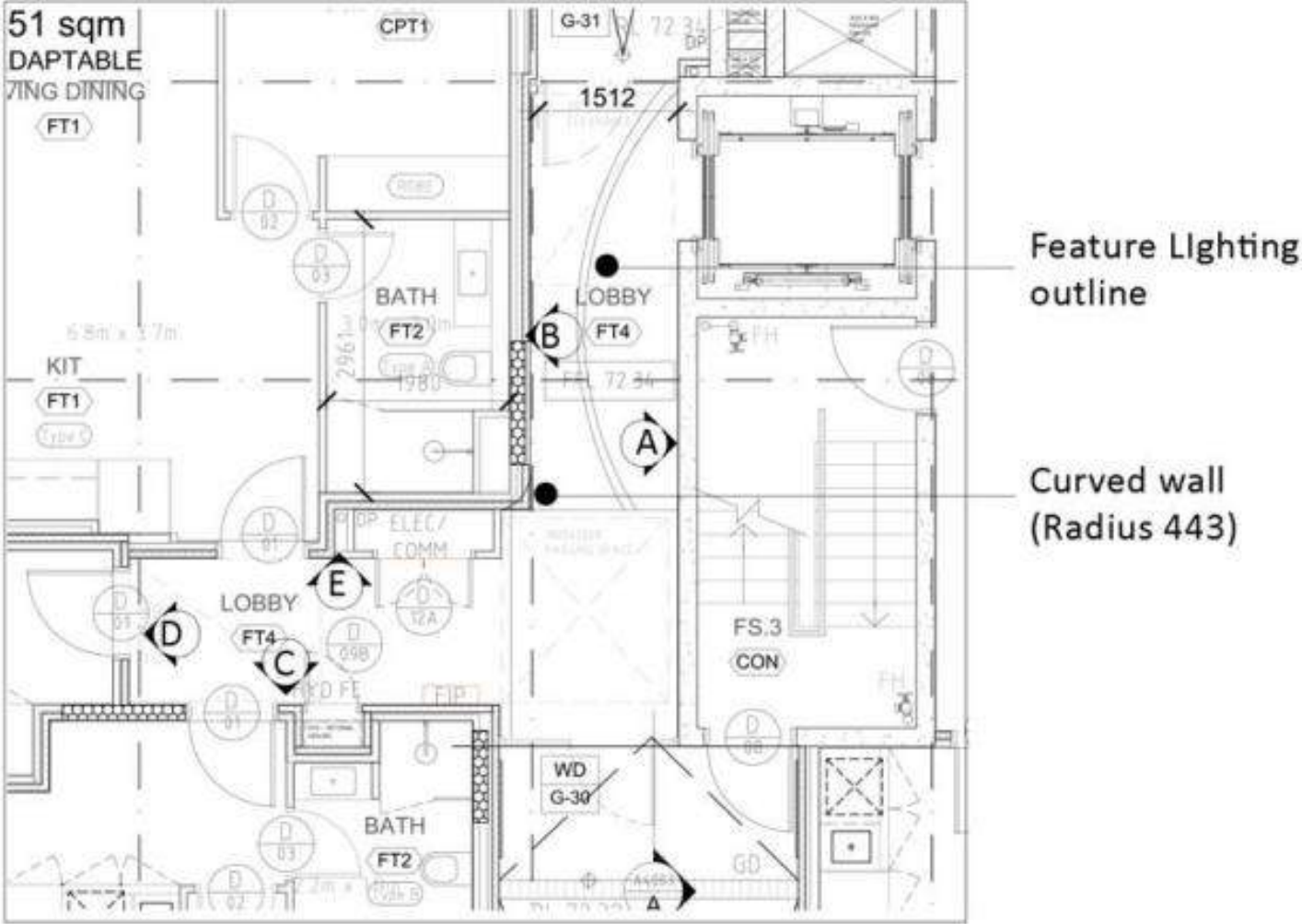




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LOBBY - MITCHELL AVE, JANNALI
 CONCEPT ELEVATIONS
 INDICATIVE MATERIALS AND FINISHES
 1:50@A3 (please refer to MF01)


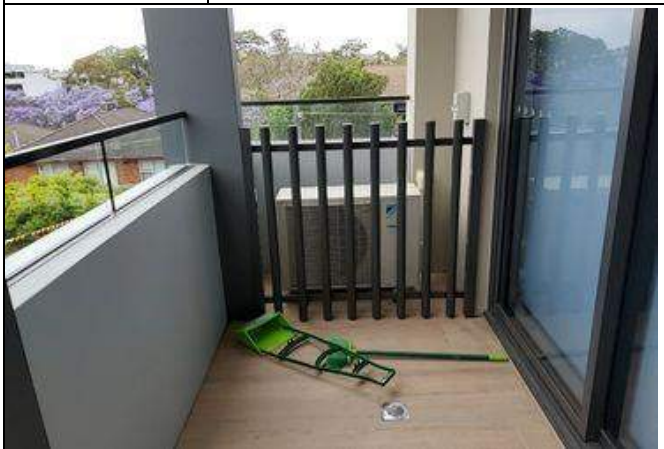
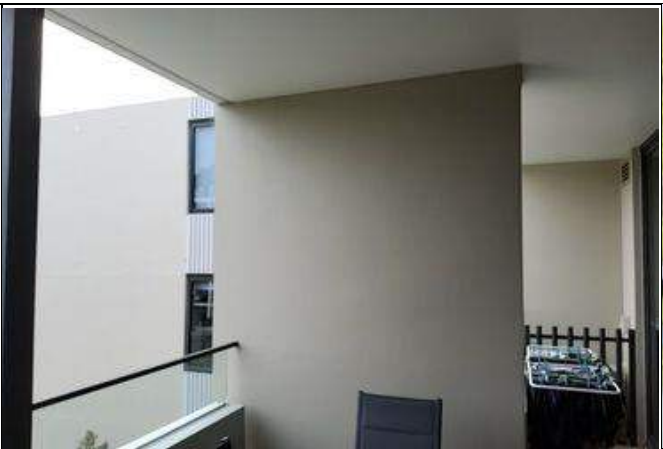



Table 2) 1-GRD -3 Interior design plans prepared by studio91 jbw for Forte Sydney Property Group Pty Ltd (Builder)



ITEM	COMMENTARY	PHOTOGRAPH(S)
2 -GRD		
A	<p>Location & Description Ground level foyer – Building L</p> <p>The Author has observed screws are missing to the hinges to service doors.</p> <p>The Author is of the view, that the defect originated from poor workmanship employed by the Builder at the time of construction.</p>	<p>Missing screws to door hinge</p> 
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by the Builder at the time of construction 	
C	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) Incomplete contract works 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Labour to fix screws to hinges Clean site and leave in a tidy condition upon completion of work 	

ITEM	COMMENTARY	PHOTOGRAPH(S)															
1-AC																	
A	<p>Location & Description Balcony (Air conditioner barrier) Unit 202, 204,207,302,304,307</p> <p>The Author has observed there is a metal barrier that has been installed by the Builder to the front of the air conditioner to the southern side of the balcony</p> <p>The Author measured the height of the air conditioners and found height to the top of air conditions ranged from approximately 550mm - 660mm off the finished floor level.</p> <p>The Author is of the view, that the barrier rail does not comply with the National Construction Code 2016 Vol1 D2.16 in preventing the facilitation of climbing.</p> <p>For clarity, please refer extract from National Construction Code 2016 Vol1 D 2.16 Barriers to prevent falls</p> <table border="1" data-bbox="398 715 1422 1005"> <thead> <tr> <th colspan="2">3. Barrier climbability</th> <th></th> </tr> <tr> <th>Location</th> <th></th> <th>Requirement</th> </tr> </thead> <tbody> <tr> <td>(a)</td> <td>Fire-isolated stairways, fire-isolated ramps and other areas used primarily for emergency purposes, excluding— (i) external stairways; and (ii) external ramps.</td> <td>No requirement.</td> </tr> <tr> <td>(b)</td> <td>Class 7 (other than <i>carparks</i>) and Class 8 buildings.</td> <td></td> </tr> <tr> <td>(c)</td> <td>For floors more than 4 m above the surface beneath in all other locations.</td> <td>Any horizontal or near horizontal elements between 150 mm and 760 mm above the floor must not facilitate climbing.</td> </tr> </tbody> </table> <p>The Author noted that the builders in Annexure Part P_PP item 6.6.7 of the building contract, specified 'louvered aluminium cage' for the air conditioning condensers. Please refer to extract of contract item 6.6.7 in this table of the report.</p> <p>The Author is of the view, a suitable qualified consultant be engaged to provide a design solution that prevents the facilitation of climbing in accordance with National Construction Code.</p> <p>In determining a proposed scope of works for this item the Author has allowed a provisional sum for the cost of a suitability qualified consultant to provide a design solution and cost to replace the existing metal barrier rail.</p>	3. Barrier climbability			Location		Requirement	(a)	Fire-isolated stairways, fire-isolated ramps and other areas used primarily for emergency purposes, excluding— (i) external stairways; and (ii) external ramps.	No requirement.	(b)	Class 7 (other than <i>carparks</i>) and Class 8 buildings.		(c)	For floors more than 4 m above the surface beneath in all other locations.	Any horizontal or near horizontal elements between 150 mm and 760 mm above the floor must not facilitate climbing.	 <p>Top of air conditioner measures approximately 660mm off floor level unit 204.</p>  <p>Unit 204</p>
3. Barrier climbability																	
Location		Requirement															
(a)	Fire-isolated stairways, fire-isolated ramps and other areas used primarily for emergency purposes, excluding— (i) external stairways; and (ii) external ramps.	No requirement.															
(b)	Class 7 (other than <i>carparks</i>) and Class 8 buildings.																
(c)	For floors more than 4 m above the surface beneath in all other locations.	Any horizontal or near horizontal elements between 150 mm and 760 mm above the floor must not facilitate climbing.															

<p>B</p>	<p>Cause(s)</p> <ul style="list-style-type: none"> • Failure of Builder to carry out the in accordance with the National Construction Code 2016 Vol1 D2.16 in preventing the facilitation of climbing. 	 <p>Unit 307</p>
<p>C</p>	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) & (c); ▪ National Construction Code 2016 Vol1 D2.16 in preventing the facilitation of climbing. ▪ Contract works - Annexure Part P_PP item 6.6.7 of the building contract 	
<p>D</p>	<p>Proposed Rectification Scope of Works Allow to: Provisional allowance -</p> <ul style="list-style-type: none"> • A suitably qualified consultant to provide a design solution to prevent the facilitation of climbing. • Replacement of existing balcony air conditioning barrier 	
 <p>Unit 202</p>	 <p>Unit 207</p>	 <p>Unit 304</p>



Unit 302 Air condition located on northeast corner of balcon



Unit 302 Air conditioner height approximately 550mm



Unit 302 Height of top horizontal rail approximately 980mm



Unit 302 Height of balcony balustrade approximately 1140mm



Unit 302 Height of balcony balustrade approximately 1140mm







Unit 302 height of horizontal rail on barrier approximately 140mm



Annexure Part P_PP item 6.6.7 of the building contract.



6.6.7 Air Conditioning



- a) Each apartment shall have a reverse cycle ducted air conditioning unit provided in the living/dining area and bedrooms. The model of the air conditioner is to comply with the BASIX assessment and certification.
- b) Ducted A/C are to be provided to the specified units as per architectural plan and specification.
- c) The Contractor to ensure the design is developed to accommodate ducted A/C, and provide specifications for the appropriate ducted A/C system to meet purchaser expectation. This must be approved by the Principal.
- d) The A/C head unit is to be appropriately located (preferably on the kitchen bulkhead) to have greatest coverage and maximise circulation throughout the apartment.
- e) A/C condensers may be located on the balcony floor and must comply with BCA requirements.
- f) All condensers may be screened with a louvered aluminium cage as approved by the Principal.
- g) The A/C condenser switch must be located at a reasonable height and distance from the condenser. This is to be approved by the Principal.
- h) Air-conditioning design, specification and performance must be fit for purpose.
- i) Air-conditioning grill in the living room to be of full length of the bulkhead over the kitchen from wall to wall in physical appearance. Actual functional opening to be as per air-conditioning requirement.


ITEM	COMMENTARY	PHOTOGRAPH(S)
1-G02		
A	<p>Location & Description Main bedroom door</p> <p>The Author has observed staining to the paintwork at the bottom of the bedroom door.</p> <p>The Author is of the view, that the defect originated from poor workmanship employed by the Builder at the time of construction.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by the Builder at the time of construction 	
C	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) NSW Guide to Standards and tolerances 2017 13.2 Surface finish of paintwork <i>Paintwork is defective if the application has blemishes such as paint runs, paint sags, wrinkling, dust, bare or starved painted areas, colour variations, surface cracks, irregular and coarse brush marks, sanding marks, blistering, non-uniformity of gloss level and other irregularities in the surface that are visible from a normal viewing position. (Highlighting added)</i> 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Cover and protect adjacent surfaces during the rectification work. Labour to remove staining to paint finish and make good Clean site and leave in a tidy condition upon completion of work 	




ITEM	COMMENTARY	PHOTOGRAPH(S)
2-G02		
A	<p>Location & Description</p> <p>Main bedroom door jamb</p> <p>The Author has observed a paint stain on the floor at the door jamb to main bedroom.</p> <p>The Author is of the view, that the defect originated from poor workmanship employed by the Builder at the time of construction.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by Builder at the time of construction 	
C	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) AS2311:2017 Guide to the painting of buildings 	
D	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Cover and protect adjacent surfaces during the rectification work. Labour to remove staining and make good, affected finishes Clean site and leave in a tidy condition upon completion of work 	

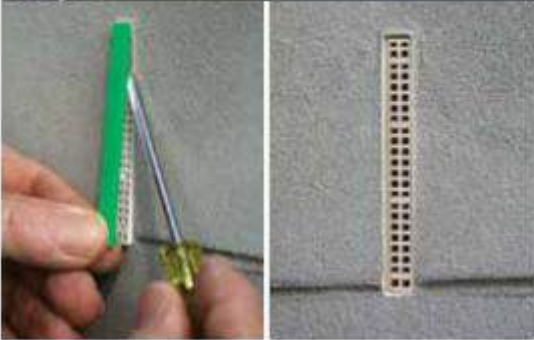

ITEM	COMMENTARY	PHOTOGRAPH(S)
3-G02		
A	<p>Location & Description - Bedroom 2 - Sliding door</p> <p>The Author has observed deterioration of manufacturers glass indicator motif.</p> <p>The Author is of the view, that the material has prematurely deteriorated based on the period on which the building work was completed.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Premature deterioration of a building element 	
C	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(f) Building contract - Defect liability period – Product warranty 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Window manufacturer to remove existing and fix new proprietary indicator motifs. Cover and protect adjacent surfaces during the rectification work. Clean site and leave in a tidy condition upon completion of work 	

ITEM	COMMENTARY	PHOTOGRAPH(S)
4-G02		
A	<p>Location & Description Main bedroom – Sliding door The Author has observed deterioration of manufacturers glass indicator motif.</p> <p>The Author is of the view, that the material has prematurely deteriorated based on the period on which the building work was completed.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Premature deterioration of a building element 	
C	<p>Breach(es) Failure to comply with the following:</p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(f) Building contract - Defect liability period – Product warranty 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Window manufacturer to remove existing and fix new proprietary indicator motifs. Cover and protect adjacent surfaces during the rectification work. Clean site and leave in a tidy condition upon completion of work 	




ITEM	COMMENTARY	PHOTOGRAPH(S)
5-G02		
A	<p>Location & Description Ensuite shower screen</p> <p>The Author has observed sealant fixing to fixed shower screen is loose and is not fully sealed.</p> <p>The Author is of the view, that the defect originated due to poor workmanship employed by the Builder at the time of construction. As the fixing of the base of glass panel is reliant on the flexible sealant being applied to adequately secure the shower screen and provide a waterproof seal at the water stop angle.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by Builder at the time of construction 	
C	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1 (a) Building contract - Defect liability period – Product warranty 	
D	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Cover and protect adjacent surfaces during the rectification work. Labour to apply construction adhesive waterproofing sealant Supply construction adhesive waterproofing sealant Make good any surfaces affected as part of the works, to their prior condition. Clean site and leave in a tidy condition upon completion of work 	


ITEM	COMMENTARY	PHOTOGRAPH(S)
6-G02		
A	<p>Location & Description Main Bathroom – Shower screen The Author has observed space between fixed panel and door requires more clearance</p> <p>The Author is of the view, that the defect originated from poor workmanship employed by the Builder at the time of construction. As the installer of the shower screen should have provided sufficient clearance.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by Builder at the time of construction 	
C	<p>Breach(es) Failure to comply with the following:</p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) Building contract - Defect liability period – Product warranty 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Labour to adjust shower screen door to provide sufficient clearance Cover and protect adjacent surfaces during the rectification work. Make good any surfaces affected as part of the works, to their prior condition. Clean site and leave in a tidy condition upon completion of work 	



ITEM	COMMENTARY	PHOTOGRAPH(S)
7-G02		
A	<p>Location & Description Eastern exterior sandstone capping</p> <p>The Author has observed joints are not filled to the eastern external sandstone at balustrade</p> <p>The Author is of the view, that the works have not been completed in accordance with the building contract.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Failure of Builder to complete the works in accordance with the contract specifications. 	
C	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) Building contract – Incomplete works 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Labour to fill joints to sandstone capping Materials to fill joints Cover and protect adjacent surfaces during the rectification work. Make good any surfaces affected as part of the works, to their prior condition. Clean site and leave in a tidy condition upon completion of work 	


ITEM	COMMENTARY	PHOTOGRAPH(S)
<p>8-G02</p> <p>A</p>	<p>Location & Description Eastern Exterior – pressure equalization slots and Weepa protector installation Item C18 identified in Attachment F Section 10.6 of TCA report</p> <p>The Author has observed that pressure equalization slots and Weepa have not been installed in accordance with the manufacturers guidelines.</p> <p>For clarity – Pressure equalization (PE) slots Extract Hebel High Rise Apartments – Design and Installation Guide</p> <p>PRESSURE EQUALISATION (PE) SLOTS</p> <p>PE Slots (Weepa) allow pressure equalisation to the wall cavity and permit drainage of any water or moisture from the cavity. Ideally located at control joints (CJ), 75mmx10mm pressure equalisation slots shall be installed at no greater than 3 metre spacings.</p> <p>Weepa protector installation guide –</p> <div data-bbox="394 943 1095 1324"> <p>Step 8</p>  <p>After finish and clean-up remove the mortar guard for beautiful weepholes.</p> </div> <p>The Author is of the view, that the defects originated at the time of construction and that the works have not been completed in accordance with manufacturers guidelines.</p>	



<p>B</p>	<p>Cause(s)</p> <ul style="list-style-type: none"> • Poor workmanship employed by Builder at the time of construction; • Failure of Builder to carry out the in accordance with manufacturers guidelines.
<p>C</p>	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ <i>Home Building Act 1989 (NSW) under Section 18B Clauses 1(a);</i> ▪ <i>Manufacturers installation guidelines – Refer Heble and Weepa protector installation guide</i> ▪ <i>Building contract specifications</i>
<p>D</p>	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Cover and protect adjacent surfaces during the rectification work. 4. Labour to remove construction covers from Weepa protectors 5. Labour to cut slot in Hebel panel to install Weepa protector, install Weepa protectors and patch and repair affected finishes in accordance with manufacturers guidelines. 6. Supplier Weepa protectors 7. Supply Dulux render system materials 8. Make good any surfaces affected as part of the works, to their prior condition. 9. Clean site and leave in a tidy condition upon completion of work



ITEM	COMMENTARY	PHOTOGRAPH(S)
9-G02		
A	<p>Location & Description Bedroom 2 – Passage doors, air conditioning vent</p> <p>The Author has observed the door is not fully sealed and there are paint stains on door stop and air conditioning metal vent.</p> <p>The Author is of the view, that the defect originated due to poor workmanship employed by the Builder at the time of construction.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by Builder at the time of construction 	
C	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses (a) & (c); AS2311:2017 Guide to the painting of buildings NSW Guide to standards & tolerances 2017-9.6 Sealing of doors 	
D	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Cover and protect adjacent surfaces during the rectification work. Labour to remove door and seal door leaf in accordance with AS2311:2017 Guide to the painting of buildings Labour to reinstall door and remove paint from door stop and air conditioning vent Make good any surfaces affected as part of the works, to their prior condition. Clean site and leave in a tidy condition upon completion of work 	



ITEM	COMMENTARY	PHOTOGRAPH(S)
10-G02		
A	<p>Location & Description Bathroom and ensuite door privacy sets</p> <p>The Author has observed there is no lock pin to lock privacy sets.</p> <p>The Author is of the view, that the Builder has failed to complete the works in accordance with the building contract.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Poor workmanship employed by Builder at the time of construction; • Failure of Builder to carry complete the works in accordance with the building contract 	
C	<p>Breach(es) Failure to comply with the following:</p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) ▪ Contract – Incomplete works 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Labour to install privacy set lock pins 4. Supply privacy set lock pins 5. Cover and protect adjacent surfaces during the rectification work. 6. Make good any surfaces affected as part of the works, to their prior condition. 7. Clean site and leave in a tidy condition upon completion of work 	



ITEM	COMMENTARY	PHOTOGRAPH(S)
11-G02		
A	<p>Location & Description Laundry tiling</p> <p>The Author has observed skirting tile at washing machine space has not been fully sealed.</p> <ul style="list-style-type: none"> ▪ The Author is of the view, that the works have not been completed in accordance with <i>AS3958.1:2007 Part 1: Guide to the installation of ceramic tiles</i>. 	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Failure of Builder to complete the works in accordance AS3958.1:2007 Part 1: Guide to the installation of ceramic tiles 	
C	<p>Breach(es) Failure to comply with the following:</p> <ul style="list-style-type: none"> ▪ <i>Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) & (c);</i> ▪ <i>AS3958.1:2007 Part 1: Guide to the installation of ceramic tiles</i> ▪ <i>Contract – Incomplete works</i> 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Labour to apply sealant to skirting tile joint 4. Supply sealant to match existing finishes 5. Cover and protect adjacent surfaces during the rectification work. 6. Make good any surfaces affected as part of the works, to their prior condition. 7. Clean site and leave in a tidy condition upon completion of work 	


ITEM	COMMENTARY	PHOTOGRAPH(S)
12-G02		
A	<p>Location & Description Kitchen rangehood</p> <p>The Author has observed one light globe is missing to the kitchen range hood.</p> <p>The Author is of the view, that the Builder failed to complete the works in accordance with the building contract.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Failure of Builder to complete the works in accordance with the building contract. 	
C	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ <i>Home Building Act 1989 (NSW) under Section 18B Clauses 1(a)</i> ▪ <i>Incomplete contract works</i> 	
D	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Labour to install rangehood light 4. Supply 1 x rangehood light 5. Cover and protect adjacent surfaces during the rectification work. 6. Make good any surfaces affected as part of the works, to their prior condition. 7. Clean site and leave in a tidy condition upon completion of work 	


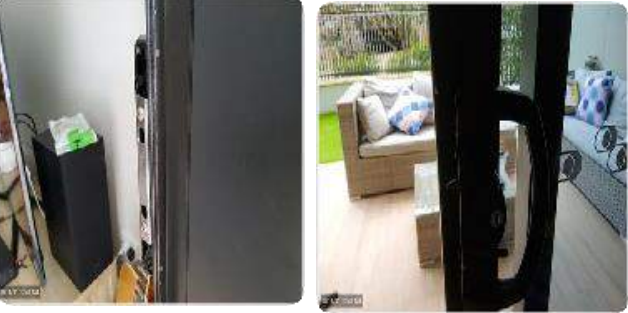
ITEM	COMMENTARY	PHOTOGRAPH(S)
1-G03		
A	<p>Location & Description Living room – Sliding door</p> <p>The lot owner report to the Author at the time of inspection that the lock to the living sliding door was not locking. The Author has observed the sliding door lock was out of alignment and not catching the lock latch.</p> <p>The Author is of the view, that the defect originated due to poor workmanship employed by the Builder at the time of construction.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Poor workmanship employed by Builder at the time of construction • Faulty installation 	
C	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ <i>Home Building Act 1989 (NSW) under Section 18B Clauses 1(a)</i> 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Labour to adjust alignment of door and restore lock function. 4. Cover and protect adjacent surfaces during the rectification work. 5. Make good any surfaces affected as part of the works, to their prior condition. 6. Clean site and leave in a tidy condition upon completion of work 	



ITEM	COMMENTARY	PHOTOGRAPH(S)
2-G03		
A	<p>Location & Description Laundry cabinet</p> <p>The Author has observed the northern door bottom hinge is missing, and the door is binding.</p> <p>The Author is of the view, that the building has failure to complete the works in accordance with the building contract.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Poor workmanship employed by Builder at the time of construction; • Failure of Builder to complete the works in accordance with the building contract 	
C	<p>Breach(es) Failure to comply with the following:</p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) ▪ Incomplete contract works 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Labour to install missing hinge 4. Supply 1 x hinge 5. Cover and protect adjacent surfaces during the rectification work. 6. Make good any surfaces affected as part of the works, to their prior condition. 7. Clean site and leave in a tidy condition upon completion of work 	



ITEM	COMMENTARY	PHOTOGRAPH(S)
3-G03		
A	<p>Location & Description - Bedroom 2 to sliding door</p> <p>The Author has observed deterioration of manufacturers glass indicator motif.</p> <p>The Author is of the view, that the material has prematurely deteriorated based on the period on which the building work was completed.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Premature deterioration of a building element 	
C	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(f) Building contract - Defect liability period – Product warranty 	
D	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Window manufacturer to remove existing indicators and fix new proprietary indicator motifs. Cover and protect adjacent surfaces during the rectification work. Clean site and leave in a tidy condition upon completion of work 	


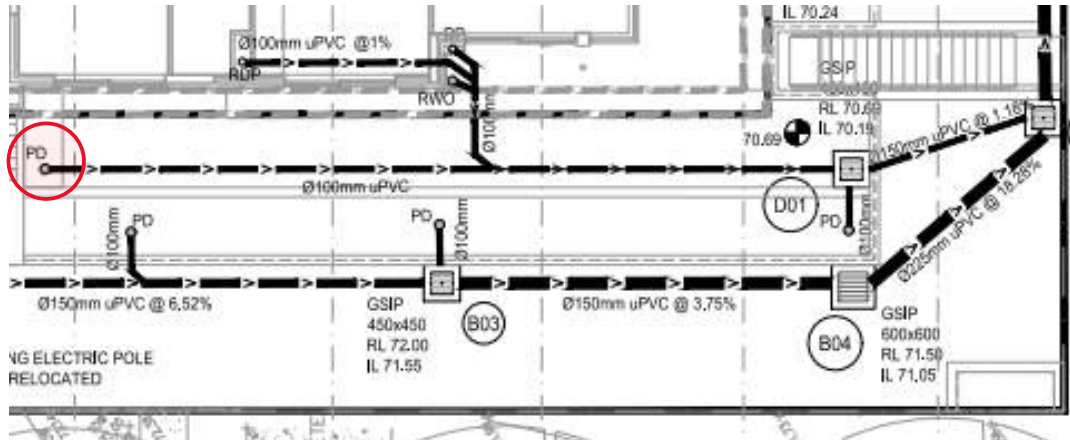

ITEM	COMMENTARY	PHOTOGRAPH(S)
4-G03		
A	<p>Location & Description</p> <p>Eastern exterior – Painting masonry fence</p> <p>The occupant reported to the Author at the time of inspection that the Builder changed landscaping levels to rectify drainage issues to the eastern lawn area. The resulting change of landscape levels has exposed unpainted sections of the eastern rendered wall.</p> <p>The Author is of the view, that the Builder has failed to complete the rectification works and make good, affected finishes.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Failure of Builder to complete the rectifications works 	
C	<p>Breach(es)</p> <p><i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ <i>Home Building Act 1989 (NSW) under Section 18B Clauses 1(a)</i> 	
D	<p>Proposed Rectification Scope of Works</p> <p>Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Labour to clean and prepare wall for painting Labour to apply paint system in accordance with AS2311:2017 Guide to the painting of buildings 4. Supply paint and ancillaries 5. Cover and protect adjacent surfaces during the rectification work. 6. Make good any surfaces affected as part of the works, to their prior condition. 7. Clean site and leave in a tidy condition upon completion of work 	



ITEM	COMMENTARY	PHOTOGRAPH(S)
5-G03		
A	<p>Location & Description Living room - Pelmet</p> <p>The Author has observed paint repair to the living pelmet has not been completed.</p> <p>The Author is of the view, that the Builder has failure to complete the rectifications works.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Failure of Builder to complete the rectifications works 	
C	<p>Breach(es) Failure to comply with the following:</p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) ▪ Building contract – Defect liability period 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Labour to complete paint repair to affected area 4. Supply paint ancillaries 5. Cover and protect adjacent surfaces during the rectification work. 6. Make good any surfaces affected as part of the works, to their prior condition. 7. Clean site and leave in a tidy condition upon completion of work 	





ITEM	COMMENTARY	PHOTOGRAPH(S)
6-G03		
A	<p>Location & Description Living and bedroom 2 – Sliding doors</p> <p>The Author has observed latch screws to sliding doors in living and bed 2 are protruding and have scratched the sliding jamb section at the lock.</p> <p>The Author is of the view, that the defect originated at the time of construction.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Faulty manufacturing 	
C	<p>Breach(es) Failure to comply with the following:</p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses (a) & (c); ▪ Building contract – Defect liability period Product warranty 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Labour to change over for suitable fixings 4. Cover and protect adjacent surfaces during the rectification work. 5. Make good any surfaces affected as part of the works, to their prior condition. 6. Clean site and leave in a tidy condition upon completion of work 	



ITEM	COMMENTARY	PHOTOGRAPH(S)
7-G03		
A	<p>Location & Description Main bathroom – Shower screen</p> <p>The Author has observed sealant fixing to fixed shower screen is loose and is not fully sealed.</p> <p>The Author is of the view, that the defect originated due to poor workmanship employed by the Builder at the time of construction. As the fixing of the base of glass panel is reliant on the flexible sealant being applied to adequately secure the shower screen and provide a waterproof seal at the water stop angle.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by Builder at the time of construction 	
C	<p>Breach(es) Failure to comply with the following:</p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1 (a) Building contract - Defect liability period – Product warranty 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Cover and protect adjacent surfaces during the rectification work. Labour to apply construction adhesive waterproofing sealant Supply construction adhesive waterproofing sealant Make good any surfaces affected as part of the works, to their prior condition. Clean site and leave in a tidy condition upon completion of work 	

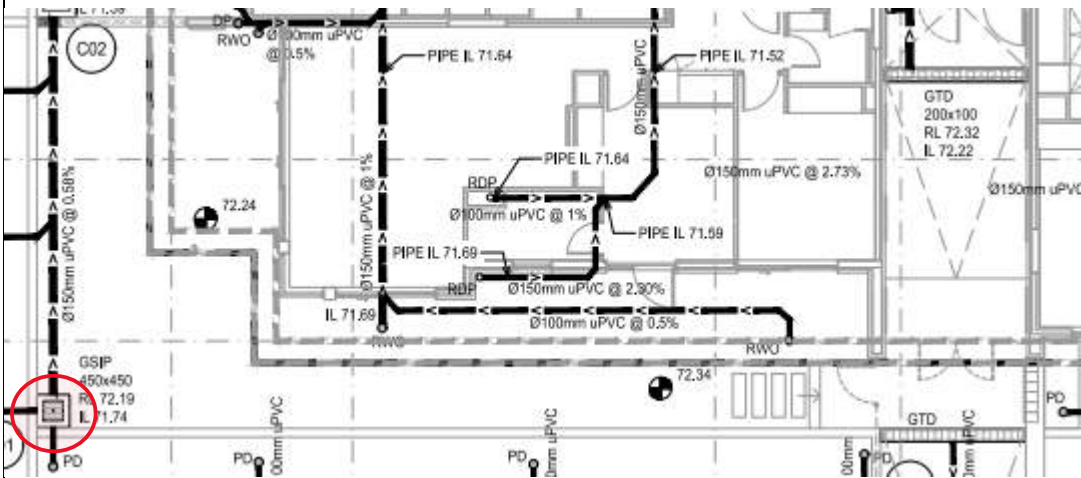

ITEM	COMMENTARY	PHOTOGRAPH(S)
1-G04		
A	<p>Location & Description Main bedroom – Skirting painting</p> <p>The Author has observed poor paint finish to skirting board on western side of sliding door.</p> <p>The Author is of the view, that the defect originated from poor workmanship employed by the Builder at the time of construction.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by Builder at the time of construction; 	
C	<p>Breach(es) Failure to comply with the following:</p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) NSW Guide to Standards and tolerances 2017 13.2 Surface finish of paintwork Paintwork is defective if the application has blemishes such as paint runs, paint sags, wrinkling, dust, bare or starved painted areas, colour variations, surface cracks, irregular and coarse brush marks, sanding marks, blistering, non-uniformity of gloss level and other irregularities in the surface that are visible from a normal viewing position. (Highlighting added) 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Cover and protect adjacent surfaces during the rectification work. Labour to repair paint work Paint and ancillaries Make good any surfaces affected as part of the works, to their prior condition. Clean site and leave in a tidy condition upon completion of work 	


ITEM	COMMENTARY	PHOTOGRAPH(S)
<p>2-G04</p> <p>A</p>	<p>Location & Description Southern exterior - Drainage</p> <p>The occupants reported to the Author at the time of inspection, that stormwater is flooding the courtyard to the southern exterior. The Author observed that there is a storm water outlet above the tiled floor surface in the southwest corner of the yard area.</p> <p>The occupants reported there is a stormwater line underneath the grassed area on the southern side of the exterior located in the lawn area, and that the storm water line has two rises, and that the stormwater line runs to the stormwater pit in the southeast corner of the yard which is situated underneath the doghouse.</p> <p>The Author reviewed the works as executed stormwater design and found that occupants statements were consistent with the approved design. However, the permissible drain inlet (PD) shown of the design to the southwestern end of the lawn area was not visible on inspection.</p> <p>For clarity, refer to following extract of subject drainage taken from stormwater design indicating location of proposed drainage inlet -</p>	 <p>Southern lawn area</p>
	 <p>NG ELECTRIC POLE RELOCATED</p>	 <p>Stormwater outlet to southwestern end of lawn area</p>

	<p>The Author is of the view, that there is insufficient surface drainage inlet to the southern lawn area and the drainage outlet located to the southwest end of the area should be connected into the stormwater system.</p>	
<p>B</p>	<p>Cause(s)</p> <ul style="list-style-type: none"> • Failure of Builder to carry out the work in accordance with AS3500.3 2018 Plumbing and drainage Part 5 Section 5: Surface water drainage system – Design 5.3.1.2 • Failure of Builder to carry out the works in accordance with building contract specifications. 	
<p>C</p>	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ Home Building Act 1989 (NSW) under Section 18B Clauses 1(a) & (c); ▪ AS3500.3 2018 Plumbing and drainage Part 5 Section 5: Surface water drainage system – Design 5.3.1.2 ▪ Extract AS3500.3:2018 <p style="text-align: center;">55 AS/NZS 3500.3:2018</p> <p>5.3.1.2 Other than roof areas Stormwater from other than roof areas shall be collected and conveyed via site stormwater channels and inlets to site stormwater drains.</p> <ul style="list-style-type: none"> ▪ <i>Building contract specifications – Works to be carried out to Australian standards and in accordance with engineers design.</i> 	<p>Stormwater pit is located under doghouse at eastern end of lawn area</p>  <p>Location of stormwater outlet to west of exterior</p>
<p>D</p>	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Cover and protect adjacent surfaces during the rectification work. 4. Labour to excavate and expose stormwater line, connect and extend additional inlets and terminate at surface level with grated drain to the southwest and mid-section of southern lawn area. 5. Supply stormwater connections and ancillaries 6. Make good any surfaces and landscaping affected as part of the works, to their prior condition. 7. Clean site and leave in a tidy condition upon completion of work 	

ITEM	COMMENTARY	PHOTOGRAPH(S)
3-G04		
A	<p>Location & Description Living area – Pelmet</p> <p>The Author has observed patching repair to pelmets above sliding doors is not complete.</p> <p>The Author is of the view, that the defect originated at the time of construction and that the Builder failed to complete the repair works.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> • Failure of Builder to complete the repair works. • <i>Building contract – Defect liability period</i> 	
C	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ <i>Home Building Act 1989 (NSW) under Section 18B Clauses 1(a)</i> ▪ <i>Incomplete contract works</i> 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Labour to complete paint repair to affected area 4. Supply paint ancillaries 5. Cover and protect adjacent surfaces during the rectification work. 6. Make good any surfaces affected as part of the works, to their prior condition. 7. Clean site and leave in a tidy condition upon completion of work 	

ITEM	COMMENTARY	PHOTOGRAPH(S)
4-G04		
A	<p>Location & Description Main bathroom – Shower screen</p> <p>The Author has observed sealant fixing to fixed shower screen is loose and is not fully sealed.</p> <p>The Author is of the view, that the defect originated due to poor workmanship employed by the Builder at the time of construction. As the fixing of the base of glass panel is reliant on the flexible sealant being applied to adequately secure the shower screen and provide a waterproof seal at the water stop angle.</p>	
B	<p>Cause(s)</p> <ul style="list-style-type: none"> Poor workmanship employed by Builder at the time of construction 	
C	<p>Breach(es) Failure to comply with the following:</p> <ul style="list-style-type: none"> Home Building Act 1989 (NSW) under Section 18B Clauses 1 (a) Building contract - Defect liability period – Product warranty 	
D	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. Gain access to required areas in accordance with Safework requirements. Cover and protect adjacent surfaces during the rectification work. Labour to apply construction adhesive waterproofing sealant Supply construction adhesive waterproofing sealant Make good any surfaces affected as part of the works, to their prior condition. Clean site and leave in a tidy condition upon completion of work 	

ITEM	COMMENTARY	PHOTOGRAPH(S)
<p>1-G05</p> <p>A</p>	<p>Location & Description Western exterior - Drainage</p> <p>It was reported to the Author at the time of inspection, that the grassed area to the western and southern exterior is extremely soggy following rain events. The Author observed that there was a 450x450 drainage pit located in the southwest corner of the exterior and 90mm drainage surface drains located to the far end of the grassed area to the southeast.</p> <p>On review of the stormwater design, it is the Author's view that there is insufficient provision for surface drainage the western and southern lawn area.</p> <p>For clarity, refer extract from works as executed Xavier Knight stormwater design indicating location of 450x450 pit to the southwestern corner of the lawn area -</p>  <p>The Author is of the view, that to provide adequate drainage extra drainage inlets are required to the mid-section of the lawn areas to the western and southern exterior.</p>	 <p>Location of 450x450 to southwest corner of lawn area.</p> <p>Location of 90mm stormwater inlet to southeast of lawn area.</p>

<p>B</p>	<p>Cause(s)</p> <ul style="list-style-type: none"> • Failure of Builder to carry out the work in accordance with AS3500.3 2018 Plumbing and drainage Part 5 Section 5: Surface water drainage system – Design 5.3.1.2 • Failure of Builder to carry out the works in accordance with building contract specifications. 	<p>Insufficient drainage provided to Northwestern end of lawn area resulting sogging ground and ponding of water.</p>
<p>C</p>	<p>Breach(es) <i>Failure to comply with the following:</i></p> <ul style="list-style-type: none"> ▪ <i>Home Building Act 1989 (NSW) under Section 18B Clauses 1 (c);</i> ▪ AS3500.3 2018 Plumbing and drainage Part 5 Section 5: Surface water drainage system – Design 5.3.1.2 ▪ Extract AS3500.3:2018 <div style="text-align: center;"> <p>55</p> <p>AS/NZS 3500.3:2018</p> <p>5.3.1.2 <i>Other than roof areas</i></p> <p>Stormwater from other than roof areas shall be collected and conveyed via site stormwater channels and inlets to site stormwater drains.</p> </div> <ul style="list-style-type: none"> ▪ <i>Building contract specifications – Works to be carried out to Australian standards and the engineers design</i> 	
<p>D</p>	<p>Proposed Rectification Scope of Works Allow to:</p> <ol style="list-style-type: none"> 1. Provide site supervision. Supervisor to coordinate access and facilitate the works throughout the whole process. 2. Gain access to required areas in accordance with Safework requirements. 3. Cover and protect adjacent surfaces during the rectification work. 4. Labour to excavate and extend from existing stormwater pit on southwest corner. Provide additional inlets and terminate at surface level with grated drain to the east and mid-section of southern lawn area. 5. Supply 600x600 stormwater pit, 90mm PVC stormwater pipe, connections and ancillaries 6. Make good any surfaces and landscaping affected as part of the works, to their prior condition. 7. Clean site and leave in a tidy condition upon completion of work 	