



NATIONAL CONSTRUCTION CODE 2019 AMENDMENT 1 - (VOLUME 1)

PRELIMINARY BCA REPORT IN SUPPORT SSSDA REFERRAL

Cronulla High School

Construction of a new building (block L), major alterations and re-purposing of an existing building (block M) and internal alterations to existing buildings.

31 Bate Bay Drive, CRONULLA
Lot 1 DP815804

PREPARED FOR	Fulton Trotter Architects Lauren Watson - Architect
REVISION NUMBER	5
DATE	8/07/2022
CERTIS REFERENCE	7018
PREPARED BY	Richard Evans Building Surveyor
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REVISION HISTORY

Revision	Date	Description
1	22/06/2021	Schematic Design Assessment
2	09/07/2021	Design Development Assessment and review
3	20/07/2021	Peer Review and release to stakeholders
4	13/06/2022	Schematic Design
5	8/07/2022	Final SD Comments

Action	Name	Date	Signed
Issue	Richard Evans BDC 2333	20/07/2021	
Final	Peter Hofstetter BDC 2578	13/06/2022	
Final SD	Peter Hofstetter BDC 2578	8/07/2022	

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EXECUTIVE SUMMARY OF COMPLIANCE ISSUES

The following compliance and performance solutions are highlighted and explained in detail in the relevant sections.

Compliance Items in relation to previous Part 4A Certificates:

NCC Clause Number	Summary
Nil	This assessment has not had any consideration for any past approvals. The building is existing and assumed to have been constructed under a previous valid approval and consent regime.

Performance solutions and Fire engineering Items:

The departures from the NCC deemed to satisfy provisions have been identified in the main body of the report. The below listed items are non-compliances that may be considered under a fire engineered Performance Based Solution. This determination is based on design requirements, previous considerations for the same application in other similar buildings and practicalities in achieving DtS compliance on a building of this dimension, size and current use: *educational facility*.

NOTE: Non compliances to be addressed by way of a performance solution are to involve early stakeholder engagement. Recent legislative directives (NCC Clause A2.2(4)) require Fire and Rescue NSW to be engaged in the stakeholder consultation process where a performance solution involving a Category 2 fire measure is concerned. To avoid delays in the FEB consultation phase, any relevant performance-based solution (PBS's) should be identified and actioned early in the design process. Refer to your consultants and Building Certifier.

NCC Clause Number	Performance Clause	Non-compliant comment	FEB/FER
E1.3	EP1.3	The current site layout does not facilitate compliance with AS2419 Clause 7.3 (d) - remote booster assemblies.	Req.

1. INTRODUCTION

1.1 Project Description

The subject property is located at 31 Bate Bay Drive, CRONULLA and is within the local government area of Sutherland Shire LGA.



1.2 Purpose of the Report

This report has been prepared, on behalf of Fulton Trotter Architects and the NSW Department of Education and Training to establish compliance with the National Construction Code of Australia 2019 (amd. 1) and the relevant legislation: Environmental Planning and Assessment Act (1979) and Regulations (2000) as amended.

National Construction Code of Australia

Note – this assessment relates strictly to the proposed new building (L), alterations and re-purposing of existing building (M) and refurbishment of existing school mixed use blocks (D, A, C, F). No consideration has been given for any previous Development Consents or Performance Based Solutions (Fire, Access, Energy Efficiency)

The relevant National Construction Code Building Code of Australia applicable to this project has been determined as being NCC 2019 – amendment 1.

The Building Code requirements (BCA) will be referred to as the “NCC” – *National Construction Codes* throughout this report.

1.3 National Construction Code of Australia Building Description

The following characteristics of the building have been determined in accordance with the NCC. These characteristics influence the NCC requirements applicable to the building.

Table 1 | NCC Classification

Level	Use	NCC Classification
Ground Buildings L and M	Administration offices and ancillary uses Educational Facility and ancillary uses	Class 5 (principal uses) Class 9b (ancillary uses)
Level 1 Buildings L and M	Educational Facility and ancillary uses Administration offices and ancillary uses	Class 9b (principal uses) Class 5 (ancillary uses)
Existing Buildings (both levels)	Existing 2 storey buildings D, A, C, E and ancillary uses – storerooms, printing rooms and the like	Class 5 (principal uses) Class 9b (principal and ancillary uses)

Table 2 | Building Characteristics

NCC Clause	Clause Summary	Description																																				
A1.1	Effective Height Existing buildings Building L Building M	n/a 3.47m 3.8 m																																				
A1.1	Climate Zone	5																																				
C1.1	Minimum Type of Construction: Building L and M	B																																				
A.7	United Buildings	N/A – New buildings L & M will not be considered as being united to existing buildings.																																				
C1.2	Rise in Storeys - All Buildings	2																																				
C2.2	General Floor Areas (m ²) United building D, A, E, F approx. 4,500 m ² , OK for Type B construction Note: Floor areas are measure to outside of external walls and includes balcony and covered walkway areas for the purpose of NCC assessment	<table border="1"> <thead> <tr> <th>Building</th> <th>Ground Floor</th> <th>First Floor</th> <th></th> </tr> </thead> <tbody> <tr> <td>A</td> <td>740</td> <td>740</td> <td>1,480</td> </tr> <tr> <td>D</td> <td>653</td> <td>691</td> <td>1,344</td> </tr> <tr> <td>E</td> <td>700</td> <td>702</td> <td>1,402</td> </tr> <tr> <td>F</td> <td>690</td> <td>690</td> <td>1,380</td> </tr> <tr> <td>Walkway F-D</td> <td></td> <td>52</td> <td>52</td> </tr> <tr> <td>Walkway D-E</td> <td></td> <td>95</td> <td>95</td> </tr> <tr> <td>Walkway E-A</td> <td></td> <td>85</td> <td>85</td> </tr> <tr> <td></td> <td></td> <td>Total</td> <td>4,498</td> </tr> </tbody> </table>	Building	Ground Floor	First Floor		A	740	740	1,480	D	653	691	1,344	E	700	702	1,402	F	690	690	1,380	Walkway F-D		52	52	Walkway D-E		95	95	Walkway E-A		85	85			Total	4,498
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C2.3	Large Isolated building	No																																				
G5	Bushfire Prone Area	Not Applicable																																				

1.4 Planning conditions relating to building work

The following conditions in the town planning approval relate to building work and must be fulfilled prior to the building approval or certificate of classification (C of C) as indicated below:

Table 3 | Planning Conditions

Condition Number	Summary	Status
General	<ol style="list-style-type: none">1. Standard development requirements pursuant to the Environmental Planning and Assessment Act (1979) and Regulations (2002),2. General requirements of SEPP (2017) – Educational Establishments that may be considered in any future application to a consent authority,3. Any conditions pursuant to any future State Significant Development Approvals,4. Any internal NSW Department of Education and Training development guidelines (ESG) for development.	As Applicable

1.5 Exclusions

This report does not consider the following except where specifically mentioned;

- i. The *Disability Discrimination Act 1992*¹
- ii. Statutory Authority Approvals
- iii. Any existing performance-based solutions on the building used to meet a performance requirement of the BCA and considered as part of a previous Development Application

Most NCC items that are not applicable to this type of development have now been deleted from the following table for this revision of the report.

¹ Disability Discrimination Act 1992, Australian Government, Canberra 1992

2. NATIONAL CONSTRUCTION CODE ASSESSMENT

2.1 NCC Section B – Structure

Clause	Comment / Information required by Building Surveyor	Status
Part B1 – Structural Provisions		
B1.2	<p>Structural design and specifications have not been assessed and considered in this report.</p> <p>Updated specifications and a design statement are required for the assessment of load bearing elements of the structure and any part of the structure subject to loads of any description acting on that structure.</p> <p>The structural design is to consider the <i>required fire resistance levels</i> of all elements (loadbearing and non-loadbearing) identified in this report.</p>	Further information required
B1.4	Determination of structural resistance of materials and forms of construction – Specifically B1.4 (b) and (c)	Further information required

2.2 NCC Section C – Fire Resistance

Clause	Comment/Information required by Building Surveyor	Status
Part C1 – Fire Resistance and Stability		
C1.1	Building I is proposed to be moved to within 6m of buildings D & E. This has been looked at and creates no issues for the existing buildings D & E.	Complies
C1.8	<p>Lightweight construction:</p> <p>Final plans and specifications to show any lightweight construction used as a fire resisting component of the building.</p>	Further information required
C1.9	<p>Non-combustible building elements:</p> <p>Consideration for any materials attached to external walls or internal walls required to have an FRL must be considered.</p> <p>Update final plans and specification for assessment.</p> <p>Note: Plans are to clearly demonstrate type and application of any external cladding proposed to be used in the development.</p>	Further information required
C1.10	<p>Fire hazard properties of wall and floor linings.</p> <p>Please provide the following:</p> <ul style="list-style-type: none"> Drawings, schedules and specifications showing location and type of all internal finishes and materials including ceiling insulation, carpets, wall linings, auditorium seating, lift car linings, air handling ductwork, Test certificates confirming the fire hazard properties for any 	Further information required

Clause	Comment/Information required by Building Surveyor	Status
	<p>materials subject to compliance with this clause will be required at certification stage.</p> <p>Building deemed able to comply. Update final plans and specifications for assessment at certification stage.</p>	
C1.14	<p>Ancillary Elements:</p> <p>Includes building elements that may be attached to the internal or external face of an external wall that is required to be non-combustible and includes:</p> <p>Gutters, flashings, grates and grilles, electrical switches, light fittings, required signs, and other ancillary elements that are non-combustible</p> <p>Building deemed able to comply. Update final plans and specifications for assessment.</p>	Further information required
Part C2 – Compartmentation and Separation		
NOTE	<p>United Buildings:</p> <p>The design for building L shows that it is fire separated from D with masonry construction and distance and therefore does not add to the united building.</p>	Note
C2.2	<p>General floor area & volume limitations</p> <p>The proposed buildings individually comply with the requirements for Type B construction:</p> <ul style="list-style-type: none"> • Maximum Floor area - 5,500 m² • Max volume—33,000 m³ <p>Buildings A, D, E, & F are united by enclosed, elevated walkways. The total combined GFA is approximately 4,500 m². Building L is only connected by an open walkway and, therefore, is not considered to be united.</p>	Complies
C2.3	Large isolated buildings	Not applicable
C2.12	<p>Separation of equipment</p> <p>This clause only applies to:</p> <ul style="list-style-type: none"> • Lift motors and control panels, • Emergency generators, • Central smoke control plant, • Boilers, • Battery systems – greater than 12v and a storage capacity of 200 kWh or more 	Not applicable

Clause	Comment/Information required by Building Surveyor	Status
C2.13	Electricity supply system The sub-station and MSB are located externally, more than 6m from other buildings.	Complies
Part C3 – Protection of Openings		
C3.2 and C3.3	Building I is proposed to be moved to not less than 3m from buildings D & E.	Complies
C3.4	Acceptable Methods of protection	Not applicable
C3.12	Openings in floors and ceilings for services Applicable only where a service passes through a floor or ceiling required to have an FRL with respect to integrity and insulation In a building required to be of type B construction, this can be achieved by a shaft (that will not reduce the applicable fire performance of the building element that is penetrated) or fire protected in accordance with C3.15 Note: separating floors between storeys in buildings L and M do not trigger compliance with this clause. Each building is one compartment and the floors separating storeys are not required to have an FRL.	Note
C3.15	Openings for service penetrations that may be triggered under clause C3.12 Penetrations of fire rated elements will need to be fire sealed by appropriately licensed contractors using tested systems and products. All applicable penetrations to be labelled in accordance with AS4072.1 and that a register is kept of all fire rated penetrations. <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> <p style="text-align: center;">SERVICE PENETRATION AND CONTROL JOINT SYSTEM (TO AS 4072.1) FRL: -/60/60</p> <p>Installed by: (Company/name) (Phone No.)</p> <p>Installation date:</p> <p>Installation reference:</p> <p>Manufacturer: (Name, Address, Phone No.)</p> <p style="text-align: center;">CONTACT THE ABOVE IN THE EVENT OF DAMAGE OR IF REINSTATEMENT IS REQUIRED</p> </div> Note: Building L and M deemed able to comply	Note
C3.17	Columns protected with lightweight construction to achieve an FRL Note: Specification C1.1 clause 2.5 (f) – steel columns supporting covered walkways do not trigger compliance with this clause	Not applicable

2.3 NCC Section D – Access and Egress

Clause	Comment/Information required by Building Surveyor	Status
Part D1 – Provision for Escape		
D1.2	Number of exits required Buildings L and M require 2 exits	Complies
D1.4	Exit travel distances	Complies
D1.5	Distance between alternative exits	Complies
D1.6	Dimensions of exits and paths of travel to exits	Complies
D1.9	Travel via non-fire-isolated stairways or ramps In a Class 5, 6, 7, 8 or 9 building, the distance from any point on a floor to a point of egress to a road or open space by way of a required non-fire-isolated stairway or non-fire-isolated ramp must not exceed 80 m.	Complies
D1.10	Discharge from exits An exit must not be blocked at the point of discharge and where necessary, suitable barriers must be provided to prevent vehicles from blocking the exit, or access to it.	Note
D1.13	Number of persons accommodated	Complies
Part D2 – Construction of Exits		
D2.7	Installation in exits and paths of travel Enclosures in a path of travel to an exit containing: <ul style="list-style-type: none"> • electricity meters, distribution boards or ducts; or, • central telecommunications distribution boards or equipment; or • electrical motors or other motors serving equipment in the building, must have an enclosing door with a non-combustible backing and a smoke seal. Update plans and specifications at certification stage.	Note – update specifications
D2.8	Enclosure of space under stairs No enclosure is shown on the plans Non-fire-isolated stairways and ramps — The space below a required non-fire-isolated stairway (<i>including an external stairway</i>) or non-fire-isolated ramp must not be enclosed to form a cupboard or other enclosed space unless— (i) the enclosing walls and ceilings have an FRL of not less than 60/60/60; and (ii) any access doorway to the enclosed space is fitted with a self-closing –/60/30 fire door.	Not applicable

Clause	Comment/Information required by Building Surveyor	Status																		
D2.13	<p>Goings & risers</p> <p>The stairs form building L & M have goings that scale at 300mm and rises that can be calculated as 165mm. These will comply and be very comfortable to walk on.</p> <p>Please provide stair details showing the goings and riser dimensions. It is strongly recommended that the stairs are designed to achieve rises of not more than 185mm and goings of not less than 255mm. This will allow the builder a reasonable chance to achieve compliance with the legislated maximum and minimums. Certis will be checking the constructed stairs to ensure that the risers and goings are constant throughout the flight. The following tolerances will be permitted:</p> <ul style="list-style-type: none"> • Maximum variation of 10mm between the largest and smallest rises and goings. • No greater than 5mm difference between consecutive rises / goings. • No tolerance permitted for rises or goings outside the permitted range in the NCC. e.g. rises greater than 190mm or goings shorter than 250mm. <p>Stairs to have maximum 18 risers per flight.</p> <p>Please provide details of slip resistance for nosings or treads.</p>	Note – Deemed able to Comply																		
D2.14	<p>Landings</p> <p>Please provide details of slip resistance for landings. Requirements:</p> <table border="1" data-bbox="352 981 1219 1370"> <thead> <tr> <th data-bbox="352 981 668 1048">D2.14 – Slip Resistance Requirements</th> <th colspan="2" data-bbox="668 981 1219 1048"></th> </tr> <tr> <th data-bbox="352 1048 668 1115">Application</th> <th data-bbox="668 1048 935 1115">Dry Surface</th> <th data-bbox="935 1048 1219 1115">Wet Surface</th> </tr> </thead> <tbody> <tr> <td data-bbox="352 1115 668 1182">Ramps steeper than 1:14</td> <td data-bbox="668 1115 935 1182">P4 or R11</td> <td data-bbox="935 1115 1219 1182">P5 or R12</td> </tr> <tr> <td data-bbox="352 1182 668 1249">Ramps steeper than 1:12</td> <td data-bbox="668 1182 935 1249">P3 or R10</td> <td data-bbox="935 1182 1219 1249">P4 or R11</td> </tr> <tr> <td data-bbox="352 1249 668 1317">Stair Treads/Landings</td> <td data-bbox="668 1249 935 1317">P3 or R10</td> <td data-bbox="935 1249 1219 1317">P4 or R11</td> </tr> <tr> <td data-bbox="352 1317 668 1370">Stair Nosings</td> <td data-bbox="668 1317 935 1370">P3</td> <td data-bbox="935 1317 1219 1370">P 4</td> </tr> </tbody> </table> <p>Slip resistance performance is to be confirmed by testing in accordance with AS 4586</p>	D2.14 – Slip Resistance Requirements			Application	Dry Surface	Wet Surface	Ramps steeper than 1:14	P4 or R11	P5 or R12	Ramps steeper than 1:12	P3 or R10	P4 or R11	Stair Treads/Landings	P3 or R10	P4 or R11	Stair Nosings	P3	P 4	Note – Deemed able to comply
D2.14 – Slip Resistance Requirements																				
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Stair Treads/Landings	P3 or R10	P4 or R11																		
Stair Nosings	P3	P 4																		
D2.15	<p>Thresholds</p> <p>Please confirm any doorways that have thresholds</p> <p>Update plans and specifications at certification stage.</p>	Note																		
D2.16	<p>Balustrades and other barriers</p> <p>Please provide balustrade details including dimensions. Notwithstanding the requirements, it is recommended that balustrades are specified to be min 1050 mm above FFL to allow for any variations that may occur on site.</p> <p>Where the change in level is greater than 4m, consideration to be given to possible climbing points such as GPOs, gas point, condensing units, shade screens.</p>	Note – Deemed able to comply																		

Clause	Comment/Information required by Building Surveyor	Status						
	<p>D2.16 – Barrier Design Requirements</p> <table border="1"> <tr> <td>Location</td> <td>Requirements</td> </tr> <tr> <td>Stairways</td> <td>865mm minimum height</td> </tr> <tr> <td>All other locations</td> <td> <ul style="list-style-type: none"> • 1000mm minimum height • A 125mm sphere must not pass through an opening in the barrier </td> </tr> </table>	Location	Requirements	Stairways	865mm minimum height	All other locations	<ul style="list-style-type: none"> • 1000mm minimum height • A 125mm sphere must not pass through an opening in the barrier 	
Location	Requirements							
Stairways	865mm minimum height							
All other locations	<ul style="list-style-type: none"> • 1000mm minimum height • A 125mm sphere must not pass through an opening in the barrier 							
D2.17	<p>Handrails</p> <p>Building deemed able to comply – update plans and specifications at certification stage</p>	Note						
D2.19	<p>Doorways and doors</p> <p>Please provide a door schedule for assessment. There are no fire doors required for the new construction.</p> <p>Building deemed able to comply. Update final plans and specifications at certification stage</p>	Note						
D2.20	Swinging doors	Complies						
D2.21	<p>Operation of latch</p> <p>A door in a required exit, forming part of a required exit or in the path of travel to a required exit must be readily openable without a key from the side that faces a person seeking egress, by—</p> <p>(i) a single hand downward action on a single device which is located between 900 mm and 1.1 m from the floor and if serving an area required to be accessible by Part D3—</p> <p>(A) be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch; and</p> <p>(B) have a clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35 mm and not more than 45 mm</p>	Note – update plans						
Part D3 – Access for People with a Disability								
NOTE	<p>This section is to be read in conjunction with the Certis ACCESS Report #1456 Revision B dated 30/06/2021.</p> <p>Note: the continuous path of travel into the building at the principal point of entry into the building was identified as requiring urgent remedial repair. This advice is provided in addition to any upgrade requirements contained within DDA Report.</p>	Note						
D3.1	General Building access requirements	Note						
D3.2	<p>Access to buildings</p> <p>Note: Accessibility to building L is deemed compliant. Access is provided to level 1 of building L by way of a lift and covered walkways in the existing building.</p> <p>The applicant is to consider if this is consistent with the general requirements contained in ESG guidelines</p>	Deemed able to comply						
D3.3	Parts of the buildings to be accessible	Deemed able to comply						

Clause	Comment/Information required by Building Surveyor	Status
D3.4	Exemptions	Not applicable
D3.7	Hearing augmentation A hearing augmentation system must be provided where an inbuilt amplification system, other than one used only for emergency warning, is installed.	Note
D3.8	Tactile indicators	Deemed able to comply
D3.9	Wheelchair spaces in a class 9b assembly building	Not applicable

2.4 NCC Section E – Services and Equipment

Clause	Comment/Information Required by Building Surveyor	Status
Part E1 – Fire Fighting Equipment		
E1.3	Fire hydrants – Installation of a fully compliant hydrant system is proposed. Refer to section “Fire Engineering” in the Executive Summary on page 4 for a summary of non-compliances associated with this installation. Update Hydraulic Plans and specifications at certification stage	Performance Solution
E1.4	Fire hose reels Per RFI’s – Hose reel coverage is only required to parts of the building not containing GLA/GLS spaces. This includes corridors associated with GLA’s Note: There is a fire hose reel shortfall to parts of building L currently being addressed by LCI consulting. One additional hose reel will be required. Update Hydraulic Plans and specifications at certification stage	Deemed able to comply
E1.6	Portable fire extinguishers Required per AS2444 – Update plans and specifications	Note
Part E2 – Smoke Hazard Management		
E2.2	Smoke hazard management – Fire detection and alarm systems. The requirements of E2.2 (a) do not apply to class 5 and 9b buildings containing less than 3 storeys.	Not applicable
Part E3 – Lift Installations		
E3.2- E3.10	Lifts Please provide lift specifications for assessment and approval – CC3	Development able to comply

Part E4 – Visibility in an Emergency, Exist Signs and Warning Systems		
E4.1-E4.8	Exit and Emergency lighting Update electrical plans and specifications	Development able to comply
E4.9	Emergency warning and intercom systems Update electrical plans and specifications	Not applicable

2.5 NCC Section F – Health and Amenity

Clause	Comment/Information Required by Building Surveyor	Status
Part F1 – Damp and Weatherproofing		
F1.1	Stormwater drainage Provide drainage plans and specifications The design is to consider the specific requirements contained with Sutherland Shire's DCP's and general Stormwater Management Plan	Note
F1.7 – F1.10	Waterproofing, Damp-proofing and Damp-proofing of floors on ground. Building deemed able to comply – Finalise plans and specifications at certification stage	Note
F1.11	Floor wastes Drawings required showing the location of floor wastes. Building deemed able to comply – Finalise plans and specifications for CC3.	Note
Part F2 – Sanitary and Other Facilities		
F2.2	Required number of sanitary facilities: NOTE: 1. Per RFI's, the design provided is well in excess of the requirements of the NCC, 2. Number of handwash basins provided is in excess of requirements. The number should be calculated and shown per spout where trough arrangements are proposed.	Complies
F2.3	Facilities in Class 3-9 Buildings Building deemed able to comply – Finalise plans and specifications at certification stage	Complies
F2.4	Facilities for people with disabilities Building deemed able to comply – Finalise plans and specifications at certification stage Detailed plans at 1:20 or 1:50 will be needed to ensure compliance.	Note
F2.5	Construction of sanitary compartments Building deemed able to comply – Finalise plans and specifications at certification stage	Complies

Clause	Comment/Information Required by Building Surveyor	Status
Part F – Room Sizes		
F3.1	Height of rooms and other spaces Building complies – Finalise plans and specifications at certification stage	Complies
Part F4 – Light and Ventilation		
F4.1	Provision of natural light Building complies – Finalise plans and specifications at certification stage	Complies
F4.4	Artificial lighting Building complies – Finalise plans and specifications at certification stage	Complies
F4.5	Ventilation of rooms Building complies – Finalise plans and specifications at certification stage	Complies
F4.6	Natural Ventilation Building complies – Finalise plans and specifications at certification stage	Complies
F4.8	Restriction on location of sanitary compartments Building complies – Finalise plans and specifications at certification stage	Complies
F4.9	Airlocks	Not applicable

2.6 NCC Section J – Energy Efficiency

Clause	Comment/Information Required by Building Surveyor	Status
J1-J8	The new buildings are considered conditioned spaces and trigger compliance with Part J of the NCC. Existing buildings will probably only need to consider energy efficient lighting as part of the refurbishment. Please provide a report from an energy consultant confirming compliance.	Note

2.7 Local government requirements

Clause	Comment/Information Required by Building Surveyor	Status
FRNSW	The proposed works may not require referral to FRNSW unless a performance solution is proposed for a category 2 fire safety measure (clause 144 of the EPA Regulations (2000)). If necessary, this will require the following: <ul style="list-style-type: none"> • Fire design plans and specifications. 	Note

Clause	Comment/Information Required by Building Surveyor	Status
	<ul style="list-style-type: none"> • Draft Fire engineering report. <p>Note: The current assessment timeframes available from FRNSW are in the order of 3 -4 months. Certis are of the opinion that the hydraulic design is formalised early, and the FEB is lodged to the Brigade as soon as practicably possible. You should engage relevant consultants early in the design stage to minimise any future delays at certification stage.</p>	
Town Planning and Consent Authority	<p>State Significant Development Approval. A copy of the Construction Certificate is to be lodged on the NSW Planning Portal after issue.</p> <p>NOTE - All future consent conditions are to be complied with. Refer to your certification authority once the approval to build has been granted.</p>	Note

APPENDIX A: REQUIRED FIRE RESISTANCE LEVELS

TYPE B CONSTRUCTION

Building element	Class 5, 7a or 9
EXTERNAL WALL (including any column and other building element incorporated within it) or other external building element, where the distance from any <i>fire-source feature</i> to which it is exposed is—	
For <i>loadbearing</i> parts—	
less than 1.5 m	120/120/120
1.5 to less than 3 m	120/ 90/ 60
3 to less than 9 m	120/ 30/ 30
9 to less than 18m	120/30/-
18 m or more	-/-/-
For <i>non-loadbearing</i> parts—	
less than 1.5 m	-/120/120
1.5 to less than 3 m	-/ 90/ 60
3 m or more	-/-/-
EXTERNAL COLUMN not incorporated in an <i>external wall</i> , where the distance from any <i>fire-source feature</i> to which it is exposed is—	
<i>Loadbearing</i>	
less than 18m	120/-/-
18 m or more	-/-/-
For <i>non-loadbearing</i> columns	-/-/-
COMMON WALLS and FIRE WALLS—	120/120/120
INTERNAL WALLS—	
<i>Fire-resisting</i> lift and stair <i>shafts</i> —	
<i>Loadbearing</i>	120/120/120
<i>Non-loadbearing</i>	-/120/120
Bounding <i>public corridors</i> , public lobbies and the like—	
<i>Loadbearing</i>	120/-/-
<i>Non-loadbearing</i>	-/-/-
Between or bounding <i>sole-occupancy units</i> —	
<i>Loadbearing</i>	120/-/-
<i>Non-loadbearing</i>	-/-/-
OTHER LOADBEARING INTERNAL WALLS	
and COLUMNS—	120/-/-
ROOFS	-/-/-

TYPE C CONSTRUCTION

Building element	Class 5, 7a or 9	Class 7b or 8
EXTERNAL WALL (including any column and other building element incorporated within it) or other external building element, where the distance from any <i>fire-source feature</i> to which it is exposed is—		
Less than 1.5 m	90/ 90/ 90	90/ 90/ 90
1.5 to less than 3 m	60/ 60/ 60	60/ 60/ 60
3 m or more	-/-/-	-/-/-
EXTERNAL COLUMN not incorporated in an <i>external wall</i> , where the distance from any <i>fire-source feature</i> to which it is exposed is—		
Less than 1.5 m	90/-/-	90/-/-
1.5 to less than 3 m	60/-/-	60/-/-
3 m or more	-/-/-	-/-/-
COMMON WALLS and FIRE WALLS—	90/ 90/ 90	90/ 90/ 90
INTERNAL WALLS—		
Bounding <i>public corridors</i> , public lobbies and the like—	-/-/-	-/-/-
Between or bounding <i>sole-occupancy units</i> —	-/-/-	-/-/-
Bounding a stair if <i>required</i> to be rated—	60 / 60/ 60	60 / 60/ 60
ROOFS	-/-/-	-/-/-

APPENDIX B: DRAWINGS REVIEWED FOR THIS ASSESSMENT

The following drawings were referenced as part of the SD assessment.

Drawing No.	Revision	Name
Architectural		
SD-0001	06	TITLE PAGE
SD-0002	06	LEGENDS PAGE
SD-1001	08	EXISTING SITE PLAN
SD-1002	08	DEMOLITION SITE PLAN
SD-1003	08	PROPOSED SITE PLAN
SD-1004	04	FUTURE SITE EXPANSION PLAN
SD-1101	06	STREETSCAPE ELEVATIONS & SCHOOL SIGNAGE
SD-1102	06	SITE SECTIONS 01
SD-1103	04	EXTERNAL MATERIALS & FINISHES
SD-1104	02	PERSPECTIVES
SD-1105	04	SHADOW DIAGRAMS
SD-1201	07	EXTERNAL WORKS PLAN 01
SD-1202	07	EXTERNAL WORKS PLAN 02
SD-1203	03	EXTERNAL WORKS PLAN SUBSTATION & MSB ENCLOSURE
SD-1301	08	STAGING PLANS
SD-1501	06	PROPOSED PLAY SPACE
SD-1502	06	AMENITIES STRATEGY
SD-1503	01	CONNECTION WITH COUNTRY ART WORK ZONE
SD-1601	06	TYPICAL WALL DETAILS EXTERNAL
SD-1602	04	TYPICAL WALL DETAILS INTERNAL
SD-1701	01	ROOM ELEVATIONS 01 GLS Type 1, GLS Type 2, GLS Type
SD-1702	01	ROOM ELEVATIONS 02 Multipurpose, Learning Commons
SD-1703	01	ROOM ELEVATIONS 03 Collaboration Space
SD-1704	01	ROOM ELEVATIONS 04 Canteen, Canteen Office
SD-1705	01	ROOM ELEVATIONS 05 Public & Student Reception, Admi
SD-1706	01	ROOM ELEVATIONS 06 Staff Study Areas
SD-1707	01	ROOM ELEVATIONS 07 Office & Interview
SD-1708	01	ROOM ELEVATIONS 08 Clinic, Tea Bench, Student Waiti
SD-1709	01	ROOM ELEVATIONS 09 Thoroughfare
SD-1710	01	ROOM ELEVATIONS 10 Staff Amenities Types 1 3, EOT F
SD-1711	01	ROOM ELEVATIONS 11 Student Amenities Types 1 4
SD-1712	01	ROOM ELEVATIONS 12 Student Amenities Types 5 & Clea
SD-1801	03	TYPICAL DETAILS 1 [03
SD-1802	03	TYPICAL DETAILS 2 [03
SD-1803	02	TYPICAL DETAILS 3 [02
SD-1804	02	TYPICAL DETAILS 4 [02
SD-1805	02	TYPICAL DETAILS 5 [02
SD-A-2001	06	BUILDING A GROUND FLOOR PLAN & CEILING PLAN
SD-A-2002	06	BUILDING A FIRST FLOOR PLAN & CEILING PLAN
SD-C-2001	06	BUILDING C GROUND FLOOR PLAN & CEILING PLAN
SD-D-2001	06	BUILDING D GROUND FLOOR PLAN & CEILING PLAN
SD-D-2002	06	BUILDING D FIRST FLOOR PLAN & CEILING PLAN
SD-D-2003	04	BUILDING D DOOR & WINDOW SCHEDULE
SD-D-6001	01	BUILDING D DOOR & WINDOW SCHEDULE [01
SD-E-2001	06	BUILDING E GROUND FLOOR PLAN & CEILING PLAN
SD-E-2002	06	BUILDING E FIRST FLOOR PLAN & CEILING PLAN
SD-L-2001	10	BUILDING L GROUND FLOOR PLAN
SD-L-2002	10	BUILDING L FIRST FLOOR PLAN
SD-L-2101	10	BUILDING L ROOF PLAN
SD-L-2201	07	BUILDING L GROUND FLOOR CEILING PLAN
SD-L-2202	07	BUILDING L FIRST FLOOR CEILING PLAN
SD-L-2301	06	BUILDING L GROUND FLOOR FINISHES PLAN

SD-L-2302	06	BUILDING L	FIRST FLOOR FINISHES PLAN
SD-L-3001	07	BUILDING L	ELEVATION 01
SD-L-3002	07	BUILDING L	ELEVATION 02
SD-L-3003	07	BUILDING L	SECTION 01
SD-L-6001	04	BUILDING L	DOOR SCHEDULE 01
SD-L-6002	04	BUILDING L	DOOR SCHEDULE 02
SD-L-6101	04	BUILDING L	WINDOW SCHEDULE
SD-L-9001	06	BUILDING L	GROUND FLOOR PLAN FF&E
SD-L-9002	06	BUILDING L	FIRST FLOOR PLAN FF&E
SD-M-2001	09	BUILDING M	GROUND FLOOR PLAN
SD-M-2002	10	BUILDING M	FIRST FLOOR PLAN
SD-M-2101	09	BUILDING M	ROOF PLAN
SD-M-2201	07	BUILDING M	GROUND FLOOR CEILING PLAN
SD-M-2202	07	BUILDING M	FIRST FLOOR CEILING PLAN
SD-M-2301	06	BUILDING M	GROUND FLOOR FINISHES PLAN
SD-M-2302	06	BUILDING M	FIRST FLOOR FINISHES PLAN
SD-M-3001	08	BUILDING M	ELEVATION 01
SD-M-3002	08	BUILDING M	ELEVATION 02
SD-M-3003	08	BUILDING M	SECTION 01
SD-M-6001	04	BUILDING M	DOOR SCHEDULE 01
SD-M-6002	04	BUILDING M	DOOR SCHEDULE 02
SD-M-6003	01		SITE GATE SCHEDULE
SD-M-6101	04	BUILDING M	WINDOW SCHEDULE
SD-M-9001	06	BUILDING M	GROUND FLOOR PLAN FF&E
SD-M-9002	06	BUILDING M	FIRST FLOOR PLAN FF&E
SD-T-5001	04	ROOM ELEVATIONS 01	GLS Type 1, GLS Type 2, GLS Type 3
SD-T-5002	04	ROOM ELEVATIONS 02	Multipurpose, Learning Commons
SD-T-5003	04	ROOM ELEVATIONS 03	Collaboration Space
SD-T-5004	04	ROOM ELEVATIONS 04	Canteen, Canteen Office
SD-T-5005	04	ROOM ELEVATIONS 05	Public & Student Reception, Admin Clerical
SD-T-5006	04	ROOM ELEVATIONS 06	Staff Study Areas, Office & Interview
SD-T-5007	04	ROOM ELEVATIONS 07	Building A & C Staff Areas
SD-T-5008	04	ROOM ELEVATIONS 08	Clinic, Tea Bench, Student Waiting, Corridor
SD-T-5009	04	ROOM ELEVATIONS 09	Thoroughfare
SD-T-5010	04	ROOM ELEVATIONS 10	Staff Amenities Types 1 3, EOT Facilities
SD-T-5011	04	ROOM ELEVATIONS 11	Student Amenities Types 1 4
SD-T-5012	04	ROOM ELEVATIONS 12	Student Amenities Types 5 & Cleaners Types 1 3
SD-T-5013	02	ROOM ELEVATIONS 13	Building D Staff Areas

APPENDIX C: GENERAL REQUIREMENTS FOR INTERNAL REFURNISHMENT OF BUILDINGS A, C, D, E

Certis note: Any new works are to comply with the requirements of the NCC (2019) amd 1. Any existing non-compliances not covered in this section, were not verified at the site visit and are not shown on plan. As general guidance, in the absence of an upgrade order contained in any future condition of consent contained in a Development Approval, then a decision needs to be made by the developer as to the extent of the non-compliance and what impact that may have on the general safety of the occupants using the building.

Stair construction and barriers to prevent falls are case in point. For example, stair balustrades are required to be 865mm measured from the top of the stair nosing. Stairs require slip resistance and non-slip nosings. These are matters that can be assessed and addressed as a matter of risk assessment by the NSW DET.

1. Fire Services The following measures are applicable to the internal refurbishment (at Certification/Occupation Certificate stage, a Final Fire Safety Certificate must be lodged by the Certifying Authority containing ALL fire measures within the building – new, modified and existing):
 - a. Exit signage and emergency lighting to be upgraded where applicable. Installation and commissioning to BCA E4.2, E4.4 & AS/NZS2293.1- 2005 and BCA E4.5, E4.6, E4.8 & AS/NZS2293.1-2005
 - b. Fire hose reel coverage to any areas not considered GLA/GLS areas and associated corridors. Installation and coverage to BCA E1.4 & AS2441-2005
 - c. Portable fire extinguishers – coverage and type in accordance with BCA E1.6 & AS2444-2001,
 - d. Fire Hydrant Coverage – Full compliance upgrade proposed to the building complex as part of the SSDA application. Refer LCI Hydraulic Design and Specification. Hydrant installation, coverage and commissioning to be in accordance with BCA E1.3 & AS2419.1-2005 (and incorporating amd. 1),
 - e. Fire Detection Systems – not required in school buildings not more than 3 storeys.
2. Fire hazard properties of all new wall and floor linings to comply with NCC (2019) – Specification C1.10.
3. Any new glazing (internal) to comply with AS 1288 – 2006. This would only apply to glass partitions, glazed walls, glazed doors and the like,
4. Accessibility – all new works are to comply generally with AS1428.1 (plans provided are a mix of workable and concept):
 - a. New proposed accessible toilets are to be designed in accordance with AS1428. 1 – section 16,
 - b. All circulation spaces, to and within parts, and widths of doors to be a minimum 850 clear and general requirements contained in section 13,
 - c. Compliant access to the building and compliant continuous accessible paths of travel within the building (section 6),
 - d. Required signage (sect.8),
 - e. Floor and ground surfaces (sect. 7) to include TGSI's where applicable (sect.9),
 - f. Stairways – are existing. Any upgrades per sect. 11
5. Section F – localised ventilation required to new bathrooms in accordance with NCC part F.4,
6. All sanitary facilities to be designed in accordance with Part F.2,
7. Section J – building is existing. Compliance to any new parts by way of notation to plans (applies to conditioned spaces only).

APPENDIX D: MARKED UP PLANS AND INTERNAL REFURNISHMENT OF EXISTING BUILDINGS

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1 PLAN
PROPOSED SITE PLAN
 SCALE: 1:500

01	CONSULTANT COORDINATION - PLANNER REVIEW	28/04/22	LW/NE
02	CONSULTANT COORDINATION	05/05/22	NE
03	CONSULTANT COORDINATION	16/05/22	NE
04	CONSULTANT COORDINATION ISSUE	18/05/22	LW/NE
05	SCHEMATIC DESIGN ISSUE - DRAFT	02/06/22	LW/JP
06	Consultant Coordination	20/06/22	LW
07	Consultant Coordination	24/06/22	LW
08	SCHEMATIC DESIGN ISSUE	24/07/22	LW
REV	DESCRIPTION	DATE	BY

PROPOSED SITE PLAN LEGEND

EXISTING BUILDINGS	EXISTING BUILDINGS TO BE REFURBISHED	EXISTING PAVING TO BE RETAINED	EXISTING BITUMEN	EXISTING TREES TO BE RETAINED	EXISTING EASEMENT	PERMANENT DEMOUNTABLES	PROPOSED FIRE HYDRANTS	PROPOSED TREE	PROPOSED BUILDINGS	PROPOSED TURF	PROPOSED ENTRY FORECOURT PAVING	PROPOSED CONCRETE PATH	PROPOSED GRAVEL PATH	PROPOSED TURNING ZONE	RELOCATED SHADE STRUCTURE	ROOF OVER	FENCE	PROPOSED GARDEN
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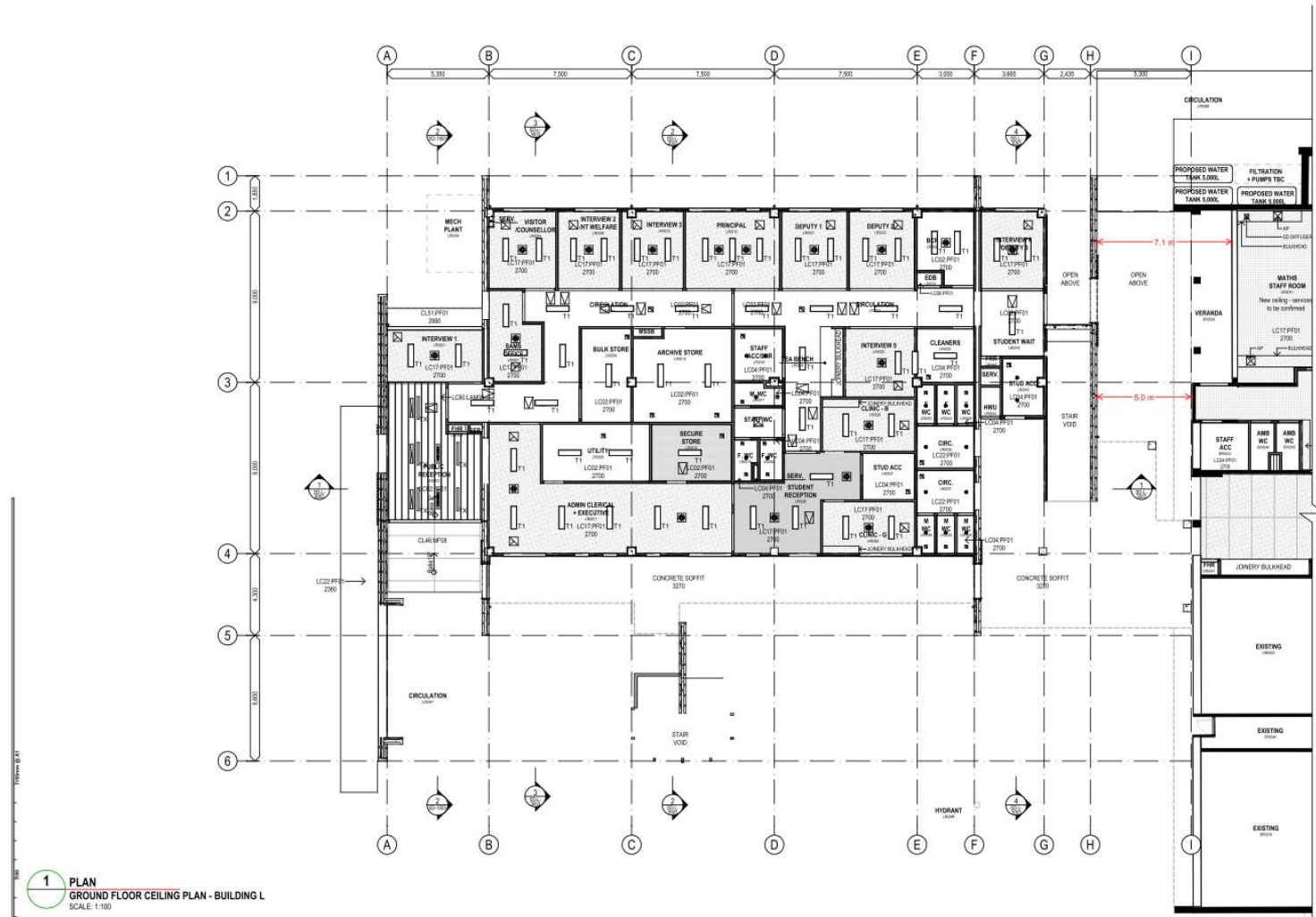
SCHEMATIC DESIGN

NSW DEPARTMENT OF
 EDUCATION (SCHOOLS)
 INFRASTRUCTURE
 CRONULLA HIGH SCHOOL

PROJECT LEADER
 Captain Cook Dr
 Cronulla, NSW

PROPOSED SITE PLAN

PROJECT NUMBER: **7068CR04**
 DIRECTOR: **JW**
 DRAWING NUMBER: **SD-1003**
 CHECKED: **08**



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PERFORATED PLASTERBOARD

MECHANICAL ITEMS
 NOTE REFER TO MECHANICAL ENGINEERS DRAWINGS AND SPECIFICATION

- AC CASSETTE
- AC LINEAR DIFFUSER
- CEILING ACCESS PANEL
- MECHANICAL AIR REGISTER
- MECHANICAL EXHAUST REGISTER
- MECHANICAL RETURN AIR REGISTER
- MECHANICAL SUPPLY AIR REGISTER
- MECHANICAL TRANSFER DUCT

ELECTRICAL ITEMS
 NOTE REFER TO ELECTRICAL ENGINEERS DRAWINGS AND SPECIFICATION

- COMMUNICATION / AV / POWER
- WIRELESS ACCESS POINT
- LOUD SPEAKER - PUBLIC ADDRESS
- PROJECTOR
- DATA POINT
- POWER POINT

SECURITY / SAFETY

- EMERGENCY EXIT LIGHT
- EMERGENCY LIGHT
- BURSTS STROKE
- VISUAL WARNING DEVICES
- LOUD SPEAKER - FIRE ALARM
- EMERGENCY WARNING HORN SPEAKER
- SMOKE DETECTOR
- SMOKE THERMAL DETECTOR
- FIRE SPRINKLER
- MOTION SENSOR - CORNER
- MOTION SENSOR - 360°
- PIEZO SOUNDER ALARM
- CCTV CAMERA DOME
- CCTV CAMERA

LIGHTING

- RECESSED LIGHT FITTING
- SUSPENDED LIGHT FITTING
- PENDANT LIGHT FITTING
- SPOT LIGHT
- CEILING FAN

1 PLAN
GROUND FLOOR CEILING PLAN - BUILDING L
 SCALE: 1:100

01	CONSL TMT COORDINATION - PLASTER REVIEW	26/02/22	LW/NE
02	Consultation Co-ordinator	26/02/22	LW
03	Consultation Co-ordinator	15/02/22	LW
04	CONSL TMT COORDINATION ISSUE	16/02/22	LW/NE
05	SCHEMATIC DESIGN RELE - DRAFT	02/03/22	AW/JP/ST/NE
06	Consultation Co-ordinator	24/03/22	LW
07	SCHEMATIC DESIGN ISSUE	24/03/22	LW
REV	DESCRIPTION	DATE	BY

CEILING PLAN LEGEND

CEILING LABEL

- MATERIAL CODE (REFER TO MATERIAL LEGEND)
- FINISH CODE (REFER TO FINISHED LEVELS)
- CEILING LEVEL (FROM FINISHED FLOOR LEVEL)
- FALL IN CEILING IF SHOWN
- APFL ABOVE FINISHED FLOOR LEVEL
- CJ CONTROL JOINT

CEILING MATERIAL LEGEND

- LC01 - PLASTERBOARD - 13MM GENERAL
- LC04 - PLASTERBOARD - 13MM MOISTURE RESISTANT
- LC05 - PLASTERBOARD - 13MM GYP/ROCK PYREX/CHK
- LC17 - PLASTERBOARD - 13MM PERFORATED
- LC22 - FC LINING - 9MM FLUSH JOINTS
- LC23 - PLYWOOD - PERFORATED TYPE 1
- LC24 - ACOUSTIC PANEL SYSTEM TYPE 3
- MR10 - METAL ROOF SHEETING - RIBBED
- MMTAS - ACOUSTIC SOUND ABSORBER - TYPE 2

CEILING FINISHES LEGEND

- S01 - WHITE
- S04 - TAN
- AF01 - (AUX) CUBE CEILING / ACROSS
- CB24 - COLORBOND SURFPAINT
- LAMB - (SUNWOOD) HOOP PINE - VENEER
- PF01 - DULUX (LEVCOR) GTR / SWP/1

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PHASE
SCHEMATIC DESIGN

PROJECT CLIENT
 NSW DEPARTMENT OF
 EDUCATION (SCHOOLS
 INFRASTRUCTURE)
 CRONULLA HIGH SCHOOL

PROJECT MANAGER
 Captain Cook Dr
 Cronulla, NSW

PROJECT
**BUILDING L - GROUND FLOOR
 CEILING PLAN**

Figured dimensions take precedence over written dimensions. Contractors must verify all dimensions on site before commencing any work or installing final fittings.

PROJECT NUMBER	7068CR04	DIRECTOR	JW	CHECKED	
DRAWING NUMBER	SD-L-2201	REVISION			07