



MECHANICAL - ELECTRICAL - HYDRAULIC - FIRE - ENERGY - NABERS - STORMWATER - SECTION J - BEEC

Fire Detection Services

CABONNE HOME SUPPORT REFURBISHMENT

70 GASKILL STREET CANOWINDRA, NSW 2804

About Marline Engineering Newcastle

At Marline, we take a comprehensive approach when designing your new development.

With in-house electrical, mechanical and hydraulic engineers, Marline Engineering makes your engineering design needs a breeze. We are able to adjust, implement and create designs on AutoCAD and REVIT which makes it easy for contractors and builders to build our designs.

We advise you on the most affordable, practical and effective solutions and systems based on the site and legal factors.

As consulting engineers, Marline has also expanded the range of services to provide a wide range of building services disciplines including Air-conditioning, Electrical, Hydraulics, Fire Protection and Lift Services.

Marline has seen a huge amount of growth in the Energy sector. We provide services that go above and beyond the standard regulatory requirements and offer unique solutions to your Section J or JV3 Alternative solution reports. We also offer a fast NABERS and BEEC certification that ensures advertising for commercial properties are fully compliant with the CBD advertising rules and regulations.

With engineering consulting experience that dates back as far as 1975, we're one of the best engineering companies in Australia, and have developed the kind of projects that residential and commercial property developers benefit from.

Our Newcastle engineering firm continues to grow, however our team prides itself on every customer receiving the kind of high quality workmanship and personalised service that our company is known for.

To accommodate the expansion and demand for engineering services within Newcastle and throughout New South Wales, Marline Engineering has almost doubled the number of highly trained employees in the last five years.

Our engineering firm currently employs ten engineers, eight technical assistants and an office administrator. As a result, we continue to be leaders amongst engineering companies in Australia, with a large portfolio and a positive attitude.

PROJECT No:
MN15171

CLIENT:
CABONNE COUNCIL

ARCHITECT:

DRAWING SCHEDULE

FD-00-000	COVER SHEET
FD-00-001	LEGEND & NOTES
FD-10-001	GROUND FLOOR - FIRE DETECTION LAYOUT

100% ISSUE

FIRE DETECTION SERVICES

FIRE DETECTION SERVICES NOTES

NOTE: SOME ITEMS MAY NOT BE USED

COMMUNICATIONS

SB100 SINGLE TELECOMMUNICATION OUTLET CAT 6A RJ45 SOCKET C/W WALL MOUNTED FLUSH PLATE

FIRE DETECTION & BOWS (AS1670.1-2018)

FIP FIP - RESIDENTIAL FIRE DETECTION PANEL (PANEL TO BE BROOKS SINGLE LOOP (MULTIPLE ZONE) ADDRESSABLE FIRE INDICATOR PANEL)

FAS FIRE ALARM SHUTDOWN TRIP - CO-ORDINATE WITH OTHER TRADES

SD SMOKE DETECTOR

SDC CONCEALED SMOKE DETECTOR

TD THERMAL DETECTOR

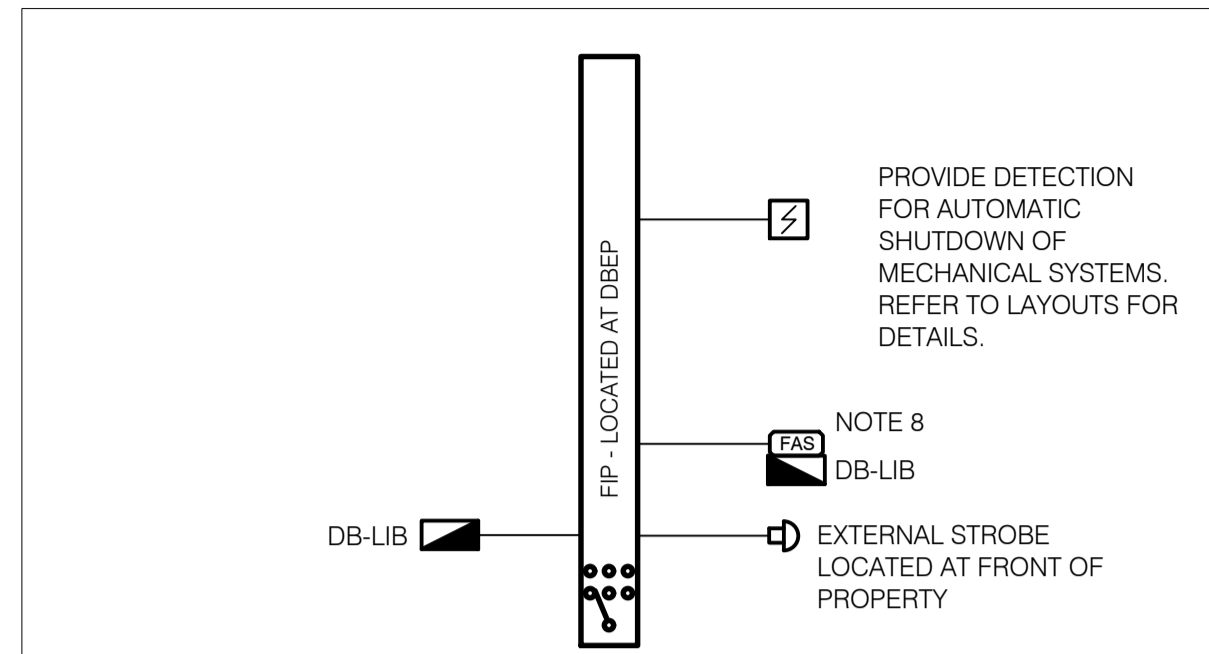
RS RECESSED SPEAKER

BOWS BUILDING OCCUPANTS WARNING

FCR FIRE CONTROL RELAY

ERS EXTERNAL RED FIRE STROBE

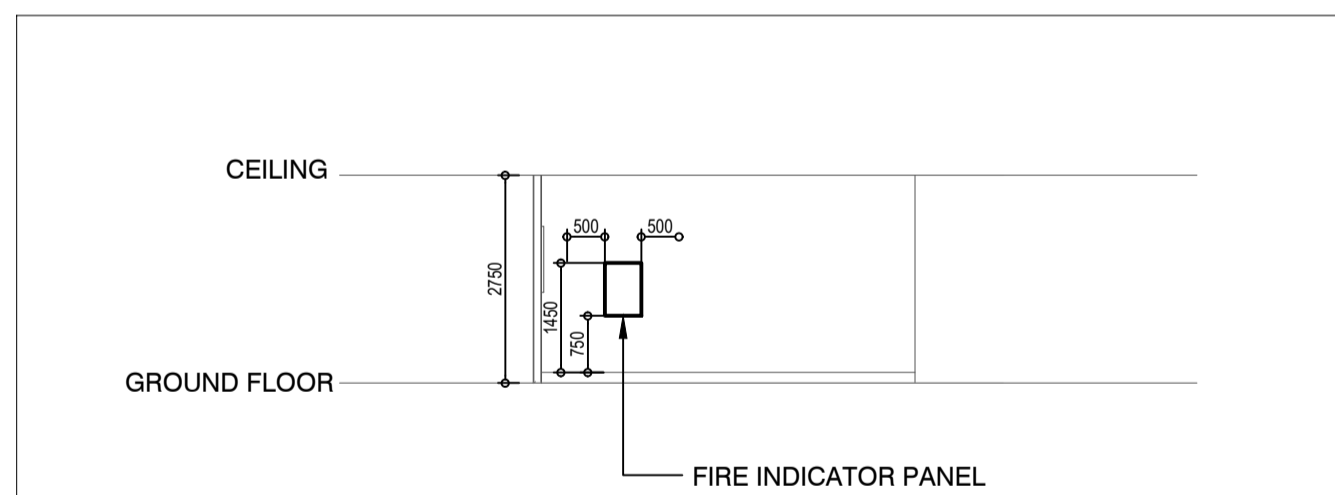
ASE ALARM SIGNALING EQUIPMENT AS PER AS1670.3. PROVIDE DUAL-SIM 3G/4G TYPE WITH INTEGRAL BATTERY BACK-UP TO INITIATE AUTOMATIC SIGNALING TO THE LOCAL BRIGADE.



FIRE DETECTION SYSTEM BLOCK DIAGRAM

NOTES:

- PROVIDE A COMPLETE FIRE DETECTION SYSTEM TO INITIATE AUTOMATIC SHUTDOWN OF ALL DUCTED MECHANICAL AIR-HANDLING UNITS IN ACCORDANCE WITH BCA/NCC 2022 NSW E2D16, SPECIFICATION 20 CLAUSE 6, AS 1670.1, AND AS 1668.1 REQUIREMENTS.
- FIP TO BE DIGITAL ADDRESSABLE TYPE.
- STROBE TO BE INSTALLED AT DESIGNATED BUILDING ENTRY POINT.
- ENSURE STRICT COMPLIANCE WITH AS 1670 INCLUDING MORE COMMON REQUIREMENTS SUCH AS:-
 - DETECTORS TO BE NO CLOSER THAN 300mm TO WALLS & 900mm TO A/C DIFFUSERS.
 - DETECTION CABLING TO BE PROTECTED & SEGREGATED ABOVE ALL OTHER SERVICES AND CABLING AS PER AS/CA S008.
- THE NUMBER AND LOCATION OF ALL DETECTORS & EQUIPMENT ARE INDICATIVE ONLY AND ARE TO BE CO-ORDINATED ON SITE WITH ALL OTHER SERVICES AND TRADES. FINAL LOCATION AND QUANTITIES ARE TO BE IN ACCORDANCE WITH AS 1670.1 REQUIREMENTS.
- PROVIDE NEW ZONE BLOCK DIAGRAMS ADJACENT THE FIP. ZONE BLOCK DIAGRAMS ARE TO BE PERMANENTLY FIXED, ENGRAVED TRAFFOLYTE TYPE AS PER AS 1670.1.
- PROVIDE COMPLETE DOCUMENTATION OF THE INSTALLATION AS PER AS 1670.1 REQUIREMENTS INCLUDING, BUT NOT LIMITED TO: AS-INSTALLED DOCUMENTATION, EQUIPMENT DETAILS, TEST CERTIFICATES, MAINTENANCE LOGS, AND ZONE BLOCK DIAGRAMS.
- PROVIDE FIRE ALARM SHUTDOWN CONTROL CABLING TO THE MSSB CONTROL PANEL AND ALL REQUIRED DUCTED AIR-HANDLING MECHANICAL EQUIPMENT TO INITIATE AUTOMATIC SHUTDOWN WHEN IN ALARM MODE. CO-ORDINATE WITH THE MECHANICAL TRADE AS REQUIRED AND PROVIDE ALL ASSOCIATED CABLING AND CONTROLS.



FIRE INDICATOR PANEL MOUNTING DETAIL

NOTES:

- FIRE INDICATOR PANEL TO BE INSTALLED SO THE CONTROLS AND INDICATORS ARE NOT LESS THAN 750mm AND NOT MORE THAN 1850mm ABOVE FLOOR LEVEL.
- A MINIMUM CLEARANCE OF 1000mm IN FRONT AND 500mm TO EACH SIDE TO BE MAINTAINED IN ACCORDANCE WITH AS1670.1 REQUIREMENTS.

TESTING AND COMMISSIONING

1. UPON COMPLETION OF WORKS, CARRY OUT TESTING FOR THE WORKS COMPLETED AND PROVIDE ELECTRICAL CERTIFICATE OF TEST STATING THAT THE ELECTRICAL INSTALLATION, TO THE EXTENT IT IS AFFECTED BY THE ELECTRICAL WORK, HAS BEEN TESTED TO ENSURE THAT IT IS ELECTRICALLY SAFE AND IS IN ACCORDANCE WITH THE REQUIREMENTS OF THE AS/NZS 3000 AND ANY OTHER REQUIREMENTS APPLYING UNDER THE NSW WORK HEALTH AND SAFETY REGULATION 2017 TO THE ELECTRICAL INSTALLATION. THE ELECTRICAL TRADE SHALL ALLOW FOR THESE WORKS TO BE CARRIED OUT BY AN INDEPENDENT COMMISSIONING SPECIALIST.

2. WHERE AN ITEM OF EQUIPMENT OR INSTALLATION FAILS A TEST OR THE DESIRED DESIGN CONDITIONS ARE NOT MET, THE ELECTRICAL TRADE SHALL BE RESPONSIBLE FOR RECTIFICATION OF THE PROBLEM AND RECOMMISSIONING OF THE EQUIPMENT/INSTALLATION AS REQUIRED.

3. PROVIDE TEST REPORTS FOR ALL SYSTEMS. PROVIDE THE CLIENT WITH ALL TEST RESULTS, ROUND FOR REVIEW. THE CERTIFICATE OF PRACTICAL COMPLETION WILL ONLY BE SIGNED AFTER THE COMPLETE TEST REPORTS HAVE BEEN REVIEWED. INCLUDE A HARD AND SOFT COPY OF THE FULL TEST REPORTS IN THE OPERATION AND MAINTENANCE MANUALS.

HANDBOVER & DEFECTS LIABILITY PERIOD

1. GUARANTEE ALL WORK AND MATERIALS AS TO QUALITY, WORKMANSHIP, AND AGAINST DEFECTS FOR A PERIOD OF 12 MONTHS FROM THE DATE OF ISSUE OF THE CERTIFICATE OF PRACTICAL COMPLETION. DURING THIS PERIOD, PROMPTLY REPLACE ALL DEFECTIVE EQUIPMENT, FIXTURES, AND MATERIALS AT NO ADDITIONAL COST. THIS INCLUDES ALL LABOUR AND COSTS NECESSARY FOR THE REMOVAL OF DEFECTIVE PARTS OF COMPONENTS AND OF INSTALLING AND TESTING REPLACEMENTS, PROMPTLY RESPOND TO ALL DEFECTS AND MAINTENANCE ISSUES WITH RAISED BY THE CLIENT OR SUPERINTENDENT DURING THE DEFECTS LIABILITY PERIOD.

2. THE CONTRACTOR WILL BE REQUIRED TO FULLY DEMONSTRATE AND TRAIN THE CLIENT'S STAFF ON THE OPERATION OF EACH INSTALLATION. THIS SHALL BE CARRIED OUT ONCE PRIOR TO HANDOVER AND ONCE ONE (1) MONTHS POST-HANDOVER IF REQUIRED. SPECIALIST SUB-CONTRACTORS/INSTALLERS SHALL BE IN ATTENDANCE.

3. THE ENTIRE INSTALLATION SHALL BE HANDED OVER TO THE CLIENT NEW, CLEAN AND FREE FROM ANY DAMAGE OR DEFECT.

4. PRIOR TO HAND OVER, THE ELECTRICAL TRADE SHALL SUBMIT TO THE CLIENT'S REPRESENTATIVE A COPY OF THE HEALTH AND SAFETY FILE, INSTALLATION OPERATION AND MAINTENANCE MANUALS, TESTING AND COMMISSIONING REPORTS, AND AS BUILT DRAWINGS FOR REVIEW AND APPROVAL. ONCE APPROVED, THE ELECTRICAL TRADE SHALL PROVIDE TO THE CLIENT, THREE HARD AND SOFT COPIES OF THESE DOCUMENTS. NEITHER PRACTICAL NOR FINAL COMPLETION WILL BE CERTIFIED UNTIL THESE DOCUMENTS HAVE BEEN APPROVED AND RECEIVED BY THE CLIENT'S REPRESENTATIVE.

5. UPON COMPLETION OF THE WORKS, AND PRIOR TO THE ISSUE OF THE NOTICE OF PRACTICAL COMPLETION, SUPPLY REVIEWED AND AMENDED (AS MAY HAVE BEEN REQUIRED) REPRODUCIBLE AS-CONSTRUCTED DRAWINGS, IN AutoCAD SHOWING THE COMPLETE SERVICES INSTALLATION 'AS CONSTRUCTED'. PROVIDE ONE (1) AS SET OF THESE DRAWINGS, BOUND INTO THE OPERATING AND MAINTENANCE MANUAL TOGETHER WITH AN ELECTRONIC COPY OF AutoCAD AND PDF FILES ON USB STORAGE MEDIA.

6. SUPPLY THREE (3) HARD COPIES AND TWO (2) ELECTRONIC COPIES OF THE OPERATING AND MAINTENANCE MANUALS PRIOR TO THE DATE OF PRACTICAL COMPLETION. THE ELECTRONIC COPY SHALL BE IN PDF FORMAT, SINGLE FILE WITH SHOP DRAWINGS AND TESTING AND COMMISSIONING DATA INCLUDED. THESE MANUALS INCLUDE AS A MINIMUM:

- GENERAL DESCRIPTION OF SYSTEMS.
- MANUFACTURER'S DIRECTIONS.
- NORMAL OPERATING PROCEDURES.
- EMERGENCY OPERATING PROCEDURES.
- ELECTRICAL AND CONTROL SYSTEMS DESCRIPTIONS.
- METHOD OF ADJUSTING SYSTEMS.
- LIST OF EQUIPMENT INSTALLED WITH MANUFACTURER'S NAMES, ADDRESSES AND TELEPHONE NUMBERS.
- MAINTENANCE INSTRUCTIONS FOR EQUIPMENT AND SYSTEMS.
- A COPY OF ALL TEST RESULTS.
- SYSTEM COMPLIANCE CERTIFICATION.
- AS CONSTRUCTED DRAWINGS

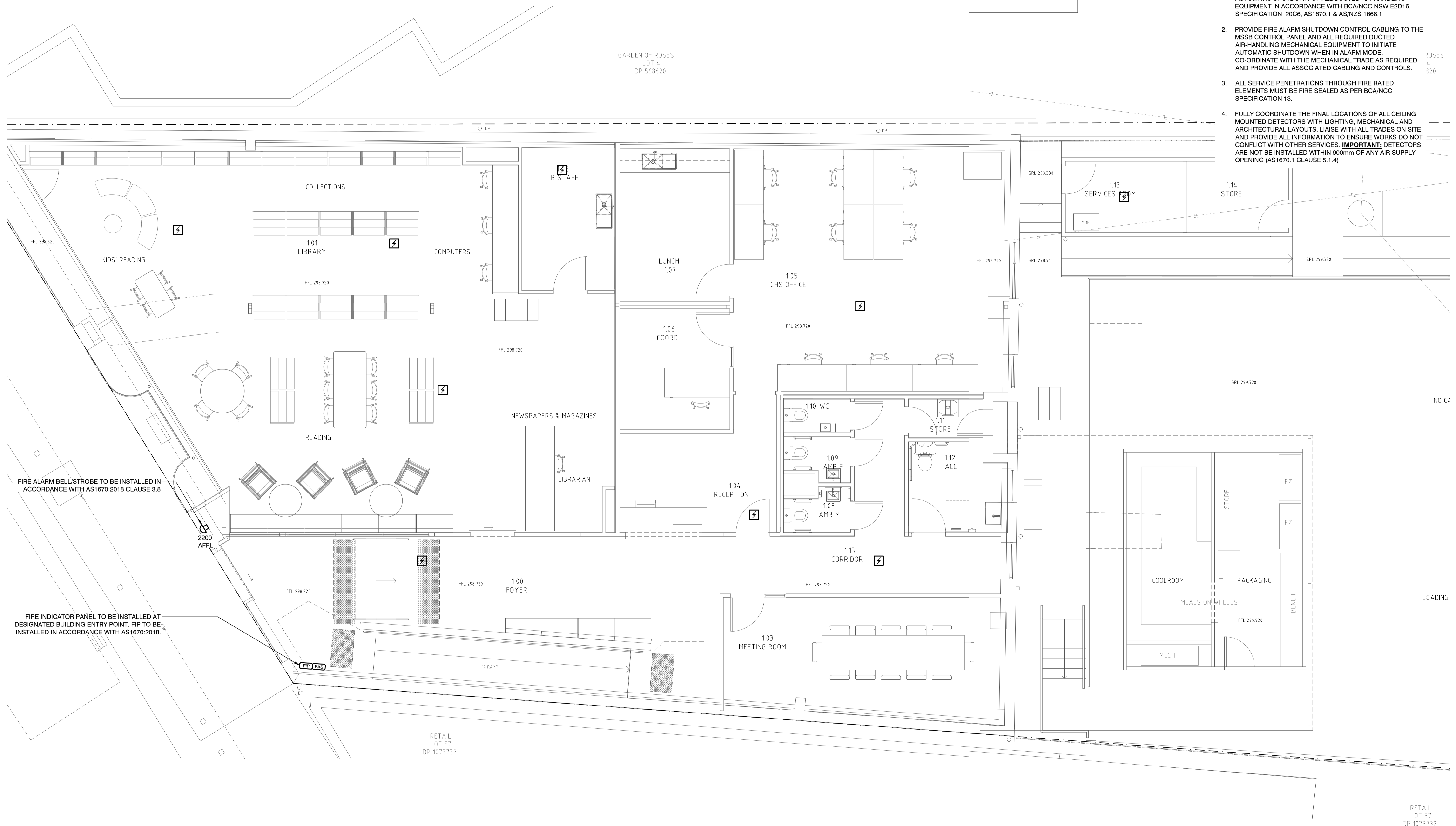
ALSO INCLUDE: GUARANTEES, CERTIFICATES OF APPROVALS, PERFORMANCE AND TEST DATA SHEETS, COMMISSIONING RECORDS, MANUFACTURER'S TEST RESULTS, MANUFACTURER'S DIRECTIONS, ETC. RETAIN ANY MANUFACTURER'S DIRECTIONS ON SITE FOR REFERENCE AND LATER INCLUSION IN THE OPERATING AND MAINTENANCE MANUALS. REFER TO ELECTRICAL SPECIFICATION FOR FULL REQUIREMENTS FOR OPERATION AND MAINTENANCE MANUALS ALONG WITH MINIMUM TRAINING REQUIREMENTS.

7. THE CONTRACTOR SHALL UNDERTAKE THERMAL IMAGING OF ALL SWITCHBOARDS PRIOR TO PRACTICAL COMPLETION AND AGAIN PRIOR TO THE END OF THE DEFECTS LIABILITY PERIOD. PROVIDE A REPORT PRESENTING THE RESULTS AND WHERE CABLE/JOINT/EQUIPMENT TEMPERATURES LIE OUTSIDE GENERALLY ACCEPTABLE OR SAFE VALUES, THE ELECTRICAL SHALL BE RESPONSIBLE FOR PROVISION OF REMEDIAL MEASURES.

MECHANICAL — ELECTRICAL — HYDRAULIC — FIRE — ENERGY — NABERS — STORMWATER — SECTION J — BEEC

NOTES:

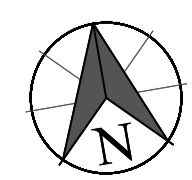
- 1. PROVIDE A COMPLETE & OPERATIONAL FIRE DETECTION SYSTEM IN ACCORDANCE WITH AS1670.1 TO INITIATE AUTOMATIC SHUTDOWN OF ALL DUCTED AIR-HANDLING EQUIPMENT IN ACCORDANCE WITH BCA/NCC NSW E2D16, SPECIFICATION 20C6, AS1670.1 & AS/NZS 1668.1
- 2. PROVIDE FIRE ALARM SHUTDOWN CONTROL CABLING TO THE MSSB CONTROL PANEL AND ALL REQUIRED DUCTED AIR-HANDLING MECHANICAL EQUIPMENT TO INITIATE AUTOMATIC SHUTDOWN WHEN IN ALARM MODE. CO-ORDINATE WITH THE MECHANICAL TRADE AS REQUIRED AND PROVIDE ALL ASSOCIATED CABLING AND CONTROLS.
- 3. ALL SERVICE PENETRATIONS THROUGH FIRE RATED ELEMENTS MUST BE FIRE SEALED AS PER BCA/NCC SPECIFICATION 13.
- 4. FULLY COORDINATE THE FINAL LOCATIONS OF ALL CEILING MOUNTED DETECTORS WITH LIGHTING, MECHANICAL AND ARCHITECTURAL LAYOUTS. LIAISE WITH ALL TRADES ON SITE AND PROVIDE ALL INFORMATION TO ENSURE WORKS DO NOT CONFLICT WITH OTHER SERVICES. **IMPORTANT:** DETECTORS ARE NOT TO BE INSTALLED WITHIN 900mm OF ANY AIR SUPPLY OPENING (AS1670.1 CLAUSE 5.1.4)



FIRE ALARM BELL/STROBE TO BE INSTALLED IN ACCORDANCE WITH AS1670:2018 CLAUSE 3.8

FIRE INDICATOR PANEL TO BE INSTALLED AT DESIGNATED BUILDING ENTRY POINT. FIP TO BE INSTALLED IN ACCORDANCE WITH AS1670:2018.

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Rev	Date	Reason for Issue
4	28.11.24	100% ISSUE
3	22.11.24	100% ISSUE
2	22.10.24	75% ISSUE FOR REVIEW
1	02.10.24	50% ISSUE FOR REVIEW

Drawn	Design	Verify
DM	DM	JH
DM	DM	JH
DM	DM	JH
AA	AA	JH

Project
CABONNE HOME SUPPORT REFURBISHMENT
70 GASKILL STREET
CANOWINDRA, NSW 2804

Drawing Title
GROUND FLOOR FIRE DETECTION LAYOUT