

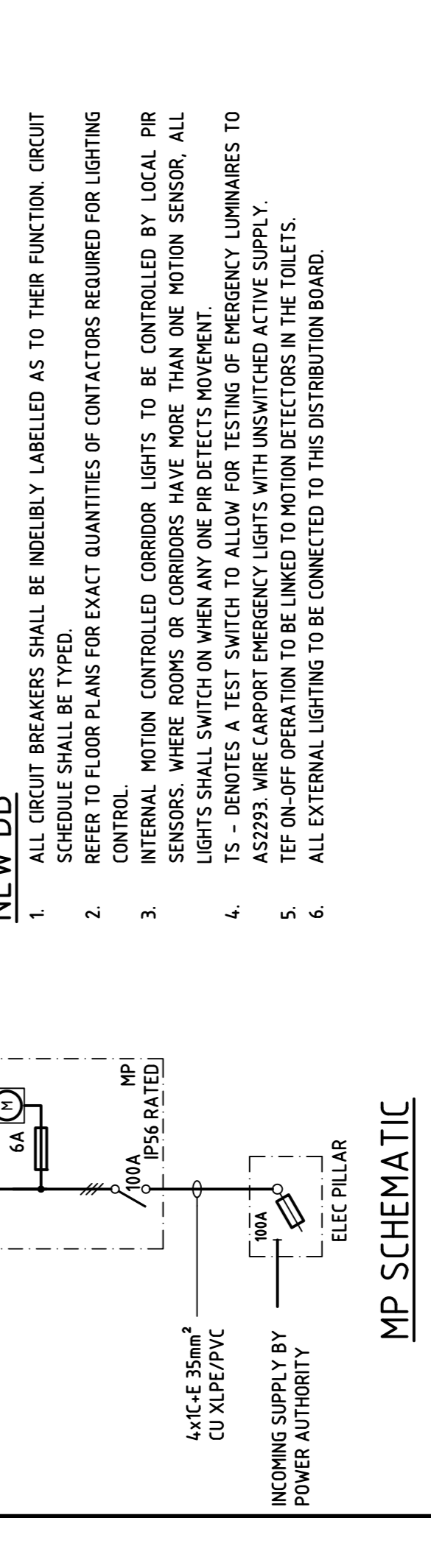
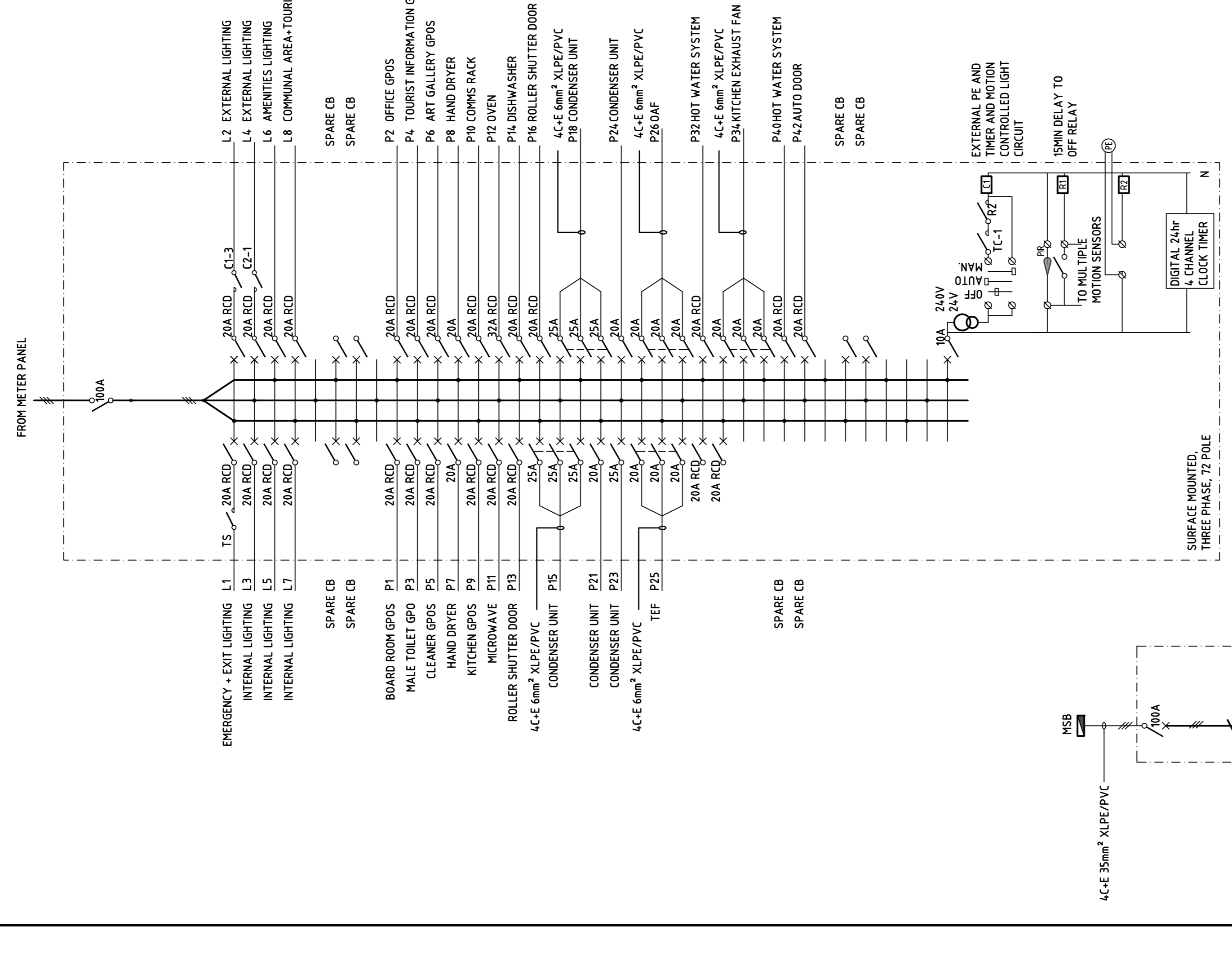
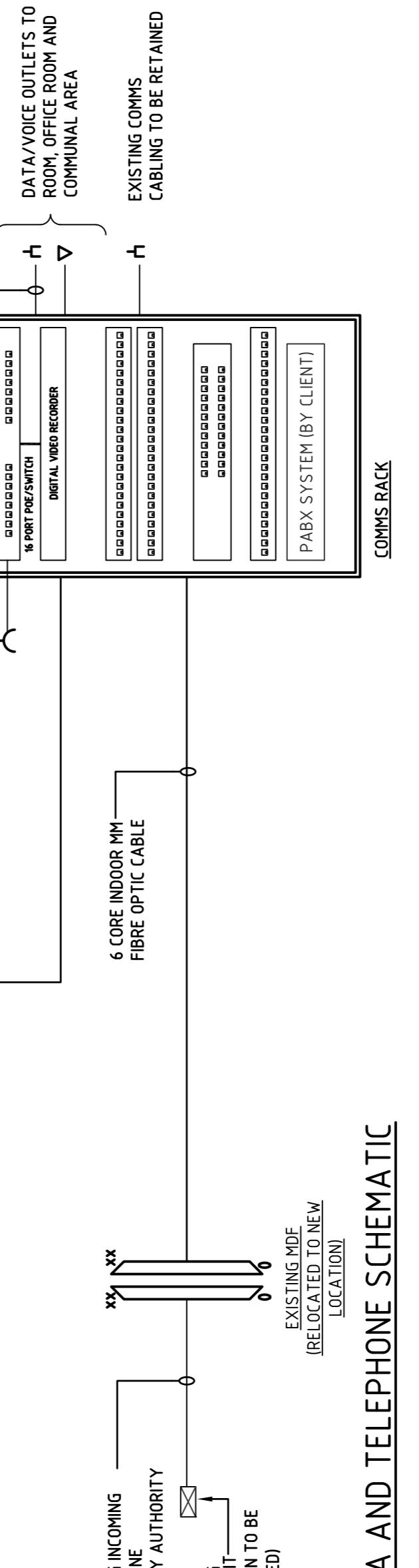
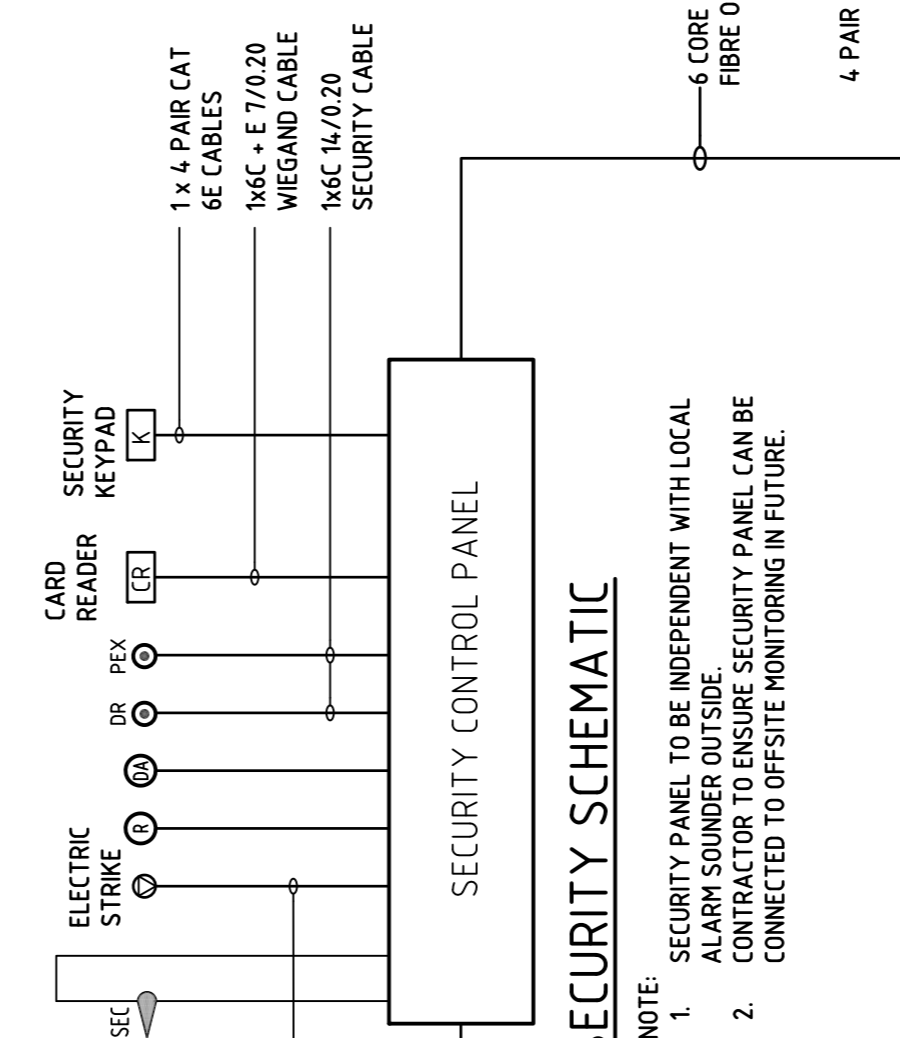
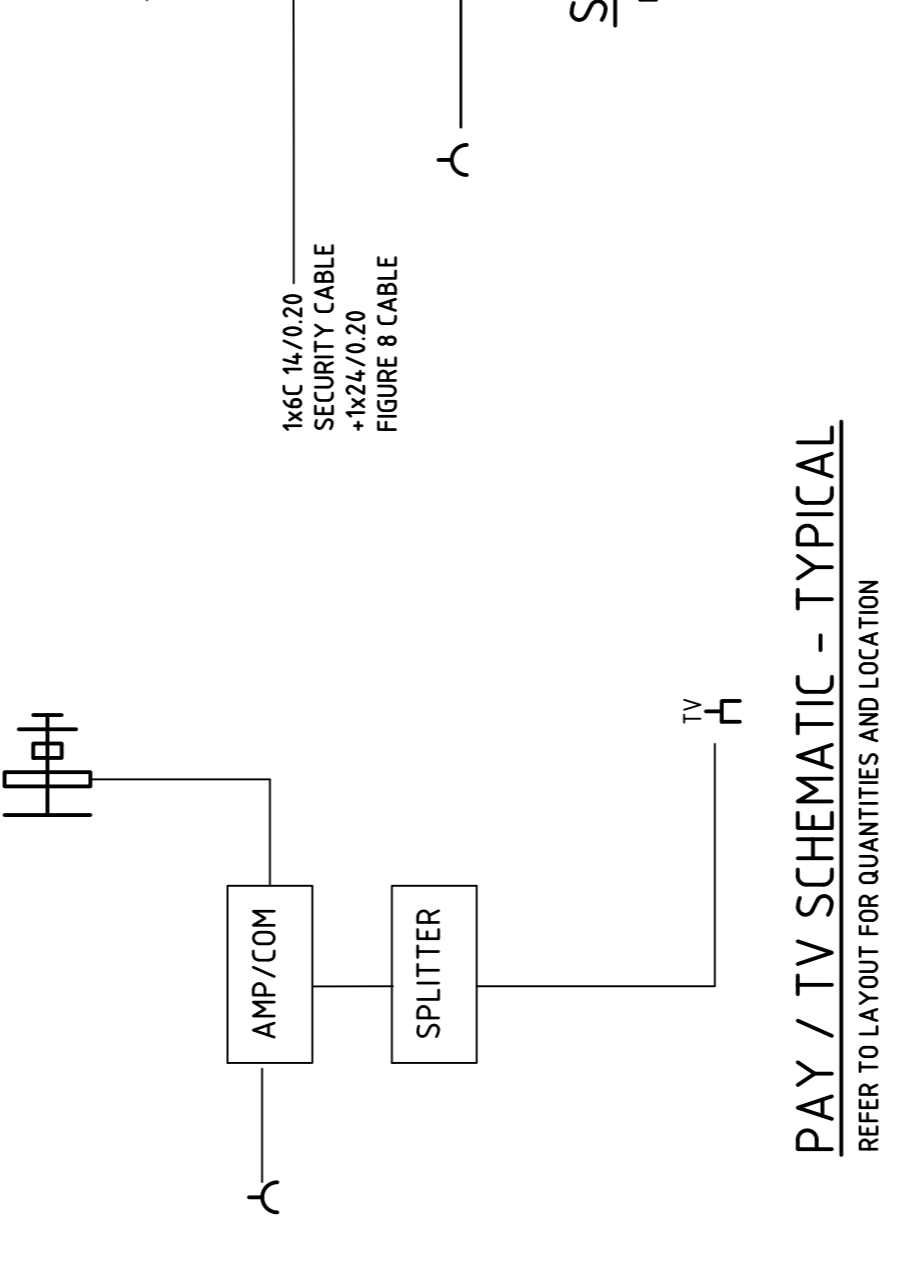
## SPECIFICATIONS NOTES

- GENERAL CONTRACTOR SHALL INSPECT THE SITE PRIOR TO SUBMITTING A TENDER AND OBTAIN APPROVAL FROM THE LOCAL AUTHORITY AND BECOME FAMILIAR WITH THE SITE CONDITIONS. THE TENDER SHALL BE INCLUSIVE OF ALL CHARGES AND COSTS FOR ALL RELEVANT PERMITS, CERTIFICATES, AUTHORITIES, REGULATIONS AND/OR SITE/TRADE UNION AGREEMENTS.
- STANDARDS: GENERALLY, ALL WORKS SHALL BE CARRIED OUT TO AUSTRALIAN STANDARDS AS 1680, AS 2293, AS 3300 AND AS 3008.
- SCOPE OF WORK: THE ELECTRICAL DRAWING MUST BE READ IN CONJUNCTION WITH THE ARCHITECTURAL DOCUMENTATION. THE WORK COMPRISES THE SUPPLY, INSTALLATION AND COMMISSIONING OF THE FOLLOWING EQUIPMENT:
  - ELECTRICAL PILLAR AND NEW INCOMING CONDUIT
  - TRENCHING AND BACKFILLING
  - NEW AND EXISTING SUPPLY PANEL AND SUPPLY AUTHORITY METERING
  - NEW AND EXISTING SWITCHBOARDS INCLUDING ALL CIRCUIT BREAKERS AND EARTHING AS REQUIRED BY REGULATIONS
  - SUB CIRCUIT CABLING FOR POWER CIRCUITS
  - GENERAL POWER OUTLETS AND CONNECTION TO PERMANENTLY CONNECTED EQUIPMENT
  - SUB CIRCUIT CABLING FOR LIGHTING CIRCUITS
  - ISOLATORS AND SWITCHES
  - EXHAUST FANS AND SUBCIRCUIT CABLING FOR EXHAUST FANS & EXHAUST FAN CONTROL SWITCH
  - EMERGENCY AND EXIT LIGHT FITTINGS
  - COMMUNICATION WIRING INCLUDING OUTLETS.
  - SECURITY SYSTEM
  - ADDITION TO EXISTING MATV/PTV SYSTEM TO COMPLETE THE INSTALLATION
  - TESTING AND COMMISSIONING
  - TRAINING AND MAINTENANCE MANUALS INCLUDING AS INSTALLED
  - 12 MONTHS MAINTENANCE OF PLANT.
- WORK BY OTHER TRADES: THE FOLLOWING ITEMS WILL BE CARRIED BY OTHER TRADES AT NO COST TO THIS CONTRACTOR
  - CONSTRUCTION OF CUPBOARDS FOR CABLES, SWITCHBOARDS, AND PANELS.
  - FORMING OPENINGS FOR CABLES AND LIGHTS IN FLOORS, WALLS, AND CEILING.
  - THE ELECTRICAL CONTRACTOR TO PROVIDE SIZE AND LOCATIONS THE BUILDER.
  - EXHAUST FANS
  - HOT WATER UNITS: THE ELECTRICAL SERVICES SUBCONTRACTOR SHALL PROVIDE A POWER OUTLET FOR EACH UNIT.
- METERING, SUPPLY AND INSTALL AUTHORITY METER PANELS TO THE REQUIREMENTS OF THE SUPPLY AUTHORITY AND THE SUPPLY AND INSTALLATION RULES. CONFIRM THE TAREFF REQUIRED AND APPLY FOR THE PROVISION OF THE METERS. PROVIDE ALL NECESSARY WIRING AND CONDUITS TO THE METER PANELS. LIAISE WITH THE SUPPLY AUTHORITY FOR CORRECT PLACEMENT OF THE METER

- PANEL AND METERS.
  - SWITCHBOARDS: THE EXPECTED FAULT RATING OF THE DISTRIBUTION BOARD IS LIKELY TO BE LESS THAN 10KA, FORM 10F AS 3193.1 CONSTRUCTION. THEY SHALL BE PANEL BOARD TYPE TOTALLY ENCLOSED, METAL CLAD, WALL MOUNTED, AND DUST PROOF TYPE WITH A DEGREE OF PROTECTION OF IP43. SUPPLY SHOP DRAWINGS TO INCLUDE THE FOLLOWING:
    - THE GENERAL ARRANGEMENT INCLUDING LAYOUT OF EQUIPMENT, BUS BARS AND CONNECTIONS.
    - ELECTRICAL SCHEMATIC DIAGRAMS.
    - TYPE AND RATING OF EQUIPMENT ITEMS
    - STRUCTURAL AND ENCLOSING ELEMENTS INCLUDING SHEET METAL AND SEALING DETAILS
    - TERMINAL BLOCK LAYOUTS AND IDENTIFICATION
    - DETAILS OF LABELS AND ENGRAVING
    - TYPED AND LAMINATED CIRCUIT SCHEDULE
  - SUB CIRCUITS: UNLESS OTHERWISE SPECIFIED, PROVIDE 0.6KV V-75 PVC INSULATED CABLES TO AS 3147 FOR GENERAL INTERNAL WIRING AND HEAT RESISTING INSULATED CABLES FOR CONNECTION TO EQUIPMENT CAPABLE OF RAISING THE INSULATION TEMPERATURE ABOVE 150deg C. THE MINIMUM SIZE FOR CONDUCTORS SHALL BE:
    - LIGHTING CIRCUITS 2.5mm<sup>2</sup> Cu.
    - GENERAL PURPOSE POWER CIRCUITS 2.5mm<sup>2</sup> Cu.
    - CONTROL CIRCUITS 1.5mm<sup>2</sup> Cu.
    - EMERGENCY AND EXIT LIGHTING CIRCUITS 2.5mm<sup>2</sup> Cu.
    - FLEXIBLE CORDS 30/0.25mm<sup>2</sup> Cu.
    - OTHERS: TO AS 3000
  - PROVIDE CIRCUIT IDENTIFICATION INDICATING PHASE ROTATION AND CIRCUIT NUMBER FOR POWER OUTLETS. IDENTIFICATION SHALL BE PROMPTLY MADE IDENTIFICATION STUOS OR TRAPPOLYTE LABELS.
  - CABLE AND CONDUITS: CABLES AND CONDUITS SHALL BE INSTALLED IN CONCEALED SPACES, SLABS, PARTITIONS, DOUBLE BRICK OR BLOCK WALLS OR CHASED INTO REINFORCED MASONRY WALLS. UNDERGROUND CONDUITS SHALL BE INSTALLED AT A DEPTH OF 600mm IN A BED OF CLEAN SAND. THERE SHALL BE A MINIMUM COVER OF 75mm OF SAND ABOVE THE TOP OF THE CONDUIT. THE TRENCH SHALL BE BACKFILLED AND COMPACTED TO GROUND LEVEL.
  - LIGHTING: LIGHTING SHALL BE TO AS 1680. THE LOCATIONS OF LUMINAIRES INDICATED ARE APPROXIMATE ONLY. THE EXACT POSITIONS AND MOUNTING HEIGHTS SHALL BE APPROVED ON SITE BY THE SUPERINTENDENT. REFER TO LEGEND FOR LUMINAIRE SCHEDULE AND OTHER DETAILS. ALL LIGHTING FITTINGS SUPPLIED SHALL COME COMPLETE WITH LAMPS, TUBES, FIXINGS AND ALL AUXILIARIES TO BRACKETE AND FIXES FOR LIGHT FITTINGS AS REQUIRED TO PROTECT THE INSTALLATION. ALTERNATIVE LUMINAIRES ARE ALLOWED SUBJECT THE APPROVAL OF THE SUPERINTENDENT.
- EMERGENCY LIGHTING: SUPPLY, INSTALL, TEST AND MAINTAIN AN EXIT AND EMERGENCY LIGHTING SYSTEM TO COMPLY WITH THE BCA AND AS 2293 PARTS 1 & 2. THE LUMINAIRES SHALL BE SELF CONTAINED SINGLE POINT WITH MINIMUM 2 HOUR NICAD BATTERY BACKUP AND SUITABLE FOR OPERATION AT UP TO 60°C. PROVIDE THE FOLLOWING:
  - A TEST SWITCH AND RED COLOURED VISUAL INDICATOR LIGHT ON EACH LUMINAIRE TO INDICATE THE OPERATION OF THE BATTERY.
  - A TEST SWITCH TO CHECK THE OPERATION OF THE BATTERY.
  - EMERGENCY LUMINAIRES TO AS 2293.
  - A BATTERY CHARGER TO EXTEND BATTERY LIFE. TRICKLE CHARGE UNDER NORMAL OPERATION AND BOOST CHARGE RATE AFTER DISCHARGE.
- COMMUNICATIONS: SUPPLY AND INSTALL A CABLING SYSTEM FOR VOICE AND DATA COMMUNICATIONS AS SHOWN ON THE DRAWINGS. THE CABLING SYSTEM SHALL INCLUDE BUT NOT LIMITED TO MDF, AND CROSS CONNECT PANELS, EARTHING AND OUTLETS. APPLY TO TELSTRA FOR INCOMING TELEPHONE CABLE TO THE SITE.
- MATV SYSTEM: INCLUDE NEW TV POINTS AS INDICATED IN THE DRAWINGS.
- INSPECTIONS: GIVE SUFFICIENT NOTICE SO THAT INSPECTION MAY BE MADE AT THE FOLLOWING:
  - INSTALLATION COMPLETED WORKS ASSEMBLY COMPLETED
  - SWITCHBOARD INSTALLED AND CONNECTED
  - ACCEPTANCE
- SECURITY SYSTEM: SUPPLY AND INSTALL A PROPRIETARY BRAND SECURITY SYSTEM CONSISTING OF ALL DETECTION DEVICES, CONTROL EQUIPMENT, KEY PAD, CABLES AND POWER SUPPLIES, AND 24-HOUR BATTERY BACK-UP. THE FIELD DEVICES SHALL BE CONNECTED TO FIELD PANELS AND TERMINATION BOXES.
- THE DEFECTS LIABILITY PERIOD SHALL BE 12 MONTHS FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE CONTRACT WORKS. THE BUILDER OR THE SUPERINTENDENT ON ITS BEHALF MAY INSTRUCT THE CONTRACTOR TO MAKE GOOD ANY DEFECTIVE WORK, TO REPLACE ANY DEFECTIVE PART, AND THE CONTRACTOR SHALL CARRY OUT THESE INSTRUCTIONS WITHIN SEVEN (7) DAYS OF THE RECEIPT OF ANY SUCH NOTICE.

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REV NO. AMENDMENT A REVISED TENDER ISSUE P1 TENDER ISSUE PRELIMINARY ISSUE	DATE 17.10.18 12.10.18 22.08.18	REV NO. AMENDMENT DATE	REV NO. AMENDMENT DATE	ARCHITECT:  <b>CARTMAN DESIGNS</b> SERVICES FOR ELECTRICAL BUSINESS 80 PRINSEP STREET, NORSEMAN WA 6443 PH: (08) 9071 1255 FAX: (08) 9071 1255 email: tim@cartman.com.au	PROJECT: SHIRE OF DUNDAS WOODLANDS CULTURAL COMMUNITY AND VISITORS CENTRE PROJECT 80 PRINSEP STREET, NORSEMAN WA 6443 FOR: CARTMAN WA PTY, LTD	WORK STAGE: TENDER DATE: AUGUST 2018 DESIGNED/DRAWN: OK/AD SCALE: NTS	TITLE: ELECTRICAL SERVICES SCHEMATICS & SPECIFICATION	PROJECT NO: <b>5460</b>	N.O. OF SHEETS 4 of 4
								DRAWING NO: <b>E04</b>	REVISION: A

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