

SINSW - DUNDAS PUBLIC SCHOOL UPGRADE

ELECTRICAL DRAWING SET

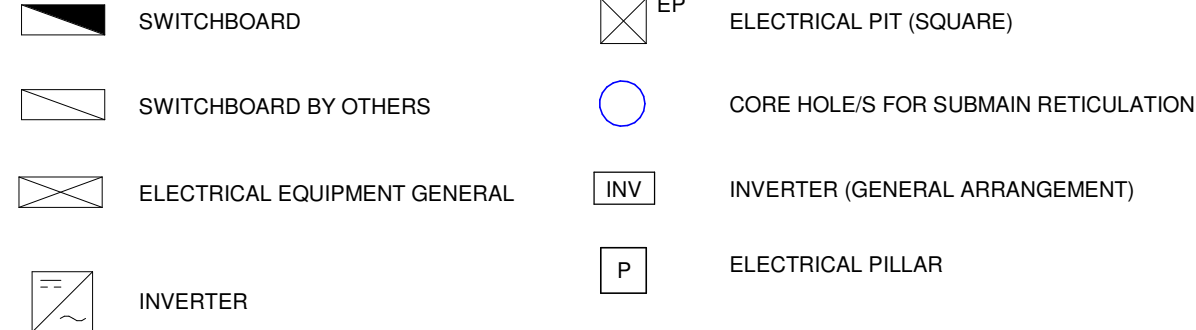
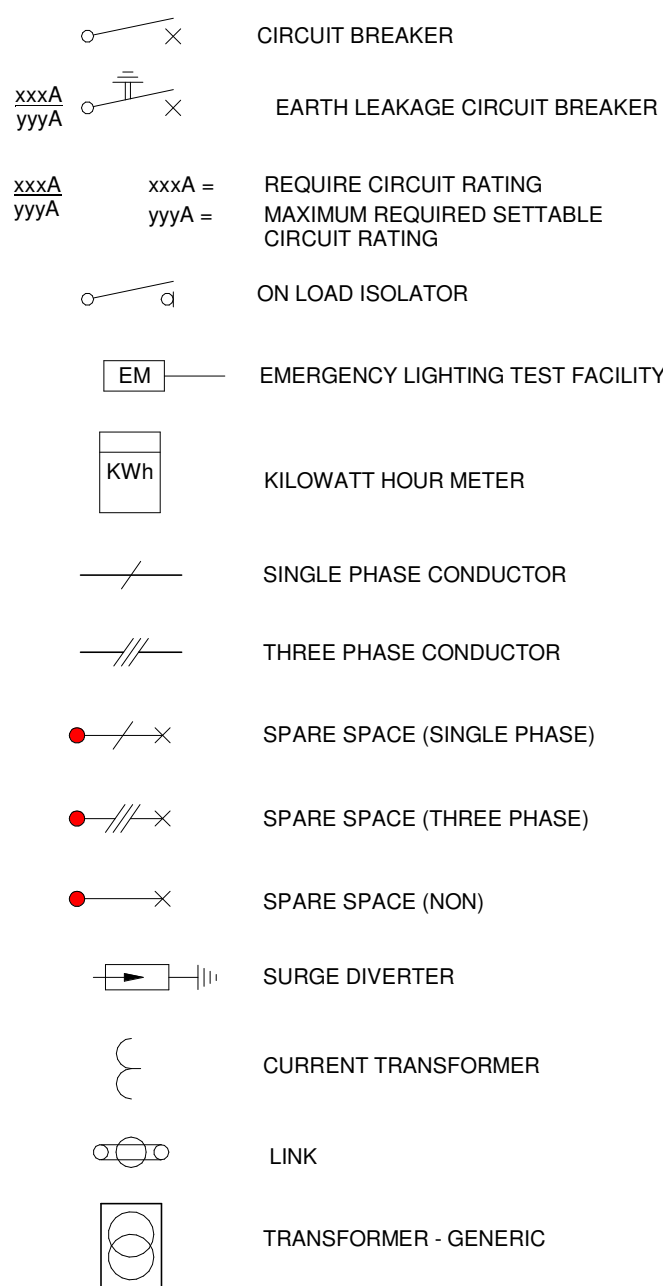
NDY | SCHEMATIC DESIGN

SHEET NUMBER	SHEET NAME	REVISION	REVISION DATE
DUPS-NDY-XX-XX-DR-E-000000	COVER SHEET	5	08/01/2025
DUPS-NDY-XX-XX-DR-E-000001	LEGEND & GENERAL NOTES	5	08/01/2025
DUPS-NDY-XX-XX-DR-E-000011	SINGLE LINE DIAGRAM	4	08/01/2025
DUPS-NDY-XX-XX-DR-E-000021	EDB SCHEMATIC	3	08/01/2025
DUPS-NDY-XX-XX-DR-E-000031	COMMUNICATIONS SCHEMATIC	4	08/01/2025
DUPS-NDY-00-00-DR-E-001011	SITE PLAN	5	08/01/2025
DUPS-NDY-B00L-GF-DR-E-120011	BLOCK L GROUND FLOOR LIGHTING ARRANGEMENT	3	08/01/2025
DUPS-NDY-B00L-GF-DR-E-120021	BLOCK L GROUND FLOOR POWER AND COMMUNICATIONS ARRANGEMENT	5	08/01/2025
DUPS-NDY-B00L-RF-DR-E-120121	BLOCK L ROOF POWER AND COMMUNICATIONS ARRANGEMENT	4	08/01/2025

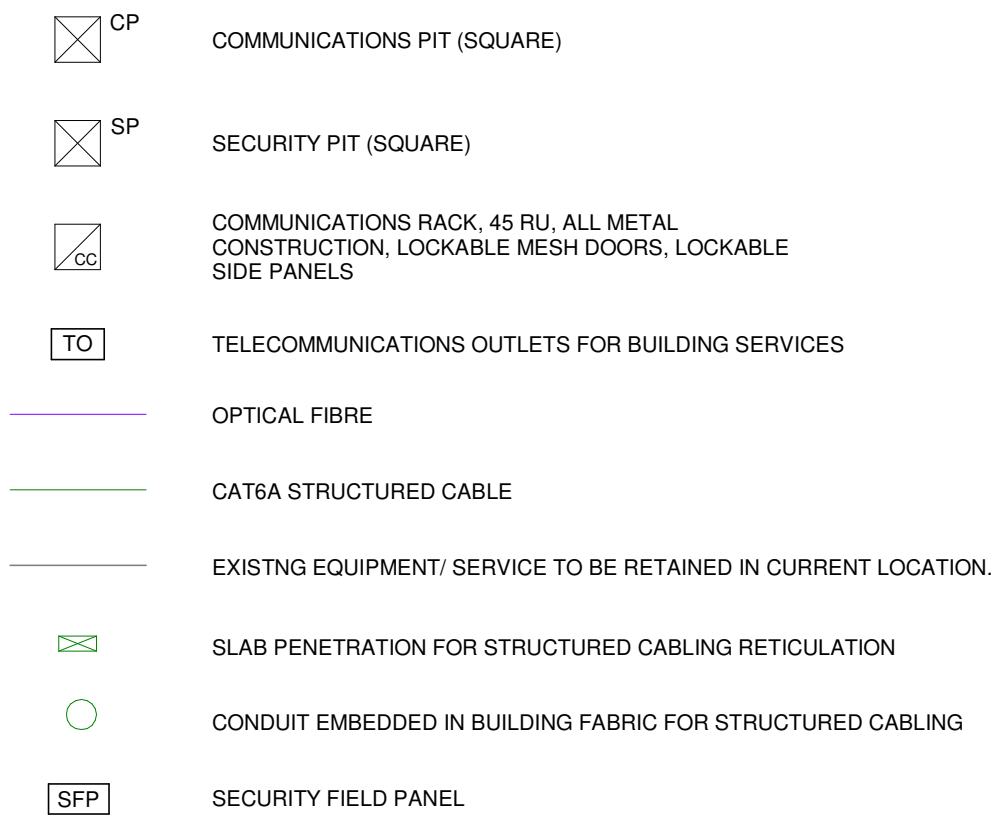
NDY

A TETRA TECH COMPANY

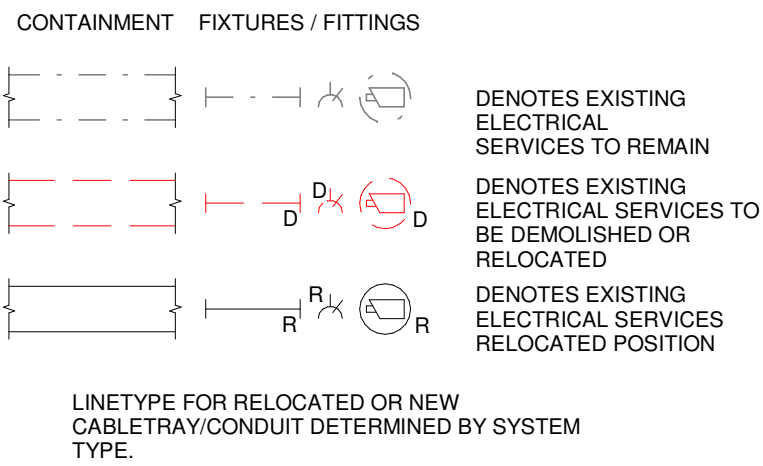
ELECTRICAL SYMBOLS



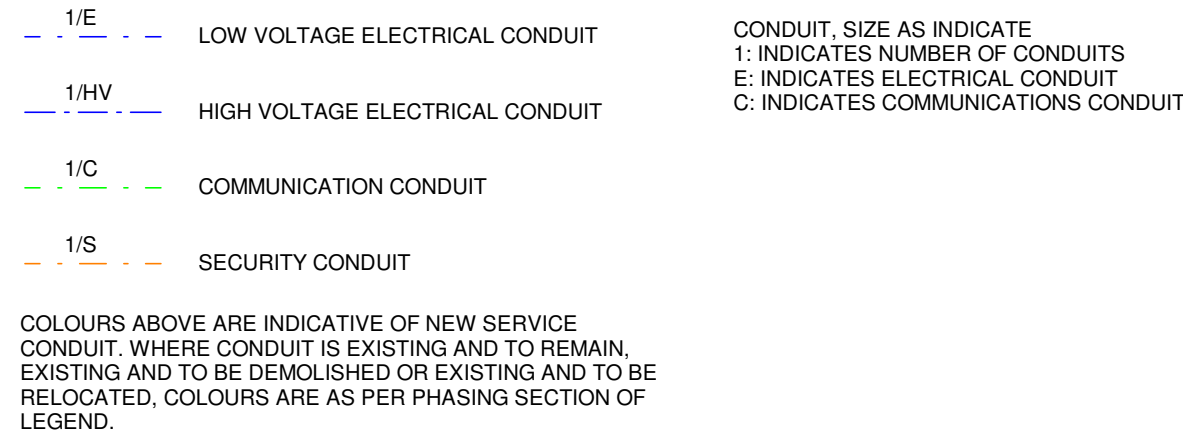
COMMUNICATIONS SYMBOLS



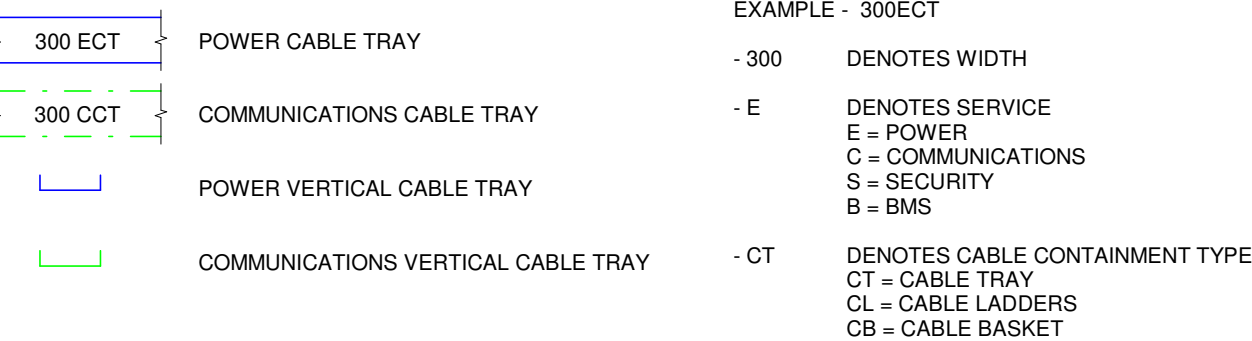
PHASING



CONDUIT



CABLE TRAY



GENERAL NOTES

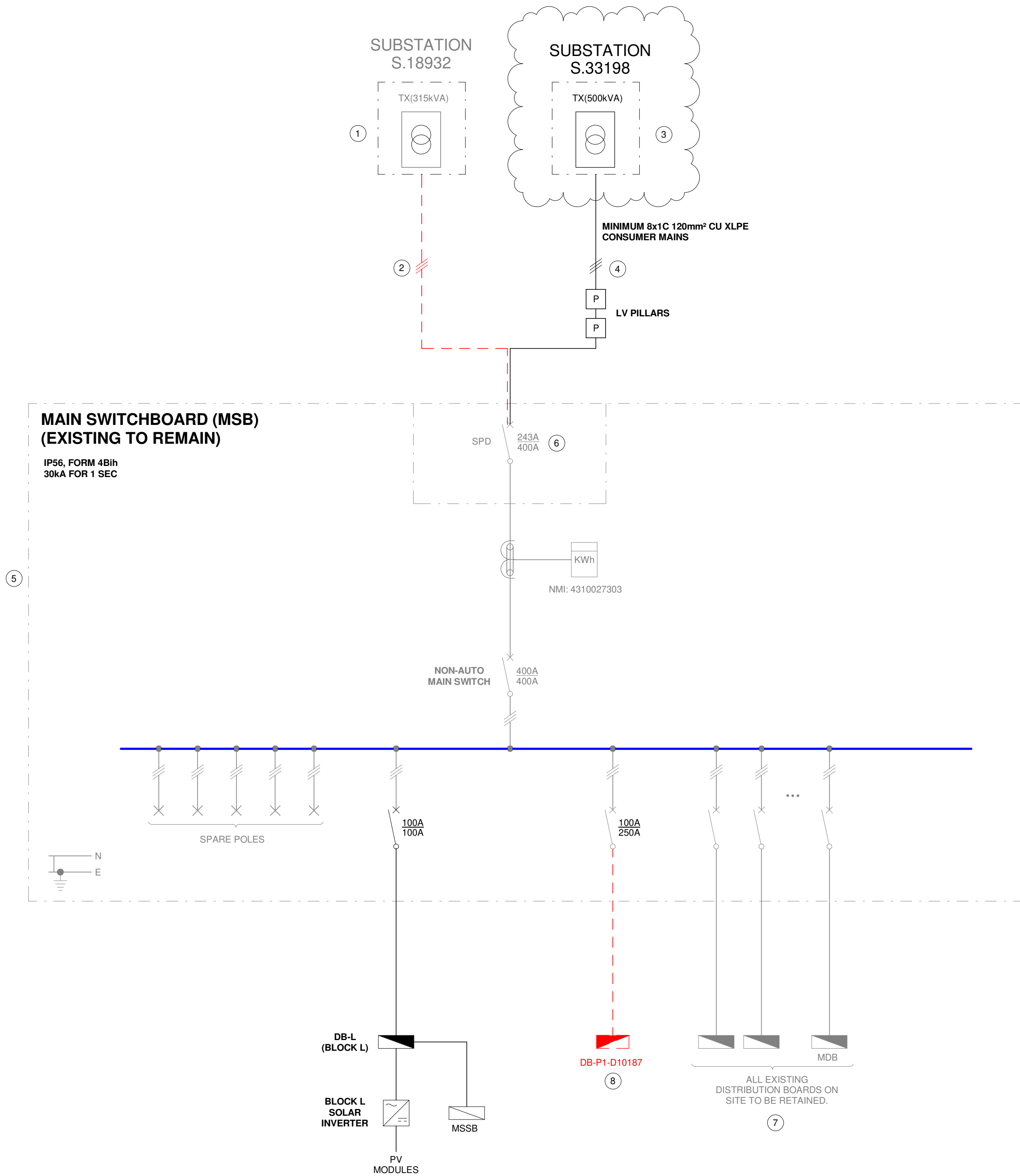
- ALL DIMENSIONS ARE IN MILLIMETERS.
- ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SERVICES SPECIFICATIONS.
- DO NOT SCALE FOR SIZING. REFER TO ARCHITECTURAL, MANUFACTURERS DOCUMENTATION AND SPECIFICATION FOR EXACT MEASUREMENTS.
- CONTRACTOR TO CONDUCT FULL SITE SURVEY TO CONFIRM EXACT LOCATIONS OF ALL EXISTING ELECTRICAL SERVICES AND EQUIPMENT.
- ALL WORKS ARE NEW UNLESS NOTED OTHERWISE.
- EACH CAPTIVE SCREW OUT SHALL BE ON A DEDICATED CIRCUIT. EACH PAIR OF OUTLETS PROVIDED TO A RACK SHALL BE ON THE SAME PHASE.
- THE CONTRACTOR IS TO REFER TO THE SSU BRIEF FOR THE SECURITY SCOPE AND TECHNICAL REQUIREMENTS.
- ALL NEW DATA CABLING IS TO MEET THE DoE STRUCTURED CABLING SYSTEM SPECIFICATION v1.4
- THE CONTRACTOR IS TO REFER TO THE NSW PUBLIC SCHOOLS - AUDIO-VISUAL STANDARDS FOR SCHOOL LEARNING DISPLAYS FOR AV SCOPE AND TECHNICAL REQUIREMENTS.

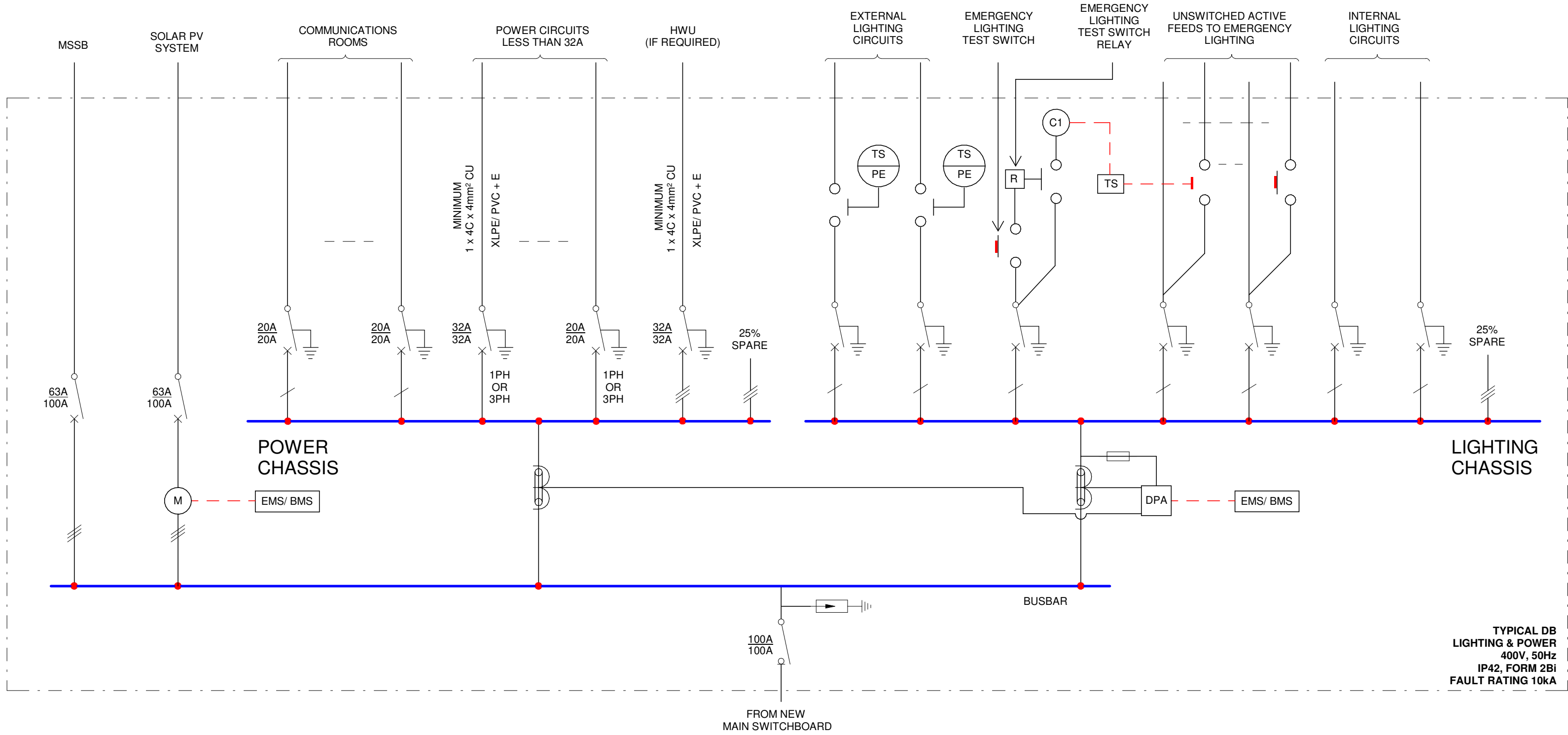
ELECTRICAL ABBREVIATIONS

DGPO	DOUBLE GENERAL PURPOSE OUTLET
DTO	DOUBLE TELECOMMUNICATIONS OUTLET
GPO	GENERAL PURPOSE OUTLET
LED	LIGHT EMITTING DIODE
RU	RACK UNIT
TO	TELECOMMUNICATIONS OUTLET
WP	WEATHER PROOF
STO	SINGLE TELECOMMUNICATIONS OUTLET

No. DESCRIPTION

- EXISTING SUPPLY FROM ENDEAVOUR ENERGY POLE-MOUNTED SUBSTATION ON KISSING POINT ROAD TO BE DISCONNECTED.
- EXISTING IN-GROUND CONSUMERS MAINS, PRIVATE POLE AND OVERHEAD SERVICE MAINS TO EXISTING POLE-MOUNTED SUBSTATION TO BE DISCONNECTED AND REMOVED.
- EXISTING SUBSTATION ON KISSING POINT ROAD IS TO BE UPGRADED FROM A 315kVA TRANSFORMER TO 500kVA IN SITU. NEW LV SUPPLY CONNECTION FOR THE SCHOOL MSB TO BE ESTABLISHED ON THE UPGRADED SUBSTATION.
- NEW CONSUMER MAINS TO BE ESTABLISHED BETWEEN EXISTING MSB AND NEW AUTHORITY CONNECTION POINT AT PROPERTY BOUNDARY. EXISTING CONSUMER MAINS TO BE DISCONNECTED, AND ASSOCIATED CONDUITS ABANDONED IN SITU.
- EXISTING MAIN SWITCHBOARD (EXTERNAL TO BLOCK A) TO REMAIN WITH MODIFICATIONS AS SHOWN. NEW OUTGOING SUBMAIN TO BLOCK L TO CONNECT TO EXISTING MSB.
- EXISTING SERVICE PROTECTION DEVICE TRIP RATING TO BE INCREASED TO 243A.
- EXISTING SUBMAIN CIRCUITS TO EXISTING DISTRIBUTION BOARDS TO BE RETAINED.
- EXISTING DB-P1-D10187 AND OUTGOING SUBMAINS TO DEMOUNTABLES TO BE DISCONNECTED AND REMOVED.





LEGEND

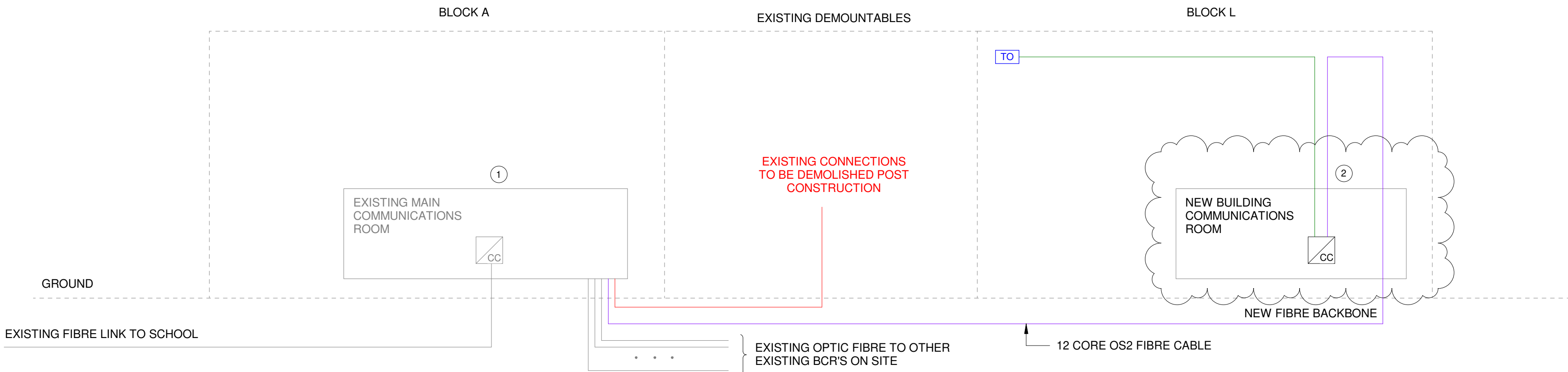
- TO

TELECOMMUNICATIONS OUTLETS FOR BUILDING SERVICES
- CC

COMMUNICATIONS RACK.
- OPTICAL FIBRE
- CAT6A STRUCTURED CABLE
- EXISTNG EQUIPMENT/ SERVICE TO BE RETAINED IN CURRENT LOCATION.

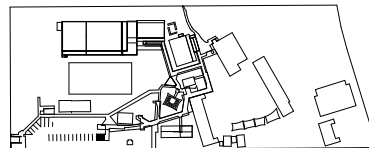
No. DESCRIPTION

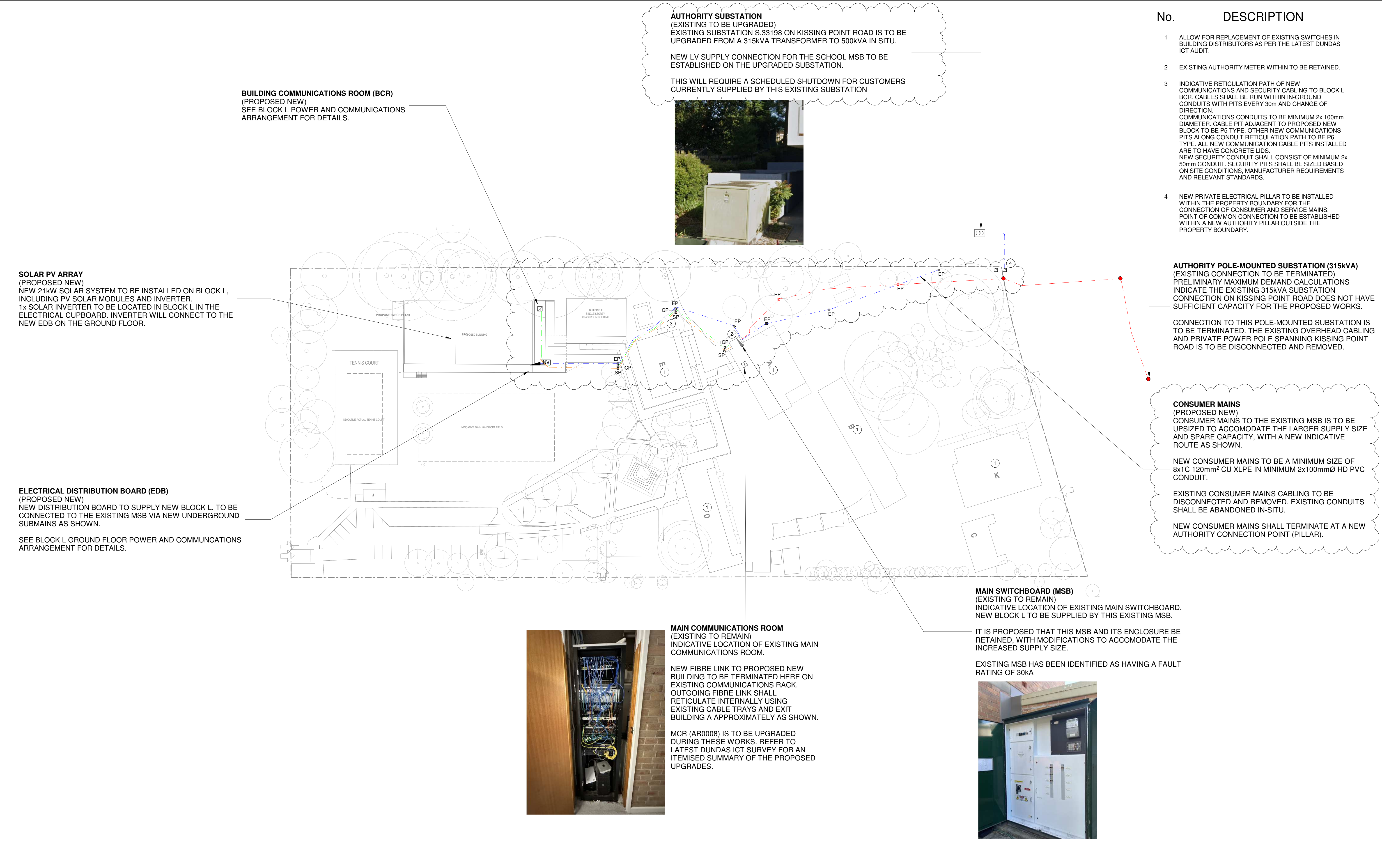
- 1 EXISTING MAIN COMMUNICATIONS RACK TO BE MAINTAINED WITHIN BLOCK A. UPGRADES TO THE MAIN COMMUNICATIONS RACK SHALL BE IN ALIGNMENT WITH THE ICT SURVEY INFORMATION PROVIDED.
- 2 NEW BUILDING COMMUNICATIONS ROOM TO BE LOCATED IN THE SERVICES CORE OF NEW BLOCK L. HORIZONTAL CABLING TO BE CAT6A AND BE RETICULATED AT HIGH LEVEL. SEE POWER AND COMMUNICATIONS ARRANGEMENTS FOR DETAILS. NUMBER OF COMMUNICATIONS RACKS TO BE DETERMINED IN COLLABORATION WITH DOE ITD. BCR TO BE CONNECTED TO EXISTING MCR USING IN-GROUND FIBRE OPTICS AS SHOWN ON THE SITE PLAN.



GENERAL NOTES


- ALLOW FOR REPLACEMENT OF 28 EXISTING WIRELESS ACCESS POINTS WITHIN EXISTING BUILDINGS. QUANTITIES AND SCOPE ARE TO BE AS PER THE LATEST DUNDAS ICT SURVEY.
- ALLOW FOR REPLACEMENT OF EXISTING NEC PABX SYSTEM. NEW TIPT VOIP SYSTEM TO BE PROVIDED. CONTRACTOR TO INVESTIGATE CABLING TO TELEPHONE AND ALLOW FOR NEW STRUCTURED CABLING AS REQUIRED. SCOPE OF WORKS TO BE AS PER THE LATEST DUNDAS ICT SURVEY.





80 LUX AVERAGE HORIZONTAL ILLUMINANCE AS PER EFSFG AND AS/NZS AS1680.2.1-2008 TABLE D1 UGR AS PER EFSFG AND PER AS/NZS AS1680.1-2006 TABLE 8.2 LIGHTING UNIFORMITY AS PER EFSFG AND AS/NZS AS1680.1-2006 TABLE 3.2
160 LUX AVERAGE HORIZONTAL ILLUMINANCE AS PER EFSFG AND AS/NZS AS1680.2.1-2008 TABLE D1 UGR AS PER EFSFG AND PER AS/NZS AS1680.1-2006 TABLE 8.2 LIGHTING UNIFORMITY AS PER EFSFG AND AS/NZS AS1680.1-2006 TABLE 3.2
240 LUX AVERAGE HORIZONTAL ILLUMINANCE AS PER EFSFG AND AS/NZS AS1680.2.1-2008 TABLE D1 UGR AS PER EFSFG AND PER AS/NZS AS1680.1-2006 TABLE 8.2 LIGHTING UNIFORMITY AS PER EFSFG AND AS/NZS AS1680.1-2006 TABLE 3.2
320 LUX AVERAGE HORIZONTAL ILLUMINANCE AS PER EFSFG AND AS/NZS AS1680.2.1-2008 TABLE D1 UGR AS PER EFSFG AND PER AS/NZS AS1680.1-2006 TABLE 8.2 LIGHTING UNIFORMITY AS PER EFSFG AND AS/NZS AS1680.1-2006 TABLE 3.2
400 LUX AVERAGE HORIZONTAL ILLUMINANCE AS PER EFSFG AND AS/NZS AS1680.2.1-2008 TABLE D1 UGR AS PER EFSFG AND PER AS/NZS AS1680.1-2006 TABLE 8.2 LIGHTING UNIFORMITY AS PER EFSFG AND AS/NZS AS1680.1-2006 TABLE 3.2

① CEILING RECESSED LED PANEL TYPE LUMINAIRE SELECTIONS
FINAL CONFIRMATION OF LUMINAIRE SELECTIONS
CONDUCTED DURING DETAILED DESIGN AND COORDINATION
WITH THE PATTERN BOOK AND EFSG.



2

IP65 LED DOWNLIGHT
FINAL CONFIRMATION
CONDUCTED DUR
COORDINATED WI



3) ETC) TO BE PROVIDED INDICATIVELY BY RECESSED DOWNLIGHTS.

FINAL CONFIRMATION OF LUMINAIRE SELECTIONS TO BE CONDUCTED DURING DETAILED DESIGN AND COORDINATED WITH THE PATTERN BOOK AND EFS



④ DOWNLIGHTS AND INFRARED HEAT LAMPS. FINAL CONFIRMATION OF LUMINAIRE SELECTIONS CONDUCTED DURING DETAILED DESIGN AND COORDINATED WITH THE PATTERN BOOK AND EFS

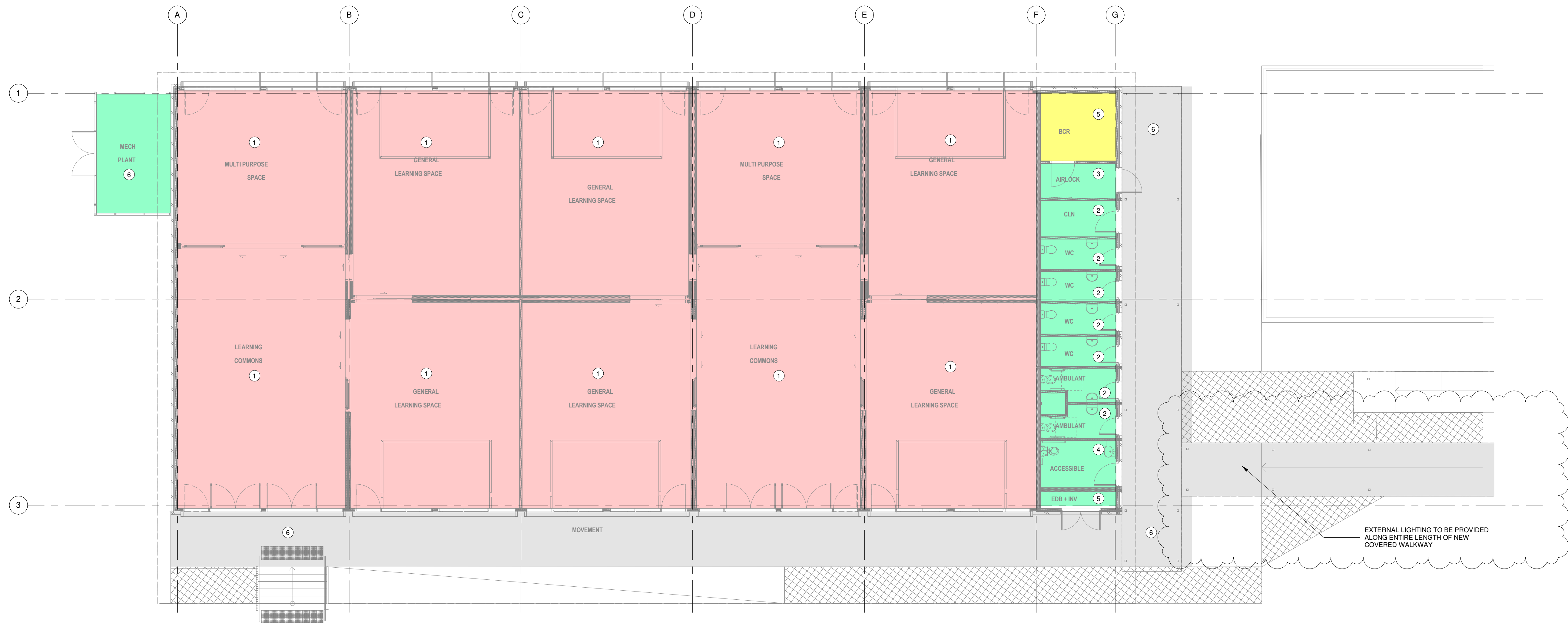


5) BUILDING COMMUNICATIONS TO BE PROVIDED INDICATIVELY BY SURFACE MOUNTED LED BATTENS.
FINAL CONFIRMATION OF LUMINAIRE SELECTIONS TO BE CONDUCTED DURING DETAILED DESIGN AND COORDINATED WITH THE PATTERN BOOK AND EFSG.



6. IMPACT RESISTANT, WEATHERPROOF SURFACE MOUNTED LED BATTENS. FINAL CONFIRMATION OF LUMINAIRE SELECTIONS TO BE CONDUCTED DURING DETAILED DESIGN AND COORDINATED WITH THE PATTERN BOOK AND EFSG.

- THE LIGHTING ARRANGEMENT SHOWN IS PRELIMINARY, AND IS SHOWN FOR BUDGET PURPOSES ONLY. THE LIGHTING LAYOUT IS TO BE DEVELOPED FURTHER IN DETAILED DESIGN IN CONJUNCTION WITH THE EFSG AND THE PATTERN BOOK.
- A DIGITAL ADDRESSABLE CONTROL SYSTEM (DALI) IS TO BE PROVIDED FOR LIGHTING CONTROL. LUMINAIRES ARE TO BE DALI DIMMABLE.
- INDICATIVELY, INTERNAL LUMINAIRES SHOULD BE CONTROLLED VIA MOTION SENSORS AND SWITCH PLATES WITH TIMER SHUTOFF. FINAL STRATEGY TO BE DEVELOPED IN DETAILED IN CONJUNCTION WITH THE EFSG AND THE PATTERN BOOK.
- INDICATIVELY, EXTERNAL LUMINAIRES SHOULD BE CONTROLLED VIA MOTION SENSORS AND PHOTOCELLS WITH TIMER SHUTOFF. FINAL STRATEGY TO BE DEVELOPED IN DETAILED IN CONJUNCTION WITH THE EFSG AND THE PATTERN BOOK.
- EMERGENCY LUMINAIRES AND EXIT SIGNS ARE TO BE PROVIDED IN ACCORDANCE WITH THE NCC AND AS/NZS 2293.1:2018. AN EMERGENCY LIGHTING TEST SWITCH IS TO BE PROVIDED AT THE LOCAL ELECTRICAL DISTRIBUTION BOARD.



NORTH

REV	BY	DATE	DESCRIPTION
1	JU	11/11/2024	CONCEPT DESIGN
2	JU	06/12/2024	SCHEMATIC DESIGN
3	JU	08/01/2025	SCHEMATIC DESIGN

DRAWING TITLE
ELECTRICAL SERVICES
BLOCK L GROUND FLOOR LIGHTING
ARRANGEMENT

STATUS
SCHEMATIC DESIGN

DRW	CHK	APP	DATE	SCALE
BC	DH	SS	08/01/2025	1 : 100 @A1

DRAWING NO.
DUPS-NDY-B00L-GF-DR-E-120011

REV
3

INDICATIVE POWER AND TELECOMMUNICATIONS OUTLETS QUANTITIES BY LOCATION

ROOM TYPE	ROOM QUANTITY	GPO	DGPO	DTO	CAPTIVE OUTLETS	STO
WC, ACC. WC, AMB. WC	7	1	-	-	-	-
CLEANER ROOMS	1	-	1 (WP)	-	-	-
AIR LOCK	1	1	-	-	-	-
DB+INVERTER CUPBOARDS	1	-	2	2	-	-
BCR	1	-	4	2	2	-
LEARNING COMMONS	2	1	4	4	-	2
MULTIPURPOSE SPACE	2	1	3	3	-	-
GENERAL LEARNING SPACE	6	3	4	3	-	2
PLANT	1	1 (WP)	-	-	-	-

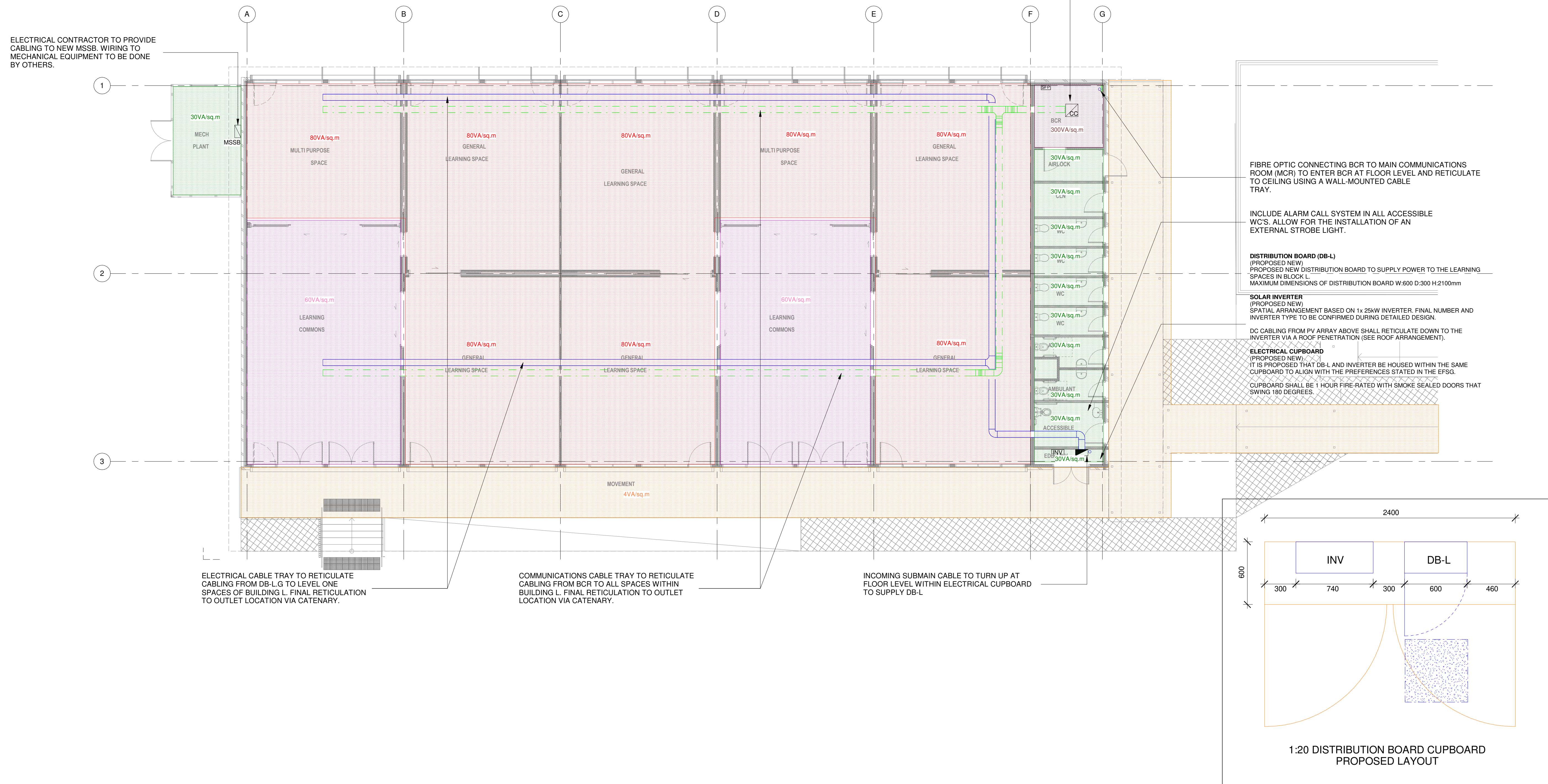
POWER AND COMMUNICATIONS OUTLETS ALLOWANCES LISTED IN THE TABLE ABOVE ARE INITIAL ESTIMATES FOR BUDGETARY PURPOSES. FINAL POWER AND COMMUNICATIONS ARRANGEMENTS INCLUDING QUANTITIES ARE TO BE DEVELOPED FURTHER IN DETAILED DESIGN IN ACCORDANCE WITH THE EFSG AND PATTERN BOOK.

BUILDING COMMUNICATIONS ROOM (BCR)
(PROPOSED NEW)
NUMBER AND LOCATION OF COMMUNICATIONS CABINETS ARE
INDICATIVE ONLY AND TO BE DETERMINED BY SCHOOLS
INFORMATION TECHNOLOGY DIRECTORATE.
GPOS ARE TO BE 15A CAPTIVE PENDANT TYPE LOCATED
ABOVE COMMUNICATIONS CABINETS.

RACKS TO BE 45RU x 800 x 800mm.
INCLUDES SECURITY FIELD PANEL.

GENERAL NOTES

- ELECTRICAL CABLE TRAY SIZING IS TO BE CONFIRMED DURING DETAILED DESIGN IN ACCORDANCE WITH THE EFSG, PATTERN BOOK AND AS3000.
- COMMUNICATIONS CABLE TRAY IS TO BE CONFIRMED DURING DETAILED DESIGN IN ACCORDANCE WITH THE EFSG AND PATTERN BOOK.
- CABLE TRAYS ARE TO BE INSTALLED AT HIGH LEVEL IN THE CEILING VOID AND TO HIDDEN FROM VIEW.
- VA/SQM VALUES SHOWS ARE AS USED FOR SCHEMATIC DESIGN MAXIMUM DEMAND. THE MAXIMUM DEMAND IS TO BE CONFIRMED OR REFINED DURING DETAILED DESIGN.
- THE EXISTING CAMPUS PERIOD BELL AND PUBLIC ADDRESS SYSTEM IS TO BE EXPANDED TO INCLUDE THE NEW BUILDING.
- FANS ARE TO BE PROVIDED IN THE SLSO OFFICE, GENERAL LEARNING SPACES, LEARNING COMMONS AND MULTIPURPOSE SPACES AS PER THE EFSG AND PATTERN BOOK. INDICATIVE ALLOWANCES ARE LISTED BELOW
 - ALLOW ONE CEILING FAN FOR INTERNAL SPACES WITH FLOOR AREA BETWEEN 13 TO 25 SQM.
 - ALLOW ONE CEILING FAN PER 25 SQM FOR INTERNAL SPACES WITH FLOOR AREA EXCEEDING 25 SQM.

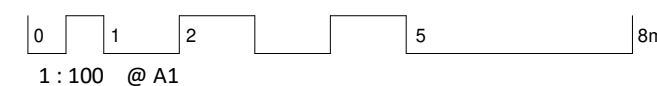


FOR IMPLEMENTATION/USE OF THE SINSW MMC KIT
OF PARTS, NOTE THE FOLLOWING:

INTELLECTUAL PROPERTY
Refer to: SINSW MMC Kit of Parts - Introduction, Copyright
and Disclaimer.

AGREEMENT OF USE
Refer to: SINSW MMC Kit of Parts - Introduction, Copyright
and Disclaimer.

SINSW CONTACT
Refer to: SINSW MMC Kit of Parts - Introduction, Copyright
and Disclaimer.



SERVICES CONSULTANTS
NDY
A TETRA TECH COMPANY

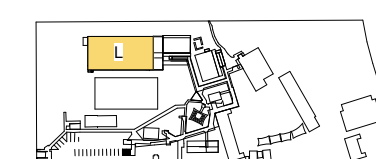
LEVEL 13, 90 ARTHUR ST
NORTH SYDNEY NSW 2060
AUSTRALIA

T +61 2 9928 6900
F +61 2 9955 6900
www.ndy.com

ARCHITECT
fulton trotter
SUITE 904, LEVEL 9, 28-36 FOVEAUX STREET
SURRY HILLS, Sydney NSW 2010 Australia
T +61 2 8383 5151 W www.fultontroutter.com.au

PROJECT MANAGER

 **RP INFRASTRUCTURE**
Converting visions to reality



NORTH 

REV	BY	DATE	DESCRIPTION
1	JU	11/10/2024	CONCEPT DESIGN
2	JU	11/11/2024	CONCEPT DESIGN
3	JU	26/11/2024	DRAFT SCHEMATIC DESIGN
4	JU	06/12/2024	SCHEMATIC DESIGN
5	JU	08/01/2025	SCHEMATIC DESIGN

PROJECT NAME
SINSW - DUNDAS PUBLIC SCHOOL UPGRADE
85 KISSING POINT RD, DUNDAS NSW 2117
BLOCK L

DRAWING TITLE
ELECTRICAL SERVICES
BLOCK L GROUND FLOOR POWER
AND COMMUNICATIONS
ARRANGEMENT

PROJECT NO.
758-0120.0041152.0001

STATUS
SCHEMATIC DESIGN

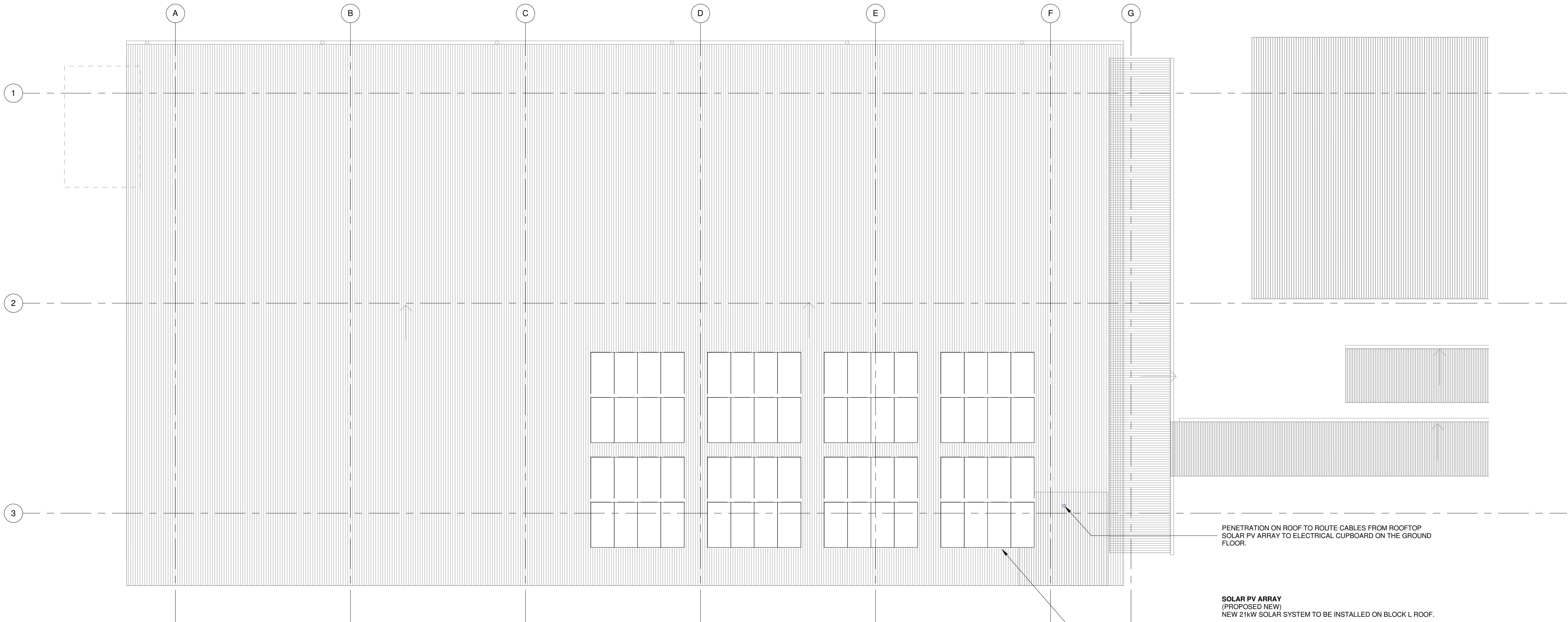
DRW	CHK	APP	DATE	SCALE
BC	DH	SS	08/01/2025	1 : 100 @A1

DRAWING NO.
DUPS-NDY-B00L-GF-DR-E-120021

REV
5

GENERAL NOTES

- ALLOW FOR CABLE SUPPORTS AND PERSONNEL WALKWAYS FOR MAINTENANCE ACCESS TO SOLAR PV PANELS
- DC CABLING TO BE CONTAINED WITHIN HD CONDUITS OR LIDDED CABLE TRAYS



SOLAR PV ARRAY
(PROPOSED NEW)
NEW 21kW SOLAR SYSTEM TO BE INSTALLED ON BLOCK L ROOF.

PRELIMINARY LAYOUT DESIGN BASED ON AN ASSUMED 330W PANEL WITH A SOLAR PV INVERTER LOCATED IN THE BLOCK L ELECTRICAL CUPBOARD. SEE BLOCK L GROUND FLOOR POWER AND COMMUNICATIONS ARRANGEMENT FOR SPATIAL DETAILS.

FINAL PV PANEL AND INVERTER SELECTION IS TO OCCUR DURING DETAILED DESIGN TO ALIGN WITH SYSTEM AND SITE REQUIREMENTS.

MOUNTING SYSTEM TO PROVIDE A MINIMUM 10-DEGREE TILT TO THE PV PANELS.