

SCHEDULE OF LUMINAIRES			
ID	LAMP RATING	DESCRIPTION	SPECIFIED MAN. CAT. No.
D1	13W LED 4000K	RECESSED DOWNLIGHT C/W ECG	GAMMA ATRIA
D2	13W LED 4000K	RECESSED DOWNLIGHT C/W ECG. WIDE FROST LENS	GAMMA MODLINK
EM1	2x3W LED 4000K	RECESSED MOUNTED, EMERGENCY, SPITFIRE, WHITE NON MAINTAINED. MINIMUM CLASSIFICATION AS2293 C0-D50, C90-D50. WP - WEATHERPROOF	STANILITE SF2LED
EX1	3W LED	SURFACE, MAINTAINED, EMERGENCY EXIT SIGN, QUICK FIT STYLE. AS2293: C0-D3.2 C90-D3.2 DIRECTIONAL DIFFUSER INSERTS AS REQUIRED.	STANILITE PQFLED
F1	37W LED 4000K	SURFACE MOUNTED C/W ECG	THORN LIGHTING COLLEGE
F2	27W LED 4000K	SURFACE MOUNTED LUMINAIRE C/W ECG. WEATHERPROOF	THORN LIGHTING WEATHERFORCE
F4	41W LED 4000K	RECESSED PLASTERBOARD LUMINAIRE C/W ECG	THORN LIGHTING ROYAL PANEL
F3	40W LED 4000K	SURFACE MOUNTED LUMINAIRE C/W ECG. WEATHERPROOF	THORN LIGHTING GLADIATOR
W1	16W LED 4000K	WALL MOUNTED, IP65 C/W ECG	THORN LIGHTING KATONA ROUND
W		ONE WAY LIGHT SWITCH WITH SWITCHWIRE. MOUNT AT 1000 FOR ALL ROOMS EXCEPT CHILD CARE ROOMS. MOUNT AT 1500 IN CHILD CARE ROOMS.	
D		ONE WAY LIGHT SWITCH WITH DSI DIMMER. MOUNT AT 1500.	
M1		360° LIGHTING CONTROL MOTION DETECTOR TO SUIT THE ROOM LAYOUT AND ACCORDING TO MANUFACTURER RECOMMENDATION. I-AUTOMATION PD2/PD4 MASTER SLAVE OR EQUIVALENT HPM PRODUCT TO COUNCIL SPECIFICATION	
M2		WALL MOUNTED MOTION DETECTOR TO SUIT THE ROOM LAYOUT AND ACCORDING TO MANUFACTURER RECOMMENDATION. I-AUTOMATION PD2/PD4 MASTER SLAVE OR EQUIVALENT HPM PRODUCT TO COUNCIL SPECIFICATION	

REQUIREMENTS:

- ALL LUMINAIRE SUPPLIED COMPLETE WITH LAMPS.
- FLUORESCENT TUBULAR LAMPS AND LED SHALL BE TRIPHOSPHOR COLOUR 84, 4000 DEG K. UNO
- UNLESS NOTED OTHERWISE, THE LUMINAIRE FINISH SHALL BE ADVISED BY THE ARCHITECT.
- SAMPLES OF ALL FITTINGS SHALL BE PROVIDED FOR EVALUATION ON SITE PRIOR TO FINAL ORDERING.
- ALL RECESSED LUMINAIRE SHALL BE COMPLETE WITH 1m FLEX AND PLUG.
- ALL EMERGENCY EXIT LUMINAIRES AND EMERGENCY LUMINAIRES SHALL BE WIRED WITH MONITOR LINE (HARD ACTIVE) AND SWITCH WIRE. THIS APPLIES TO BOTH MAINTAINED & NON MAINTAINED LUMINAIRES.

POWER LEGEND	
ID	DESCRIPTION
	ELECTRICAL DISTRIBUTION BOARD EDB = ELECTRICAL DISTRIBUTION BOARD MSB = MAIN SWITCH BOARD
	DOUBLE 240VAC 10A GENERAL PURPOSE OUTLET (GPO). MOUNT AT 300mm ABOVE FINISHED FLOOR LEVEL UNLESS NOTED OTHERWISE. WP DENOTES WEATHERPROOF
	SINGLE 240VAC GENERAL PURPOSE OUTLET. RATING AS SHOWN ADJACENT OUTLET. CAPTIVE PLUG OUTLET FOR COMMS RACK
	ELECTRICAL CIRCUIT TAG CCT - CIRCUIT TYPE L = LIGHTING P = POWER PROVIDE ISOLATOR R = RCD PROTECTION DB - ELECTRICAL SWITCH BOARD ORIGIN
	2 CHANNEL SKIRTING DUCT. COLOUR NATURAL ANODISED. ECD EL10035C
	ELECTRICAL CIRCUIT LINE
	SINGLE PHASE PERMANENT CONNECTION, PROVIDE ISOLATOR, PROVIDE ISOLATING SWITCH AT HIGH LEVEL ABOVE HAND DRYERS. EXTERNAL ISOLATORS SHALL BE WEATHERPROOF.
	THREE PHASE PERMANENT CONNECTION, PROVIDE ISOLATOR. EXTERNAL ISOLATORS SHALL BE WEATHERPROOF.

COMMUNICATIONS LEGEND	
ID	DESCRIPTION
	TELEPHONE/DATA OUTLET WITH RJ45 CONNECTION, MOUNT AT 300mm ABOVE FINISHED FLOOR LEVEL UNLESS NOTED OTHERWISE. 2 DENOTES DUAL OUTLET.

SECURITY LEGEND	
I.D.	DESCRIPTION
	SECURITY CONTROL PANEL - EXISTING TO REMAIN
	SECURITY KEYPAD - EXISTING TO REMAIN - e: INDICATE EXISTING
	INTERNAL PIEZO SOUNDER - e: INDICATE EXISTING

FIRE SERVICES LEGEND	
ID	DESCRIPTION
	240V MAINS POWERED PHOTOELECTRIC SMOKE ALARM WITH 9V BATTERY BACKUP C/W MOUNTING BASE

SCHEMATICS LEGEND	
	DESCRIPTION
	SINGLE PHASE
	THREE PHASE
	CIRCUIT BREAKER
	COMBINED RESIDUAL CURRENT DEVICE/CIRCUIT BREAKER (30mA SENSITIVITY U.N.O.)
	HRC FUSE BASE CARTRIDGE
	CONTACTOR
	RELAY CONTACT
	TIME SWITCH
	PHOTOELECTRIC (PE) CELL, MOUNT AT HIGH LEVEL
	SUPPLY AUTHORITY METER.
	EARTH

UNDERGROUND LEGEND	
ID	DESCRIPTION
	ROUTE OF CONDUITS. SIZE AND TYPE AS INDICATED: 1ST FIGURE = CONDUIT DIAMETER IN mm 2ND FIGURE = CONDUIT DUTY RATING: HD = HEAVY DUTY PVC TO AS3000 (ELECTRICAL - ORANGE) = HEAVY DUTY PVC TO AUSTEL TS009 (COMMS, DATA, CATV ETC. - WHITE) 3RD FIGURE = TYPE OF CABLE TO BE USED 11kV = HIGH VOLTAGE ELECTRICAL COMMS = COMMUNICATIONS/DATA WIRING LV = LOW VOLTAGE ELECTRICAL SL = EXTERIOR LIGHTING
	ADD SKIRTING DUCT

ABBREVIATIONS

AB	ABOVE BENCH
AC	AIR CONDITIONER
ACC	ACCESS LIGHTING
AD	AUTO DOORS
AF	AUTO FLUSH
A.F.F.L	ABOVE FINISHED FLOOR LEVEL
BB	BELOW BENCH
BD	BUILDING DISTRIBUTOR
CD	CAMPUS DISTRIBUTOR
CP	CIRCULATING PUMP
CL	CLEANER
CM	CEILING MOUNTED
CFM	COFFEE MACHINE
COMMS	COMMUNICATIONS
D	REMOVE
DS	ODOR SWITCH
DW	DISHWASHER
e	EXISTING
EDB	ELECTRICAL DISTRIBUTION BOARD
EF	EXHAUST FAN
EN	EXISTING WIRING NEW FITTING
ER	EXISTING FITTING RELOCATED
EX	EXISTING FITTING TO REMAIN
FCU	FAN COIL UNIT
FDP	FINAL DISTRIBUTION POINT
FOH	FRONT OF HOUSE
FZ	FREEZER
GD	GARBAGE DISPOSAL
GPO	GENERAL PURPOSE OUTLET
HD	HAND DRYER
HP	HOT PLATES
HWU	HOT WATER UNIT
IDF	INTERMEDIATE DISTRIBUTION FRAME
MC	MASTER CONTROLLED CIRCUIT
MDF	MAIN DISTRIBUTION FRAME
MP	METER PANEL
MSB	MAIN SWITCH BOARD
MS	MOTORISED SCREEN
MW	MICROWAVE OVEN
DAF	OUTSIDE AIR FAN
OY	OVEN
PC	POWDER COATED
RCD	RESIDUAL CURRENT DEVICE
REF	REFRIGERATOR
RH	RANGE HOOD
SEC	SECURITY LIGHTING
SSF	SMOKE SPILL FAN
ST	STOVE
TEF	TOILET EXHAUST FAN
T.B.A	TO BE ADVISED
U.N.O	UNLESS NOTED OTHERWISE
WO	WALL OVEN
WP	WEATHERPROOF
WM/D	WASHING MACHINE/ DRYER

MOUNTING HEIGHTS

(U.N.O.)	
GPOs	300
INTERCOM PANELS	1400
LIGHT SWITCHES	1100
SECURITY KEYPADS	1500
TELEPHONE/DATA OUTLETS	300
TELEVISION OUTLETS	300
FAN CONTROLLERS	1400

PLOTTED: 31 Oct 2019 10:05:19 AM E:\Work\2019 Projects\19-0311-E200 - WERRINGTON - LEGEND.dwg

Issue No.	Description	Date
T1	TENDER ISSUE	31/10/2019
P2	PRELIMINARY ISSUE	31/07/19
P1	PRELIMINARY ISSUE	19/07/19
	issue amendment	checked date

ISSUED FOR TENDER

PETER EUSTACE & ASSOCIATES
ELECTRICAL ♦ MECHANICAL ♦ FIRE ♦ LIFTS
STREET ADDRESS: Unit 14, 39-41 Lawrence Dr, Nerang QLD 4211
POSTAL ADDRESS: PO Box 2855, Nerang QLD 4211
TELEPHONE: (07) 5596 1425
EMAIL: mail@petereustace.com.au

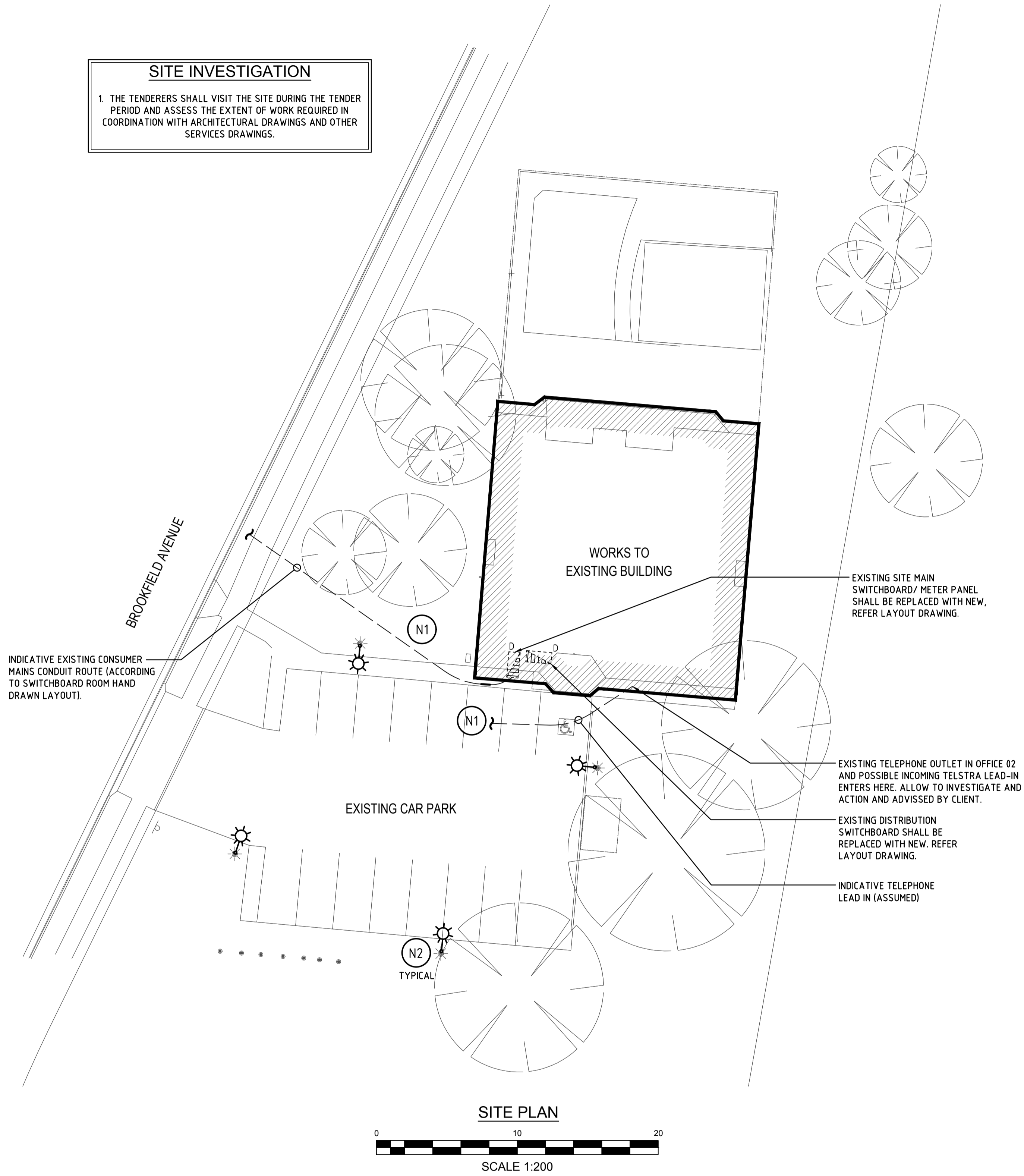
COMPLETE

client	PENRITH CITY COUNCIL
project	WERRINGTON DOWNS NEIGHBOURHOOD CENTRE
location	20 BROOKFIELD AVENUE WERRINGTON DOWNS NSW 2747

drawing title	ELECTRICAL SERVICES LEGEND		
scale	NOT TO SCALE	date	JUN '19
drawing number	19-0311/E200	designer	T1
		drawn	LH
		issue	T1

SITE INVESTIGATION

1. THE TENDERERS SHALL VISIT THE SITE DURING THE TENDER PERIOD AND ASSESS THE EXTENT OF WORK REQUIRED IN COORDINATION WITH ARCHITECTURAL DRAWINGS AND OTHER SERVICES DRAWINGS.



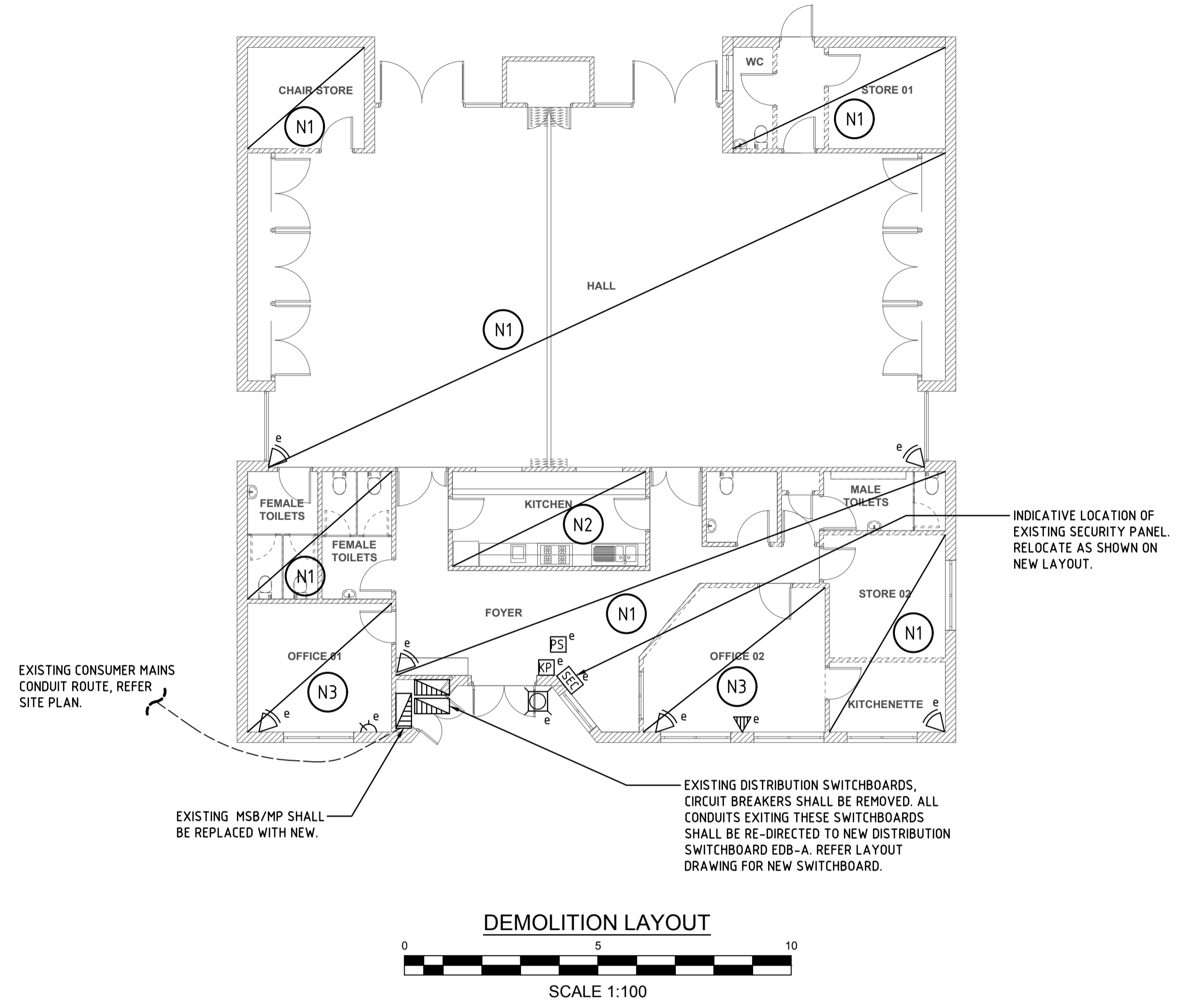
GENERAL NOTES - SITE PLAN

- REFER INTERNAL LAYOUTS FOR EQUIPMENT LOCATION.
- REFER ARCHITECTURAL DRAWINGS FOR ALL EXTERNAL WORKS AND DEMOLITION.

SPECIFIC NOTES - SITE PLAN

THIS DRAWING ONLY

- N1.** CONTRACTOR SHALL ALLOW TO LOCATE AND PROTECT INCOMING ELECTRICAL CONSUMER MAINS CABLES / CONDUIT AND COMMUNICATION LEAD IN CABLES / CONDUIT.
- N2.** EXISTING CAR PARK LIGHTS / POLES ARE SHOWN FOR INFORMATION ONLY. MODIFICATION OF CAR PARK LIGHTING IS NOT PART OF THE SCOPE OF THIS PROJECT. CONTRACTOR SHALL LOCATE AND PROTECT ALL UNDERGROUND CONDUITS / CABLES SUPPLYING THE POLES AND TRANSFER THE CIRCUIT CABLES AND CONTROLS INTO THE NEW DISTRIBUTION SWITCHBOARD. REFER SCHEMATIC.



GENERAL NOTES - DEMOLITION PLAN

- REFER ARCHITECTURAL LAYOUT FOR AIR CONDITIONERS, HWU AND OTHER REMOVAL AND DEMOLITION WORKS.
- ALL EXISTING SECURITY, PIR, SECURITY STROBE, SCREAMER AND SECURITY PANEL SHALL REMAIN, WHERE REQUIRED TO BE REMOVED FOR CONSTRUCTION, THESE SHALL BE REMOVED AND RETAINED AND RE-INSTALLED.
- ALL EXTERNAL LIGHTING UNDER VERANDA, ON OUTER WALL AND SOFFIT SHALL BE REMOVED AND MADE SAFE.

SPECIFIC NOTES - DEMOLITION PLAN

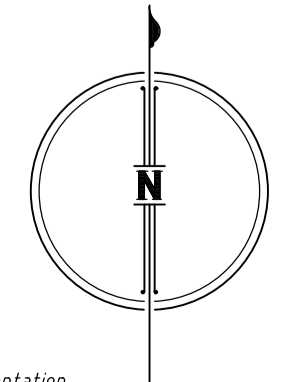
THIS DRAWING ONLY

- N1.** ALL EXISTING HEATERS, EM LIGHTING, GENERAL LIGHTING, POWER, FANS, MOTION SENSORS, SMOKE ALARMS AND SWITCHES SHALL BE REMOVED FROM SITE. REMOVE ALL CABLES AND MAKE SAFE.
- N2.** EXISTING LIGHT FITTINGS SHALL BE REPLACED WITH NEW AT SAME LOCATION. ALL EXISTING POWER OUTLETS SHALL REMAIN (FOR OVEN, FRIDGE, MICROWAVE AND BENCH GPO). EXISTING POWER CIRCUITS SHALL BE TRANSFERRED TO NEW SWITCHBOARD. REFER LAYOUT DRAWING.
- N3.** EXISTING LIGHTING AND CABLES SHALL BE REMOVED. EXISTING GPO, PHONE AND SWITCH CAN REMAIN, HOWEVER ALL CABLING SHALL BE NEW USE.

PLOTTED: 31 Oct 2019 10:05:32 AM E:\Work\2019 projects\19-0311 penrith neighbourhood centres\3. elec\19-0311-E201 - WERRINGTON - SITE PLAN & DEMO.dwg

issue	amendment	checked	date
T1	TENDER ISSUE	TI	31/10/2019
P2	PRELIMINARY ISSUE	TI	31/07/19
P1	PRELIMINARY ISSUE	TI	19/07/19

ISSUED FOR TENDER



PETER EUSTACE & ASSOCIATES
ELECTRICAL ♦ MECHANICAL ♦ FIRE ♦ LIFTS

STREET ADDRESS: Unit 14, 39-41 Lawrence Dr, Nerang QLD 4211
POSTAL ADDRESS: PO Box 2835, Nerang DC QLD 4211
TELEPHONE: [07] 5596 1425
EMAIL: mail@petereustace.com.au

COMPLETE

client: **PENRITH CITY COUNCIL**

project: **WERRINGTON DOWNS NEIGHBOURHOOD CENTRE**

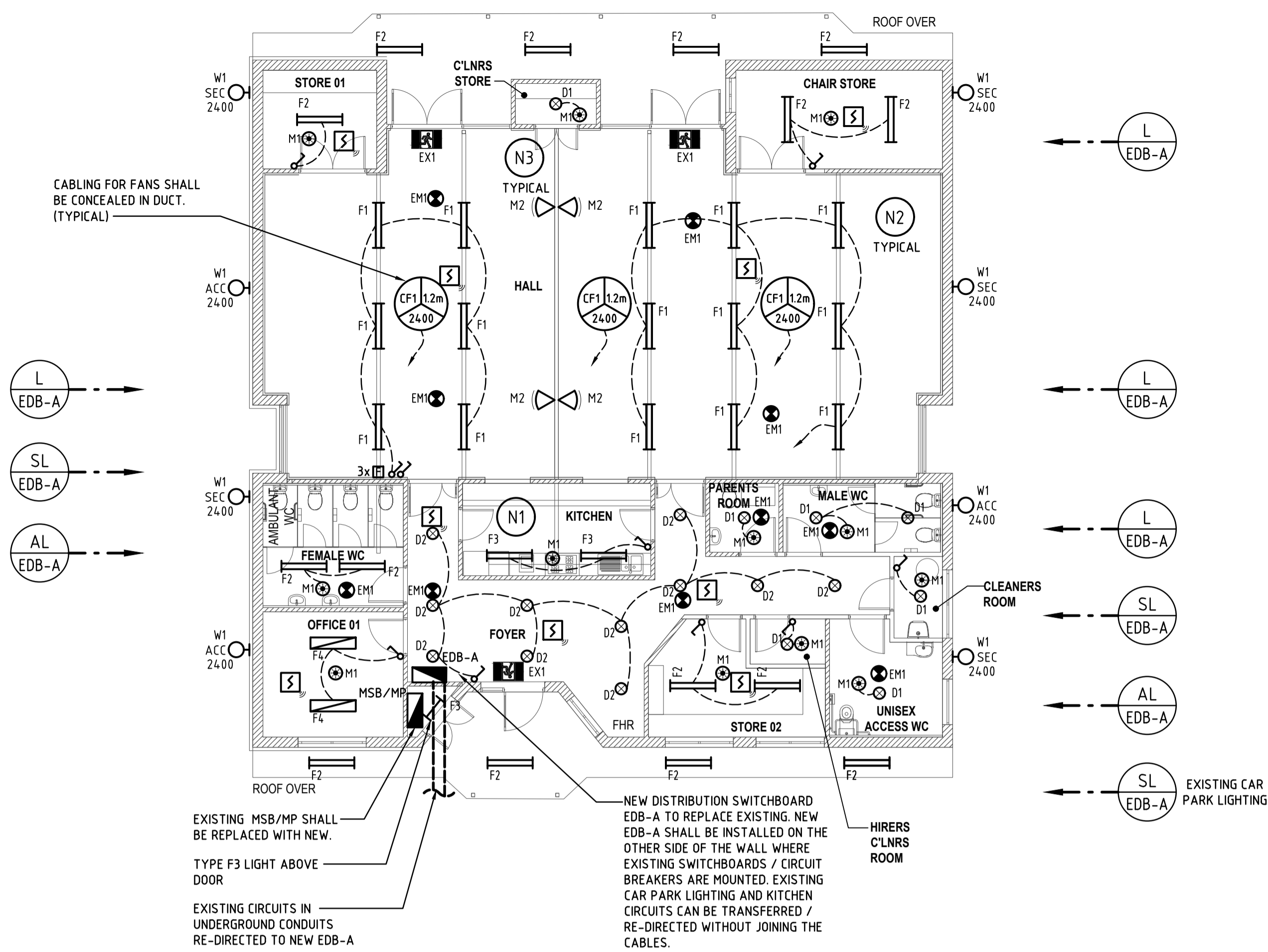
location: **20 BROOKFIELD AVENUE WERRINGTON DOWNS NSW 2747**

drawing title: **ELECTRICAL SERVICES SITE PLAN AND DEMOLITION PLAN**

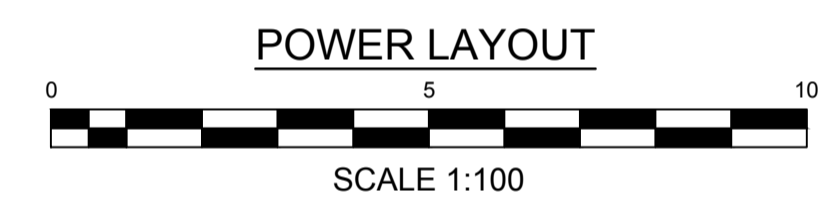
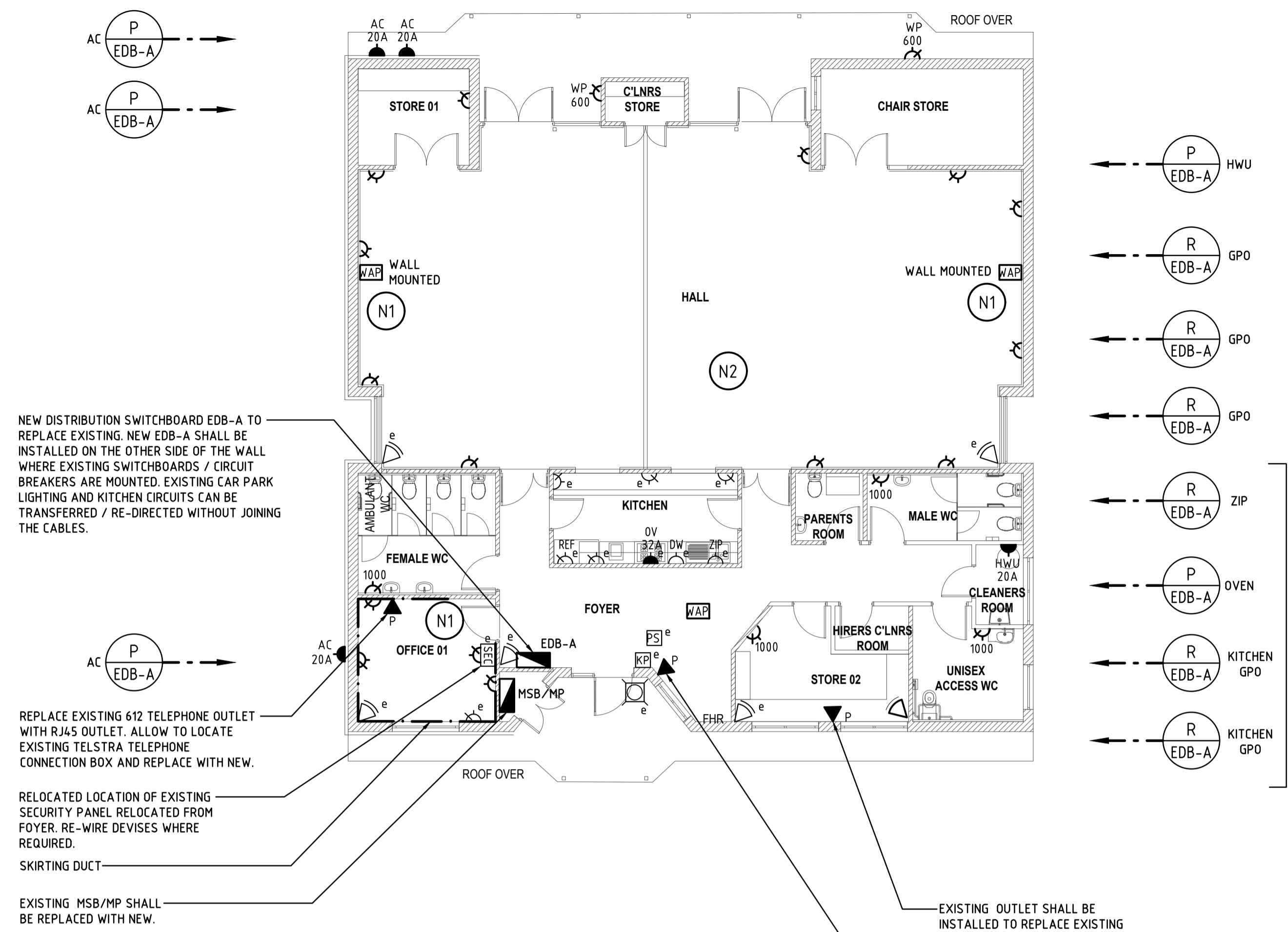
scale: **1:200 @ A1 SHEET SIZE** date: **JUN '19** design/drawn: **TI LH** issue: **T1**

drawing number: **19-0311/E201**

PLOTTED: 31 Oct 2019 E:\Works\2019 Projects\19-0311 Penrith Neighbourhood Centre\3 Elec\19-0311-E202 - WERRINGTON - LIGHTING AND POWER LAYOUT.dwg

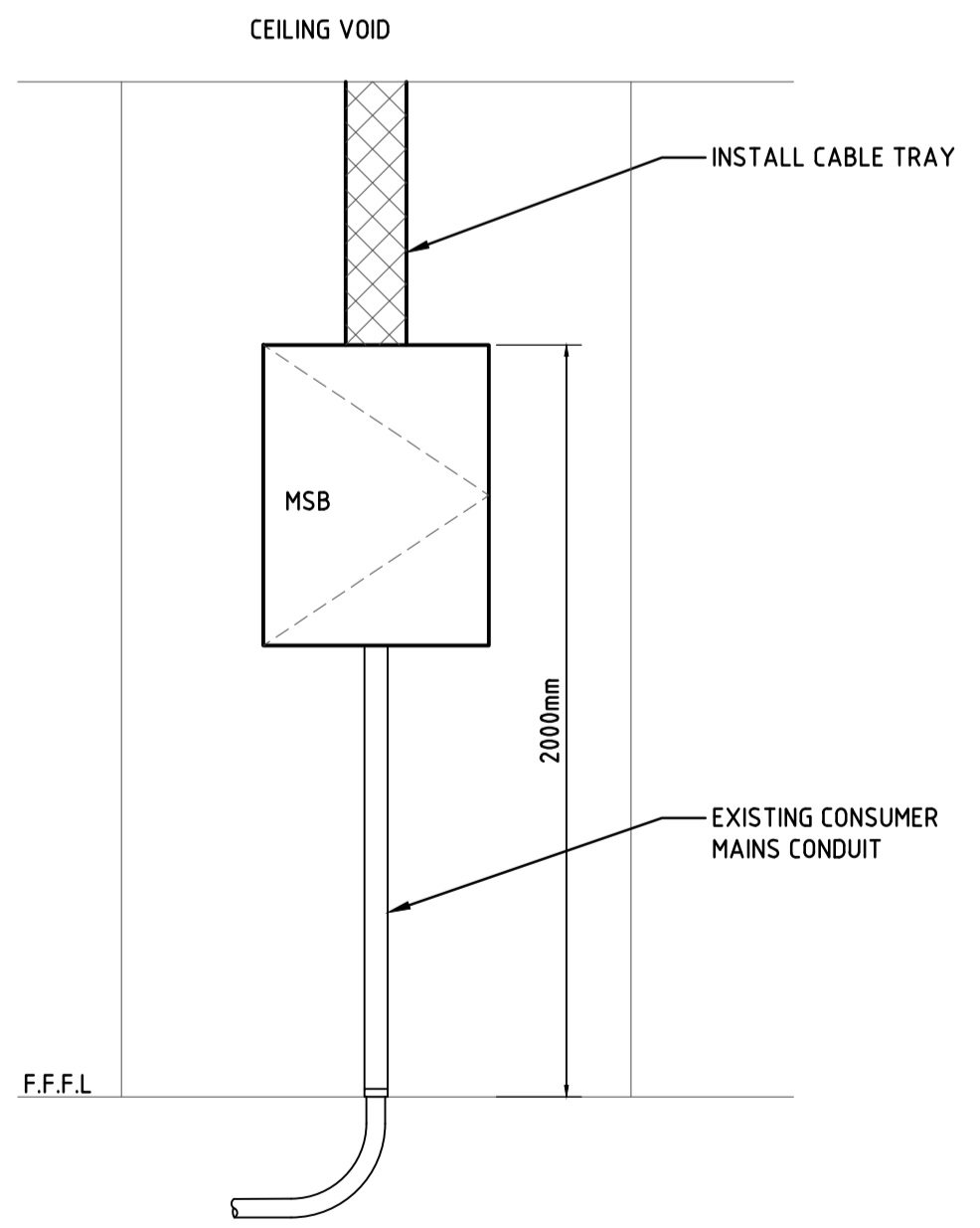


- SPECIFIC NOTES - LIGHTING**
- N1. ALL NEW CABLES SHALL BE CONCEALED IN DUCTS.
 - N2. LIGHT FITTINGS SHALL BE MOUNTED UNDER TRUSSES. ALL CABLING SHALL BE CONCEALED IN DUCT (AUSSIE DUCT) FOR THE FULL LENGTH OF THE CABLES ABOVE THE TRUSSES.
 - N3. MOTION SENSOR TYPE M2 ARE TO BE MOUNTED ON THE WALL AT THE LOWER LEVEL SO THAT THE DETECTORS ARE NOT BLOCKED BY THE TRUSSES. THESE ARE SPECIAL TYPE OF DETECTORS. REFER LEGEND FOR TYPE.

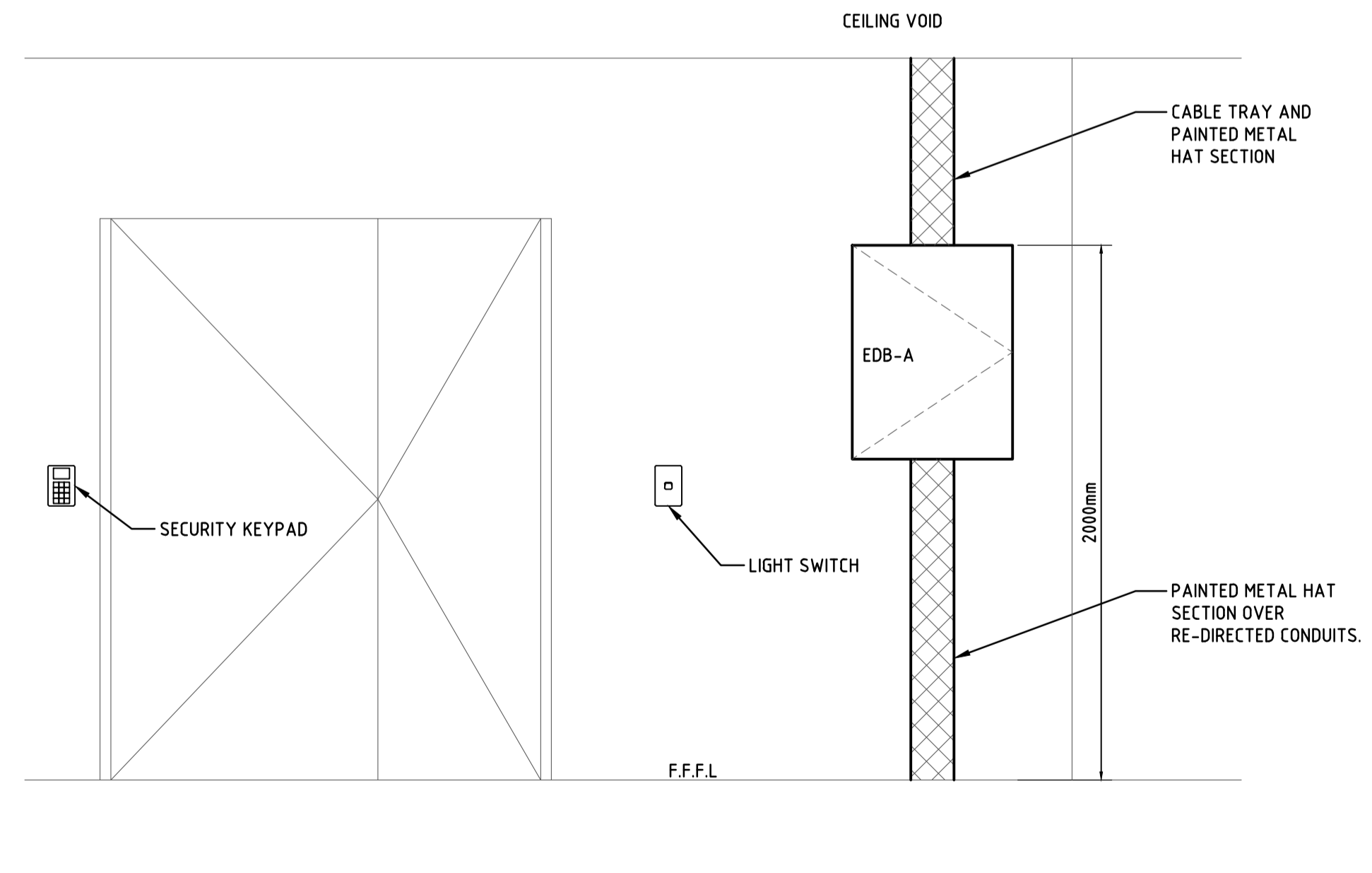


- GENERAL NOTES - LIGHTING AND POWER**
1. REFER DEMOLITION AND ARCHITECTURAL LAYOUT FOR ALL DEMOLITION WORK.

- SPECIFIC NOTES - POWER**
- N1. DATA OUTLETS FOR PROPOSED WIRELESS ACCESS POINTS AND OFFICE 01 DATA OUTLET. ALL CABLES SHALL BE WIRED BACK TO OFFICE 01 AND LEFT COILED FOR COUNCIL IT DEPARTMENT FUTURE SWITCH / MODEM / ROUTER CONNECTION. LEAVE 3m CABLE TAILS.
 - N2. SECURITY SYSTEM IS NOT DOCUMENTED AS THIS IS NOT PART OF THE CONTRACT. CONTRACTOR SHALL ALLOW TO REMOVE AND RE-INSTALL EXISTING PIR DETECTORS, INTERNAL SCREAMER, KEYPAD, EXTERNAL STROBE AS REQUIRED. WE HAVE SHOWN EXISTING DEVICES AND MENTIONED WHERE RELOCATED IS REQUIRED. ALLOW FOR ADDITIONAL 5 OFF PIR ON TOP OF EXISTING. SOME ROOMS ARE SHOWN WITH NEW PIR.

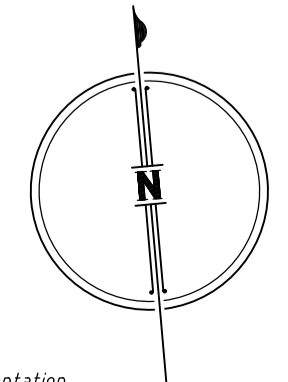


MSB ELEVATION
SCALE 1:20



EDB-A ELEVATION
SCALE 1:20

ISSUED FOR TENDER



PETER EUSTACE & ASSOCIATES
ELECTRICAL ♦ MECHANICAL ♦ FIRE ♦ LIFTS
STREET ADDRESS: Unit 14, 39-41 Lawrence Dr, Nerang QLD 4211
POSTAL ADDRESS: PO Box 2835, Nerang DC QLD 4211
TELEPHONE: [07] 5596 1425
EMAIL: mail@petereustace.com.au

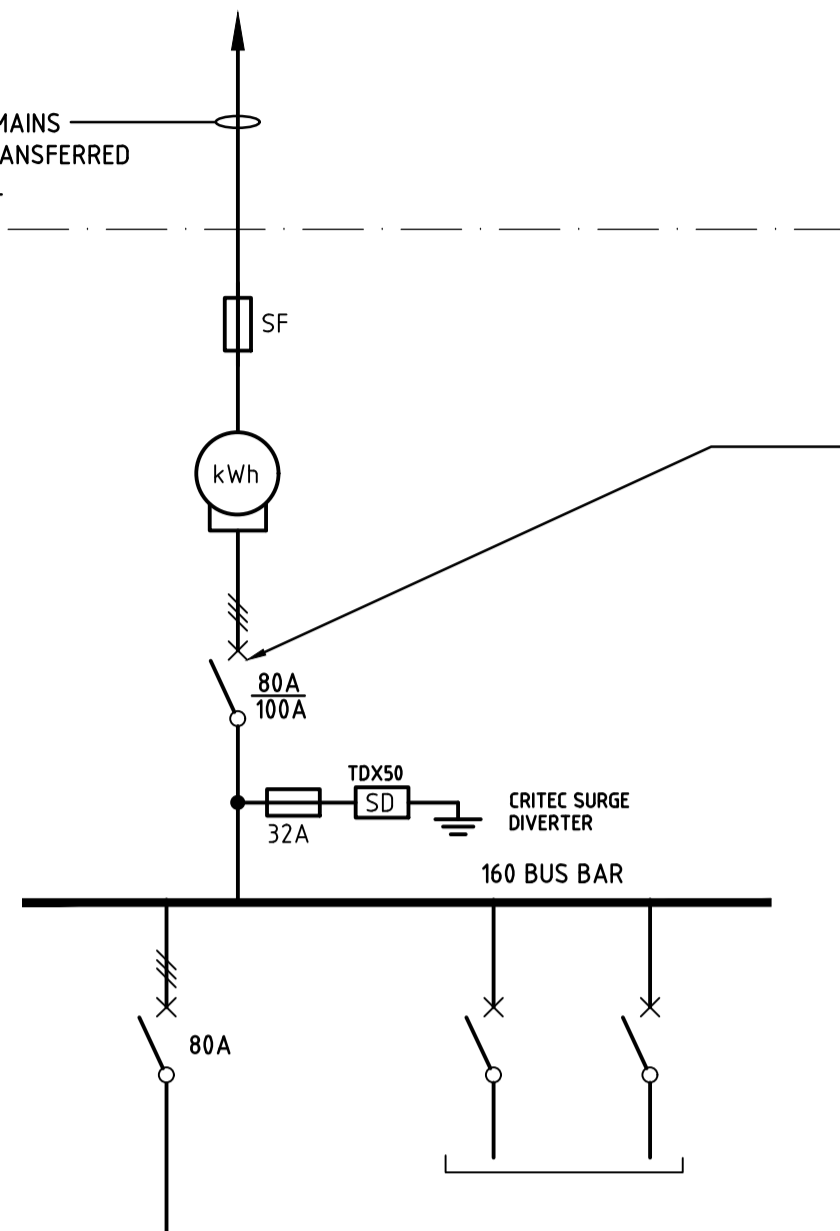
COMPLETE

proprietor: **PENRITH CITY COUNCIL**
project: **WERRINGTON DOWNS NEIGHBOURHOOD CENTRE**
location: **20 BROOKFIELD AVENUE WERRINGTON DOWNS NSW 2747**

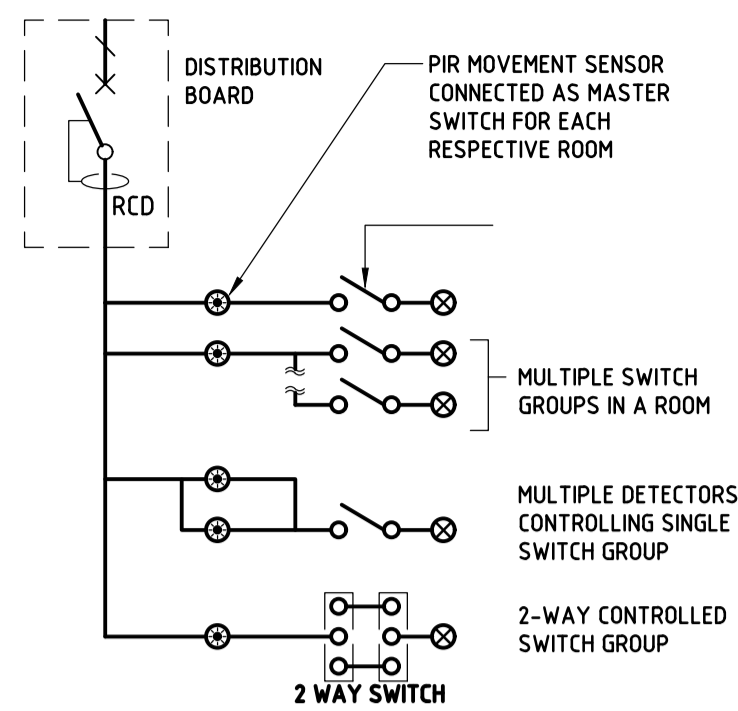
drawing title: **ELECTRICAL SERVICES LIGHTING AND POWER LAYOUT**
scale: 1:100 @ A1 SHEET SIZE date: JUN '19 design/drawn: TI/LH issue: T1
drawing number: **19-0311/E202**

MSB/MP	
REQUIREMENT	DESCRIPTION
ENCLOSURE	IP56
SEGREGATION	FORM 1
MOUNTING	WALL MOUNTED
CABLE	BOTTOM ENTRY, TOP/BOTTOM EXIT
MATERIAL	316 STAINLESS STEEL
FINISH	POWDERCOAT
COLOUR	GREY
LABELLING	ENGRAVED LAMINATED PVC SCREW FIXED REFER TO SPECIFICATION, ENGRAVED PAINT FILLED EXTERNAL
DOOR	REQUIRED, SUPPLY AUTHORITY/CONSUMER LOCKS
MAIN SWITCH	AS SHOWN
BUS BARS	20kA FOR 1 SEC
CIRCUIT BREAKER	20kA
FAULT RATING	

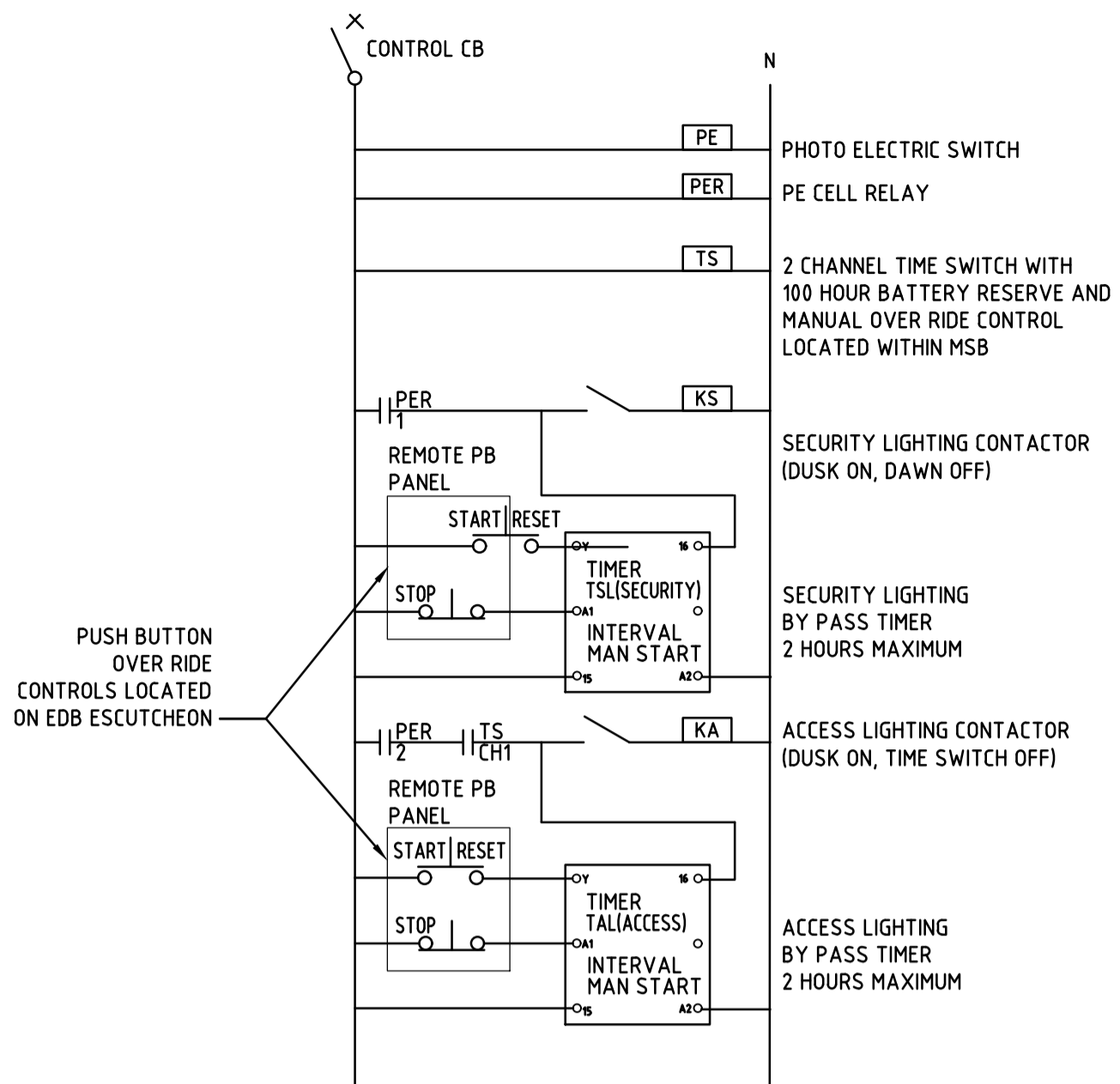
EXISTING CONSUMER MAINS CABLES SHALL BE TRANSFERRED TO NEW METER PANEL



CONTRACTOR SHALL SET THE CB ACCORDING TO THE CONSUMER MAINS SIZE. EXISTING MSB HAS 80A ISOLATOR, HENCE 80A CB IS SHOWN HERE.



TYPICAL MOTION SENSOR LIGHTING CONTROL SCHEMATIC



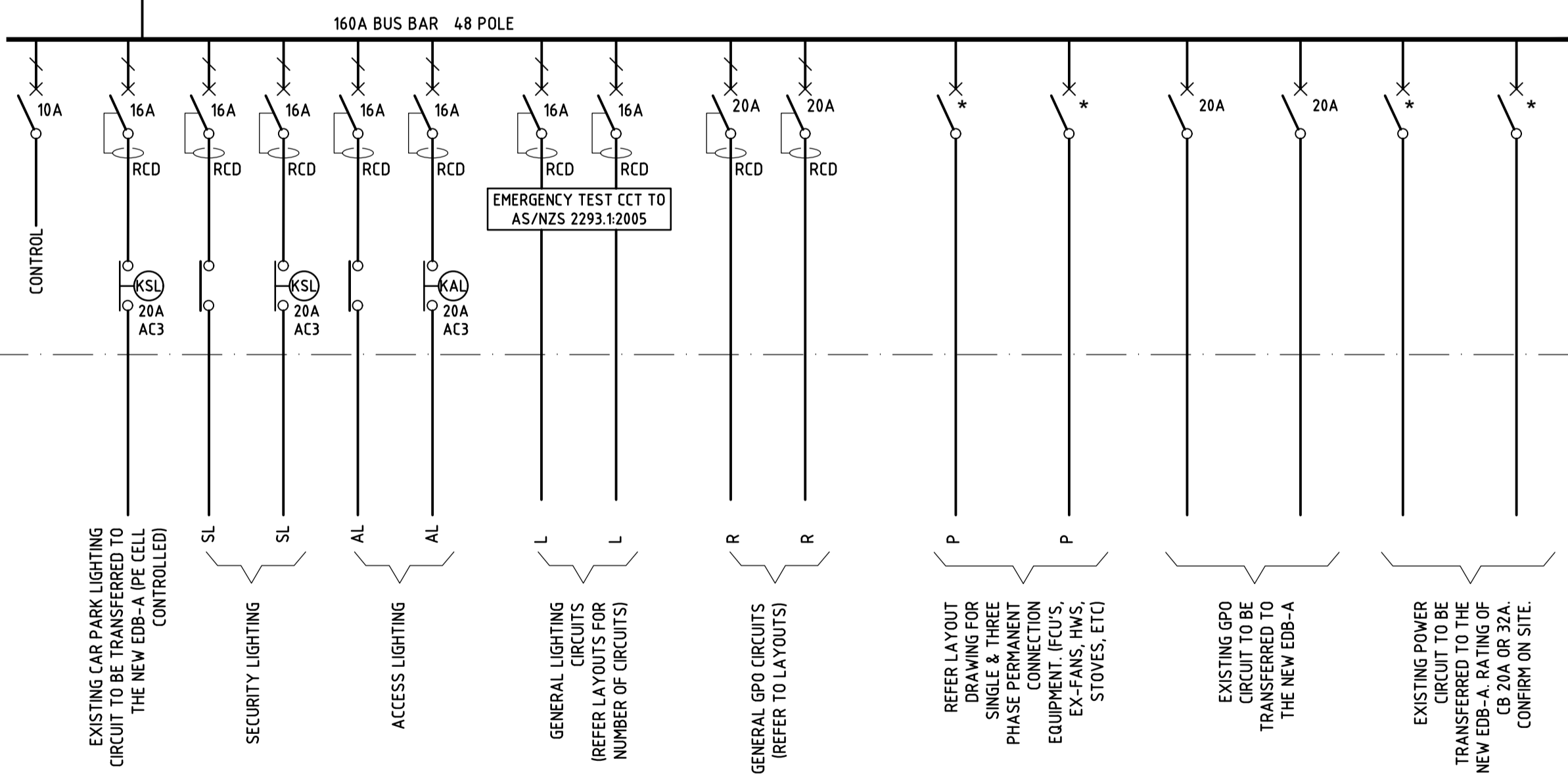
NOTE: ALL CONTACTORS SHALL BE 20A/AC3 RATED

SECURITY & ACCESS LIGHTING PLUS TRADING HOURS CONTROL DIAGRAM FOR EDB-A

GENERAL NOTES

- MINIMUM FINAL SUBCIRCUIT CABLE SIZE SHALL BE 1.5mm² FOR INTERNAL LIGHTING, 2.5mm² FOR EXTERNAL LIGHTING, & 2.5mm² FOR GENERAL POWER UNLESS NOTED OTHERWISE ANYWHERE IN THE DOCUMENTATION. USE 2.5mm² CABLE FOR INTERNAL LIGHTING WHERE REQUIRED TO MEET THE EARTH FAULT LOOP IMPEDANCE GUIDELINE AND MAXIMUM CABLE LENGTH RESTRICTION AS PER AS 3000. CONTRACTOR SHALL ALLOW TO MEASURE THE CABLE PATH LENGTH AND INSTALL CABLE ACCORDINGLY FOR INTERNAL AND EXTERNAL LIGHTING. INSTALL 6mm² CABLE FOR 32A POWER SUPPLY WHERE REQUIRE.

EDB-A	
REQUIREMENT	DESCRIPTION
ENCLOSURE	IP42
SEGREGATION	FORM 1
MOUNTING	WALL MOUNTED
CABLE	BOTTOM ENTRY, TOP/BOTTOM EXIT
MATERIAL	SHEET STEEL
FINISH	POWDER COAT
COLOUR	GREY
LABELLING	ENGRAVED LAMINATED PVC SCREW FIXED REFER TO SPECIFICATION
DOOR	REQUIRED, LOCKABLE
MAIN SWITCH	AS SHOWN
BUS BARS	20kA
CIRCUIT BREAKER	10kA
FAULT RATING	
CONTROL	PROVIDE AS2293 EMERGENCY LIGHTING TEST CIRCUIT FACILITIES ON ALL LIGHTING CIRCUITS.



* REFER TO LAYOUT DRAWINGS TO DETERMINE THE NUMBER, RATING & TYPE OF SUBCIRCUITS REQUIRED. 20A MINIMUM

EMERGENCY LIGHTING TEST FACILITY NOTES

- PROVIDE EMERGENCY LIGHTING TEST FACILITY ON ALL DISTRIBUTION SWITCHBOARD EDB-A ACCORDING TO AS2293.
- PROVIDE ALL CONTACTORS AND TIMER AS REQUIRED. TIMER AND CONTACTORS TO BE MOUNTED WITHIN SWITCHBOARDS.
- TIMER CONTROL TO BE ACCESSIBLE WITHOUT OPENING SWITCHBOARD ESCUTCHEONS.
- PROVIDE WARNING LABELS (IN ACCORDANCE WITH AS 2293) TO ALL CIRCUIT BREAKERS SUPPLYING EMERGENCY LIGHTING AS SHOWN:
INTERRUPTING SUPPLY WILL DISCHARGE EMERGENCY LIGHTING BATTERIES
- PROVIDE LABEL TO TIMER AS FOLLOWS:
EMERGENCY LIGHTING TEST FACILITY

PLOTTED: 31 Oct 2019 10:31:11 AM E:\Work\2019 Projects\19-0311 Penrith Neighbourhood Centre\3_Elec\19-0311-E203 - WERRINGTON - SCHEMATICS.dwg

TI	TENDER ISSUE	TI	31/10/2019
P2	PRELIMINARY ISSUE	TI	31/07/19
P1	PRELIMINARY ISSUE	TI	19/07/19
	issue amendment	checked	date

ISSUED FOR TENDER

PETER EUSTACE & ASSOCIATES
ELECTRICAL ♦ MECHANICAL ♦ FIRE ♦ LIFTS
STREET ADDRESS: Unit 14, 39-41 Lawrence Dr, Nerang QLD 4211
POSTAL ADDRESS: PO Box 2835, Nerang DC QLD 4211
TELEPHONE: [07] 5596 1425
EMAIL: mail@petereustace.com.au

COMPLETE

client: PENRITH CITY COUNCIL
project: WERRINGTON DOWNS NEIGHBOURHOOD CENTRE
location: 20 BROOKFIELD AVENUE WERRINGTON DOWNS NSW 2747

drawing title: ELECTRICAL SERVICES SCHEMATICS
scale: N.T.S.@A1 SHEET SIZE
date: JUN '19
drawing number: 19-0311/E203
sheet: T1