

NOTES

1. EXTENT OF WORKS

THE ELECTRICAL SERVICES SUB-CONTRACT INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:

- REMOVAL OF THE EXISTING REDUNDANT ELECTRICAL SERVICES.
- NEW UNDERGROUND POWER AND NBN / COMMUNICATIONS CABLE ACCESS SYSTEM.
- NEW MAIN SWITCHBOARD.
- NEW DISTRIBUTION BOARDS DB-1 AND DB-2.
- REPLACEMENT OF DISTRIBUTION BOARD DB-3.
- NBN SERVICES MODIFICATIONS.
- COMMUNICATIONS LINK CABLE.
- SUPPLY AND INSTALLATION OF ALL COMPONENTS FORMING PART OF THE ELECTRICAL SERVICES.
- CO-ORDINATION.
- INSPECTIONS.
- TESTING AND COMMISSIONING.
- MAINTENANCE.
- CABLING, CABLE SUPPORT SYSTEMS AND ACCESS.
- POWER DISTRIBUTION.
- POWER OUTLETS AND ISOLATORS.
- LIGHTING.
- ALL MINOR COMPONENTS AND INCIDENTAL WORKS NOT SPECIFICALLY REFERRED TO, HOWEVER NECESSARY TO COMPLETE THE ELECTRICAL SERVICES INSTALLATION SUCH THAT IT IS HANDED OVER COMPLETE, OPERATIONAL AND FIT FOR THE INTENDED USE.

PRIOR TO COMMENCING WORK CONSULT SITE MANAGEMENT FOR ANY HAZARDOUS MATERIAL AND OR ASBESTOS REGISTERS AS WELL AS UNDERTAKE A THOROUGH INSPECTION OF THE SITE TO IDENTIFY ANY POTENTIAL HAZARDOUS MATERIALS, ASBESTOS AND HEALTH OR SAFETY RISKS. ADVISE THE CONTRACTOR OF ANY POTENTIAL HAZARDOUS MATERIALS, ASBESTOS AND HEALTH OR SAFETY RISKS IF IDENTIFIED AND DO NOT COMMENCE WORK UNTIL AN APPROPRIATE MANAGEMENT PLAN HAS BEEN DEVELOPED AND AGREED TO BY ALL PARTIES.

SUPPLY ALL LABOUR, MATERIALS, EQUIPMENT, AND ALL OTHER ITEMS, WHETHER MENTIONED IN DETAIL OR NOT, REQUIRED FOR THE SATISFACTORY COMPLETION OF THE ELECTRICAL SERVICES INSTALLATION, LEAVING IN FULL WORKING ORDER TO THE SATISFACTION OF THE PROJECT MANAGER.

ACCEPT FULL RESPONSIBILITY FOR LIASING, ARRANGING AND CO-ORDINATION ALL WORKS THAT HAVE AN EFFECT ON OR WILL BE AFFECTED BY THE ELECTRICAL SERVICES.

REMOVE ALL OF THE EXISTING ELECTRICAL SERVICES THAT BECOME REDUNDANT DUE TO THE WORKS.

2. WORKMANSHIP

ENSURE THAT THE WORK IS PERFORMED BY THE HOLDER OF A CURRENT ELECTRICAL SUB CONTRACTOR LICENSE. ENSURE THE INSTALLATION AND ALL COMPONENTS, FIXTURES, FITTINGS, OUTLETS AND CABLES ARE SUPPLIED AND INSTALLED TO A HIGH STANDARD THROUGHOUT, AND INSTALLED IN A NEAT AND TRADESMAN LIKE MANNER, TO THE CURRENT INDUSTRY STANDARDS. ENSURE ALL MATERIALS AND COMPONENTS OF A SIMILAR TYPE ARE OF THE SAME MANUFACTURER AND INSTALLED IN A UNIFORM MANNER.

IT IS THE ELECTRICAL SUB CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE INSTALLATION IS FIT FOR PURPOSE AND IS PROVIDED AS A COMPLETE WORKING INSTALLATION. CHECK THE FINISHED PAINTWORK AROUND THE AREA OF EACH INSTALLATION AND TOUCH UP ALL DAMAGED PARTS AND FINISHES AFTER THE INSTALLATION OF THE ELECTRICAL SERVICES.

ALL WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE BUILDER'S PROGRAM. ENSURE ALL FINAL LOCATIONS OF OUTLETS AND FITTINGS ARE CO-ORDINATED ONSITE WITH THE ARCHITECT AND ALL OTHER SERVICES, TO THE APPROVAL OF THE PROJECT MANAGER. ALLOW TO CO-ORDINATE THE FINAL LOCATION OF ALL EQUIPMENT, FITTINGS, & OUTLETS, SUCH THAT THEY ARE INSTALLED IN ACCORDANCE WITH THE AS3000 RESTRICTED ZONES, AND ARE NOT COVERED INAPPROPRIATELY.

ENSURE THAT ALL METAL SURFACES ARE SUITABLY PROTECTED AGAINST CORROSION, AND THAT ALL PLASTIC MATERIALS ARE UV STABILISED.

PROVIDE ALL MATERIALS AS NEW, AND OF THE HIGHEST CLASS AVAILABLE FOR THEIR RESPECTIVE TYPES. ENSURE ALL ASPECTS OF THE WORK ARE OF A HIGH STANDARD THROUGHOUT, AND INSTALLED IN A NEAT AND TRADESMAN LIKE MANNER, TO THE CURRENT INDUSTRY STANDARDS.

3. STANDARDS

IRRESPECTIVE OF INFORMATION CONTAINED IN THE ELECTRICAL SERVICES DOCUMENTS OR IN INSTRUCTIONS, IT IS THE ELECTRICAL SUB CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL ELECTRICAL SERVICES WORKS ARE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE FOLLOWING. REFER ANY DISCREPANCIES BETWEEN THE REQUIREMENTS OF THE FOLLOWING AND/OR THE ELECTRICAL SERVICES DOCUMENTS AND INSTRUCTIONS TO THE ARCHITECT FOR CLARIFICATION PRIOR TO THE PLACING OF ORDERS, FABRICATION OR INSTALLATION OF THE ITEMS/METHODS IN DISCREPANCY.

- NCC BUILDING CODE OF AUSTRALIA.
- ELECTRICITY ACT.
- ELECTRICAL SAFETY ACT.
- AS/NZS3000.
- AS3008.
- AS1670.
- WORKPLACE HEALTH AND SAFETY ACT.
- TELECOMMUNICATIONS ACT.
- ACMA REQUIREMENTS.

4. AUTHORITIES

ENSURE ALL OF THE ELECTRICAL SERVICES COMPLY WITH THE REQUIREMENTS OF ALL REGULATORY AUTHORITIES HAVING JURISDICTION OVER THE SITE INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

- ACMA.
- LOCAL COUNCIL.
- LOCAL SUPPLY AUTHORITY.
- STATE GOVERNMENT DEPARTMENT OF ENVIRONMENT AND HERITAGE.
- QLD GOVERNMENT, DIVISION OF WORKPLACE, HEALTH AND SAFETY.
- QLD FIRE AND RESCUE AUTHORITY.

5. POWER DISTRIBUTION

PROVIDE A NEW PLINTH MOUNTED MAIN SWITCHBOARD. MOUNT THE NEW MSB ON A REINFORCED CONCRETE PLINTH THAT EXTENDS 50MM BEYOND THE FRONT AND SIDE OF THE MSB, FALLS AWAY FROM THE MSB SO WATER DOES NOT POOL AND IS 100MM ABOVE THE ADJACENT GROUND LEVEL. THE PLINTH IS TO EXTEND OUT THE REAR OF THE MSB TO SUPPORT THE NBN PCD.

ARRANGE WITH ENERGEX AND THE RETAILER FOR WHOLE CURRENT METERING TO BE INSTALLED IN THE NEW MSB.

NOTES

5. POWER DISTRIBUTION (CONTINUED)

PROVIDE A NEW CONSUMERS MAIN RUN UNDERGROUND IN A 80 DIA CONDUIT FROM THE NEW MSB TO THE EXISTING TIMBER PROPERTY POLE THEN UP THE POLE IN CONDUIT TO THE ENERGEX POINT OF ATTACHMENT. RECONNECT THE EXISTING ENERGEX AERIAL SERVICE TO THE NEW CONSUMERS MAINS. PROVIDE NEW SUBMAINS FROM THE NEW MSB TO DB-1, DB-2, DB-3 AND DB-4 VIA THE NEW UNDERGROUND PIT AND CONDUIT SYSTEM. THE DB-2 SUBMAINS ARE TO ENTER BUILDING 2 VIA THE EXISTING LOW LEVEL PVC ENCLOSURE THEN FOLLOW THE EXISTING CABLING INTERNALLY TO THE EXISTING DB-2. THE BUILDING 3 SUBMAINS ARE TO RISE UP EXTERNALLY IN CONDUIT THEN ENTER THE BUILDING AND BE RETICULATED INTERNALLY TO THE NEW DB-3. THE EXISTING AERIAL SUBMAIN TO BUILDINGS 2, 3 AND 5 ARE TO BE REMOVED. THE EXISTING DISTRIBUTION BOARDS IN BUILDINGS 4 AND 5 ARE TO REMAIN AND BE RECONNECTED. BUILDINGS 1 AND 2 ARE TO BE PROVIDED WITH NEW DISTRIBUTION BOARDS. THE EXISTING BUILDING 3 DISTRIBUTION BOARD IS TO BE REPLACED AND ALL OF THE EXISTING CIRCUITS RECONNECTED VIA NEW AS3000 COMPLIANT SWITCHGEAR WITH THE SAME CAPACITY AND FUNCTION AS THE EXISTING SWITCHGEAR. THE EXISTING CONSUMERS MAINS, MSB, AERIAL SUBMAINS TO BUILDINGS AND UNDERGROUND SERVICES TO BUILDING 1 ARE TO BE REMOVED. PROVIDE THE NEW MSB AS FOLLOWS:

- QUEENSLAND ELECTRICITY CONNECTION MANUAL V4 COMPLIANT.
- EQUAL TO B&R ENCLOSURES TGXO HOUSING.
- PLINTH MOUNTED MECHANICALLY FIXED TO A REINFORCED MASONRY PLINTH.
- NATIONAL ELECTRICITY MARKET (NEM) COMPLIANT RETAIL METERING.
- IP66 FORM 1
- POWDER COATED LIGHT GREY RAL7035.
- INTERNAL TEMPERATURE CONTROLLED ANTI CONDENSATION HEATER.
- ENSURE THE MSB IS DESIGNED TO OPERATE IN DIRECT SUNLIGHT WITH AN AMBIENT TEMPERATURE OF 45 DEGREES.
- 3 POINT 92268 KEY LOCKABLE HANDLES.
- STAINLESS STEEL LIFT OFF HINGES.
- ALL SWITCHGEAR TO BE SCHNEIDER OR NHP/ TERASAKI.
- PROVIDE SHOP DRAWINGS FOR APPROVAL.
- ALL COMPONENTS ARE TO BE LABELLED WITH NON-STICK LABELS.
- TWO 92268 KEYS.
- PROVIDE THE MSB WITH A FULL WIDTH HORIZONTAL DIN RAIL FOR FUTURE CONTROLS.
- REFER TO THE POWER SCHEMATIC FOR ADDITIONAL REQUIREMENTS. ENSURE ALL THREE PHASE CIRCUITS ARE PROVIDED WITH CORRECT PHASE ROTATION.

PROVIDE THE NEW DB-1 AND DB-2B AS FOLLOWS:

- WALL MOUNTED.
- IP66 FORM 1
- POWDER COATED LIGHT GREY RAL7035.
- DESIGNED TO OPERATE IN DIRECT SUNLIGHT WITH AN AMBIENT TEMPERATURE OF 45 DEGREES.
- 3 POINT 92268 KEY LOCKABLE HANDLES.
- STAINLESS STEEL LIFT OFF HINGES.
- ALL SWITCHGEAR TO BE SCHNEIDER OR NHP/ TERASAKI.
- PROVIDE SHOP DRAWINGS FOR APPROVAL.
- ALL COMPONENTS ARE TO BE LABELLED WITH NON-STICK LABELS.
- TWO 92268 KEYS.
- A FULL WIDTH HORIZONTAL DIN RAIL FOR FUTURE CONTROLS.
- REFER TO THE ASSOCIATED SCHEDULE FOR ADDITIONAL REQUIREMENTS. PROVIDE THE NEW DB-3 AS FOLLOWS:
- WALL MOUNTED.
- IP44 FORM 1
- POWDER COATED LIGHT GREY RAL7035.
- 3 POINT 92268 KEY LOCKABLE HANDLES.
- STAINLESS STEEL LIFT OFF HINGES.
- ALL SWITCHGEAR TO BE SCHNEIDER OR NHP/ TERASAKI.
- PROVIDE SHOP DRAWINGS FOR APPROVAL.
- ALL COMPONENTS ARE TO BE LABELLED WITH NON-STICK LABELS.
- TWO 92268 KEYS.
- A FULL WIDTH HORIZONTAL DIN RAIL FOR FUTURE CONTROLS.
- REFER TO THE ASSOCIATED SCHEDULE FOR ADDITIONAL REQUIREMENTS

6. NBN /COMMUNICATIONS

ARRANGE WITH THE NBN TO REMOVE THE EXISTING SERVICE TO BUILDING 4 AND RELOCATE THE CABLING BETWEEN THE PROPERTY POLE AND BUILDING 3 UNDERGROUND. REMOVE THE REDUNDANT TELSTRA SERVICE TO BUILDING 2 AND COIL THE ASSOCIATED CABLING IN THE EXISTING TELSTRA PIT. PROVIDE A RJ45 TERMINATED CAT 6 UNDERGROUND LINK CABLE BETWEEN BUILDING 2 AND BUILDING 3.

7. PITS AND CONDUITS

PROVIDE 2 x 100 DIA CONDUITS FROM PIT P1 TO THE MSB.
PROVIDE 2 x 100 DIA CONDUITS FROM THE MSB TO PROPERTY POLE.
PROVIDE PIT P1 AS AN ACO TYPE 55 POLYETHYLENE PIT C/W CLASS B STEEL LID.
PROVIDE A 50 DIA NBN COMPLIANT CONDUIT FROM PIT C1 TO THE PROPERTY POLE.
PROVIDE PIT C1 AS A NBN COMPLIANT ACO TYPE 2 POLYETHYLENE PIT C/W PRECAST NBN LID.
PROVIDE A SINGLE REINFORCED CONCRETE COLLAR AROUND PITS P1 AND C1. 8. CABLES

UNLESS OTHERWISE SPECIFIED, INSTALL AND TERMINATE CABLES IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS. DETERMINE THE FINAL ROUTES TO SUIT THE BUILDING STRUCTURE AND SITE CONDITIONS. UNLESS NOTED OTHERWISE, PROVIDE ALL 240 VOLT POWER AND LIGHTING WIRING AS 2.5mm² TWIN & EARTH STRANDED COPPER CONDUCTORS, PVC INSULATED 0.6/1kV V75 GRADE TO AS3174, PROTECTED BY A 20 AMP CIRCUIT BREAKER. ALL CONDUIT AND FITTINGS TO BE RIGID UPVC TO AS2053, UNLESS NOTED OTHERWISE.

8. LIGHTING

ALL OF THE LIGHT FITTINGS, LAMPS AND ACCESSORIES ARE TO BE PROVIDED AS PART OF THIS CONTRACT. THE LIGHTING COMPONENT OF THIS CONTRACT INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING EXTENT OF WORK:

- LIGHTING.
- LIGHT FITTINGS AND ACCESSORIES.
- EMERGENCY AND EXIT LIGHTING.
- EARTHING OF THE LIGHTING INSTALLATION.
- LIGHTING CONTROL.
- LIGHTING SUBCIRCUITS.
- TESTING AND COMMISSIONING.
- RECONNECTION OF THE EXISTING LIGHTING THAT REMAINS.
- REMOVAL OF ALL EXISTING REDUNDANT LIGHTING SERVICES.

PROVIDE A SINGLE POINT EMERGENCY LIGHTING SYSTEM THAT COMPLIES WITH THE LATEST ISSUE OF ALL PARTS AS2293 AND THE RELEVANT PARTS OF THE NCC BCA. INSTALL EMERGENCY LIGHT FITTINGS NOMINATED AS MAINTAINED WITH THE LAMP PERMANENTLY ON SUPPLIED VIA AN UNSWITCHED ACTIVE MAINS SUPPLY WHEN THE MAINS SUPPLY IS AVAILABLE. WHEN THE MAINS SUPPLY IS NOT AVAILABLE, THE LAMP IS TO REMAIN ON SUPPLIED BY THE EMERGENCY PACK. SINGLE LAMP MAINTAINED EMERGENCY LIGHTS ARE NOT SWITCHED WITH THE LOCAL GENERAL AREA LIGHTING. (THE LAMP IS ALWAYS ON.)

NOTES

8. LIGHTING (CONTINUED)

INSTALL EMERGENCY LIGHT FITTINGS NOMINATED AS NON-MAINTAINED AS FOLLOWS:

- IF THE FITTING IS NOT BEING SWITCHED, THE LAMP IS TO REMAIN OFF WHEN THE MAINS SUPPLY IS AVAILABLE. WHEN THE MAINS SUPPLY IS NOT AVAILABLE THE LAMP IS TO BE SWITCHED ON SUPPLIED BY THE EMERGENCY PACK. UNSWITCHED SINGLE LAMP NON-MAINTAINED EMERGENCY LIGHTS ARE NOT SWITCHED WITH THE LOCAL GENERAL AREA LIGHTING. (THE LAMP IS ON ONLY WHEN THE MAINS SUPPLY IS NOT AVAILABLE.)
- IF THE FITTING IS BEING SWITCHED, THE LAMP IS TO BE SUPPLIED AND CONTROLLED WITH THE LOCAL GENERAL AREA LIGHTING WHEN THE MAINS SUPPLY IS AVAILABLE. WHEN THE MAINS SUPPLY IS NOT AVAILABLE THE LAMP IS TO BE SWITCHED ON, SUPPLIED BY THE EMERGENCY PACK. (THE LAMP IS ON WHEN TURNED ON WITH THE LOCAL GENERAL LIGHTING OR THE MAIN SUPPLY IS NOT AVAILABLE.)

INSTALL EMERGENCY LIGHTS SUCH THAT THE STATUS INDICATOR L.E.D. IS CLEARLY VISIBLE AND THE TEST BUTTONS ARE READILY ACCESSIBLE. LABEL EACH CIRCUIT BREAKER WHICH CONTROLS THE UNSWITCHED ACTIVE TO EXIT LIGHTS WITH A LABEL FIXED ADJACENT; ENGRAVED PLASTIC LAMINATE, GREEN BACKGROUND WITH WHITE CHARACTERS: -

WARNING
INTERRUPTING SUPPLY WILL DISCHARGE
EMERGENCY LIGHTING BATTERIES

PROVIDE WRITTEN EVIDENCE OF THE INITIAL COMMISSIONING AND TESTING AND TESTING FOR THE DURATION OF THE MAINTENANCE PERIOD IN ACCORDANCE WITH AS 2293.2.

THIS EVIDENCE IS TO BE IN THE FORM OF A LOG BOOK SIMILAR TO THE GENERAL LIGHTING SERVICE PTY LTD "EMERGENCY LIGHTING MAINTENANCE LOG BOOK AND MANUAL" WHICH IS TO BE PROVIDED BY THE ELECTRICAL SUB-CONTRACTOR AND HAVE ALL ENTRIES FULLY COMPLETED AND BE PRESENTED FOR INSPECTION AT PRACTICAL COMPLETION. THE LOG BOOK IS TO BE RETAINED BY THE ELECTRICAL SUB-CONTRACTOR FOR THE DURATION OF THE MAINTENANCE PERIOD, AND THE SIX MONTHLY TEST AND MAINTENANCE RESULTS ENTERED. THE LOG BOOK IS TO BE PRESENTED FOR APPROVAL AT FINAL COMPLETION (EXPIRY OF THE MAINTENANCE PERIOD) AND WILL BE FORWARDED TO THE OPERATOR FOR THEIR USE.

PROVIDE MAINTENANCE OF THE EMERGENCY AND EXIT LIGHTING INSTALLATION INCLUDING RECORDS IN ACCORDANCE WITH THE LATEST ISSUE OF ALL PARTS AS2293 AND THE RELEVANT PARTS OF THE NCC BCA. PROVIDE THE EMERGENCY LIGHTING SYSTEM WITH A SUPPLY SENSING AND TESTING FACILITY MOUNTED IN DB-3 IN ACCORDANCE WITH AS 2293.1.

9. ABBREVIATIONS

A - AMP CURRENT RATING
AB - MOUNT ABOVE BENCH.
AFFL - ABOVE FINISHED FLOOR LEVEL.
BB - MOUNT BELOW BENCH.
BH - MOUNT ON BULKHEAD.
CEIL - MOUNT ON CEILING.
CS - MOUNT WITHIN CEILING SPACE.
C/W - COMPLETE WITH.
DW - DISHWASHER.
HP - HOT PLATE.
HWS - HOT WATER SYSTEM.
MCB - MINIATURE CIRCUIT BREAKER.
MSB - MAIN SWITCHBOARD.
MSSB - MECHANICAL SERVICES SWITCHBOARD.
MW - MICROWAVE.
N - NEON / LED INDICATOR WHEN ON.
NTS - NOT TO SCALE.
OV - OVEN.
QDC - QUEENSLAND DEVELOPMENT CODE.
RCBO - CIRCUIT BREAKER C/W AN INTEGRAL 30mA RESIDUAL CURRENT DEVICE.
RCD - CIRCUIT PROTECTED VIA A 30mA RESIDUAL CURRENT DEVICE.
REF - REFRIGERATOR.
UNO - UNLESS NOTED OTHERWISE.
WP - WEATHERPROOF TO IP56 UNO.
500 - NUMBER DENOTES MOUNTING HEIGHT AFFL.

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