

NOTES

1. EXTENT OF WORKS

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

- SUPPLY AND INSTALLATION OF ALL COMPONENTS FORMING PART OF THE ELECTRICAL SERVICES.
- CO-ORDINATION.
- INSPECTIONS.
- TESTING AND COMMISSIONING.
- MAINTENANCE.
- AS BUILT DRAWINGS.
- CABLING, CABLE SUPPORT SYSTEMS AND ACCESS.
- POWER DISTRIBUTION.
- LIGHTING CONTROL WITHIN THE BASEMENT.
- 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.

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.

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 LIAISING, ARRANGING AND CO-ORDINATION OF ALL WORKS THAT HAVE AN EFFECT ON OR WILL BE AFFECTED BY THE ELECTRICAL SERVICES.

THE POWER SUPPLY MUST BE MAINTAINED BETWEEN 6.00 AM MONDAY THROUGH TO 6.00PM FRIDAY. IT IS ACCEPTABLE TO ISOLATE THE SUPPLY OVER THE WEEKEND FROM 6.00PM FRIDAY THROUGH TO 6.00AM MONDAY. THE PROPERTY OWNER MUST BE ADVISED IN WRITING FOUR WEEKS PRIOR TO ANY INTERRUPTION TO THE POWER SUPPLY. PROVIDE FIVE SURFACE MOUNTED PE / MOVEMENT SENSORS C/E RUN ON TIMERS TO CONTROL THE EXISTING BASEMENT CARPARK LIGHTS. REMOVE THE EXISTING CARPARK LIGHTING CONTROLS. LOCATE AND CONFIGURE THE SENSOR OPERATION ON SITE UNDER THE DIRECTION OF THE PROPERTY OWNER.

MODIFY AND REINSTATE THE EXISTING GROUND LEVEL LANDSCAPING AS NECESSARY TO ACCOMMODATE THE NEW MSB. REINSTATE THE LANDSCAPE TO MATCH THE EXISTING AND PROVIDE REINFORCED CONCRETE TO THE AREAS THAT BECOME EXPOSED IN FRONT OF THE NEW MSB..

2. WORKMANSHIP

ENSURE THAT THE ELECTRICAL WORK IS PERFORMED BY THE HOLDER OF A CURRENT ELECTRICAL SUB CONTRACTOR LICENSE AND THE SERVICES COVERED BY THE ACMA IS PERFORMED BY THE HOLDER OF THE APPROPRIATE CURRENT ACMA 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. IT IS THE ELECTRICAL SUB CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL COMPONENTS, FITTINGS, FIXTURES, SYSTEMS, PROGRAMMING ETC IRRESPECTIVE OF THE LEVEL DETAILED IN THE DOCUMENTS SUCH THAT THE INSTALLATION IS PROVIDED AS A COMPLETE WORKING INSTALLATION.

CONCEAL ALL WIRING AND CONDUITS. EXPOSED CABLING OR CONDUITS ARE GENERALLY NOT ACCEPTABLE. IT IS NOTED THAT CHASING AND REINSTATEMENT WILL BE REQUIRED. ENSURE ALL COMPONENTS, EQUIPMENT AND MATERIALS SUPPLIED ARE NEW, UNUSED, DESIGNED AND SELECTED TO ENSURE SATISFACTORY OPERATION UNDER VARYING ATMOSPHERIC, CLIMATIC, HUMID TROPICAL CONDITIONS WITHOUT DISTORTION AND DETERIORATION IN ANY PART AFFECTING EFFICIENCY AND RELIABILITY OF THE SYSTEMS. DESIGN AND SELECT ALL EQUIPMENT TO PROVIDE THE NECESSARY SAFETY TO HUMAN LIFE AND PROPERTY DURING OPERATION AND MAINTENANCE WITH PARTICULAR ATTENTION GIVEN TO ELECTRICAL SAFETY AND SEGREGATION PRECAUTIONS.

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.

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.
- ENERGEX REQUIREMENTS.
- THE QUEENSLAND ELECTRICITY CONNECTION MANUAL V4 (QECM) AND THE NATIONAL ELECTRICITY METERING STANDARDS (NEM).
- AS/NZS3000.
- AS3008.
- LOCAL BRIGADE.
- WORKPLACE HEALTH AND SAFETY ACT.
- TELECOMMUNICATIONS ACT.
- ACMA REQUIREMENTS.

3. 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.
- ENERGEX.
- STATE GOVERNMENT DEPARTMENT OF ENVIRONMENT AND HERITAGE.
- QLD GOVERNMENT, DIVISION OF WORKPLACE, HEALTH AND SAFETY.
- QLD FIRE AND EMERGENCY SERVICES.

NOTES

4. 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.

5. POWER DISTRIBUTION

PROVIDE A NEW MAIN SWITCHBOARD ADJACENT THE GROUND LEVEL PADMOUNT SUBSTATION WITH THREE SETS OF DEDICATED QECM V4 METERING BEING FOR THE COMMUNITY SERVICES, GROUND LEVEL TENANCY AND THE LEVEL 1 TENANCY. ARRANGE FOR THE NEW METERING TO BE INSTALLED INCLUDING MANAGING THE METERING CHANGES WITH THE COMMUNITY AND TENANTS ELECTRICITY RETAILERS.

ONCE REDUNDANT THE EXISTING MAIN SWITCHBOARD AND THE ASSOCIATED METERING IS TO BE REMOVED.

RECONFIGURE THE EXISTING 10 x 10 x 120mm² Cu XLPE / PVC CONSUMERS MAINS TO 4 x 2 x 10 x 120mm² Cu XLPE / PVC. REMOVE THE TWO REDUNDANT CONDUCTORS. ARRANGE WITH ENERGEX TO RECONNECT THE REMAINING CONDUCTORS TO THE SUBSTATION AS PARALLEL CONDUCTORS PER PHASE. PROVIDE INSULATED RESIN JOINS OF THE REMAINING CONSUMERS MAINS CONDUCTORS AS PER CLAUSE 7.6.3.7 OF THE QECM V4 AND EXTEND THEM TO THE NEW MAIN SWITCHBOARD. ARRANGE WITH ENERGEX FOR THE EXISTING ENERGEX SUPPLY FUSES TO BE REDUCED TO 500 AMPS.

THE NEW MAIN SWITCHBOARD IS TO CONTAIN QECM C4 COMPLIANT FACILITIES FOR THE GROUND LEVEL TENANT TO INSTALL A 66KW SOLAR PV SYSTEM AND A 22KW EV CHARGING SYSTEM.

PROVIDE A NEW DISTRIBUTION BOARD FOR THE GROUND LEVEL TENANCY DB-GF IN THE BASEMENT TO SUPPLY THE REDIRECTED EXISTING GROUND LEVEL TENANCY SUBMANS. SUPPLY THE NEW DB-GF FROM THE NEW MSB VIA A NEW SUBMAIN.

PROVIDE A NEW DISTRIBUTION BOARD FOR THE LEVEL 1 TENANCY DB-L1 IN THE BASEMENT TO SUPPLY THE REDIRECTED EXISTING LEVEL 1 TENANCY SUBMANS. SUPPLY THE NEW DB-L1 FROM THE NEW MSB VIA A NEW SUBMAIN.

THE EXISTING BASEMENT POWER FACTOR CORRECTION UNIT IS TO BE PROVIDED WITH A NEW SUBMAIN AND CONNECTED TO THE NEW GROUND LEVEL TENANCY DISTRIBUTION BOARD DB-GF LOCATED WITHIN THE BASEMENT.

PROVIDE A NEW DISTRIBUTION BOARD FOR THE COMMUNITY SERVICES DB-M IN THE BASEMENT TO RESUPPLY THE REDIRECTED COMMUNITY CIRCUITS. SUPPLY THE NEW DB-M FROM THE NEW MSB VIA A NEW SUBMAIN

THE COMMUNITY CIRCUITS ARE TO ALL BE PROVIDED WITH AS3000 COMPLIANT RCD PROTECTION.

ALL OF THE SWITCHGEAR WITHIN THE NEW MAIN SWITCHBOARD, DB-M, DB-GF AND DB-L1 ARE TO BE NEW AND EITHER SCHNEIDER OR NHP. THE CURRENT DESIGN IS BASED UPON NHP SWITCHGEAR HOWEVER THERE IS NO PREFERENCE BETWEEN EITHER BRAND.

ALL CABLING MADE REDUNDANT BY THE WORKS IS TO BE REMOVED.

ENSURE ALL THREE PHASE CIRCUITS ARE PROVIDED WITH CORRECT PHASE ROTATION.

ENSURE ALL OUTLETS AND ISOLATORS ARE POSITIONED SUCH THAT THEY ARE NOT COVERED BY THE EQUIPMENT. THE FINAL POSITION OF ALL OUTLETS AND ISOLATORS ARE TO BE CONFIRMED ON SITE BY THE TENANTS REPRESENTATIVE.

THE POWER DISTRIBUTION COMPONENT OF THIS CONTRACT INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING EXTENT OF WORK:

- POWER DISTRIBUTION.
- RETAIL METERING.
- CONSUMERS MAINS.
- MAIN SWITCHBOARD.
- DISTRIBUTION BOARD DB-GF.
- DISTRIBUTION BOARD DB-L1.
- DISTRIBUTION BOARD DB-M.
- SUBMANS.
- CABLE ACCESSWAYS.
- BUILDING CABLE PENETRATIONS AND WATERPROOFING.
- CIRCUITS.
- ISOLATORS AND OUTLETS.
- TESTING AND COMMISSIONING.
- VEHICLE IMPACT PROTECTION BOLLARDS.
- PROVIDE AN IR THERMAL SCAN OF THE MSB AND EACH OF THE THREE DISTRIBUTION BOARDS ONE WEEK AFTER PRACTICAL COMPLETION. PROVIDE A CHART RECORDING OF THE MAINS CURRENT, VOLTAGE, FREQUENCY FOR THE FIRST 14 DAYS FOLLOWING PRACTICAL COMPLETION AND SUBMIT THE IR SCAN CHART RECORDING AND FOR APPROVAL.

NOTES

6. SWITCHBOARDS

PROVIDE THE SITE MAIN SWITCHBOARD (MSB) AS FOLLOWS:

- PLINTH MOUNTED.
- NATIONAL ELECTRICITY MARKET (NEM) COMPLIANT RETAIL METERING.
- PROVIDE A COPY OF THE ENERGEX APPROVAL OF THE MSB.
- IP56.
- 316 STAINLESS STEEL OR ALUMINIUM DOORS AND ESCUTCHEONS.
- LIGHT GREY COLOUR POWDER COATED ENCLOSURE AND DOORS.
- POWDER COATED GLOSS WHITE ESCUTCHEONS.
- THE TOP OF THE SWITCHBOARD IS TO BE FULLY WELDED AND SEALED WITH ALL CABLE ACCESS INTO AND OUT OF THE MSB MUST BE FROM BELOW.
- DOORS ON ALL CUBICLES WITH 3 POINT 92268 KEY LOCKABLE FLUSH HANDLES OTHER THAN THE METER CUBICAL DOORS WHICH ARE TO BE SECURED BY ENERGEX PADLOCKS.
- LIFT OL1 HINGES ON ALL DOORS AND ESCUTCHEONS.
- 1/4 TURN LATCHES AND D HANDLES ON ALL ESCUTCHEONS.
- ALL SWITCHGEAR TO BE SCHNEIDER OR NHP/ TERASAKI.
- PROVIDE SHOP DRAWINGS FOR APPROVAL.
- ALL COMPONENTS ARE TO BE LABELLED WITH NON-STICK LABELS.
- ENERGEX PADLOCKS ON THE METER CUBICLES.
- TWO ENERGEX PADLOCK KEYS AND TWO 92268 KEYS.
- ENSURE THE MSB IS DESIGNED TO OPERATE IN A 40 DEGREE AMBIENT WITH FULL EXPOSURE TO THE WESTERN SUMMER SUN.

PROVIDE THE DISTRIBUTION BOARD DB-M AS FOLLOWS:

- WALL MOUNTED.
- IP44.
- MILD STEEL DOORS AND ESCUTCHEONS.
- LIGHT GREY COLOUR POWDER COATED ENCLOSURE AND DOORS.
- POWDER COATED GLOSS WHITE ESCUTCHEONS.
- DOORS ON ALL CUBICLES WITH 3 POINT 92268 KEY LOCKABLE FLUSH HANDLES.
- LIFT OL1 HINGES ON ALL DOORS AND ESCUTCHEONS.
- 1/4 TURN LATCHES AND D HANDLES ON ALL ESCUTCHEONS.
- ALL SWITCHGEAR TO BE SCHNEIDER OR NHP/ TERASAKI.
- PROVIDE SHOP DRAWINGS FOR APPROVAL.
- ALL COMPONENTS ARE TO BE LABELLED WITH NON-STICK LABELS.

PROVIDE DISTRIBUTION BOARDS DB-GF AND DB-L1 AS FOLLOWS:

- PLINTH MOUNTED.
- IP44.
- MILD STEEL DOORS AND ESCUTCHEONS.
- LIGHT GREY COLOUR POWDER COATED ENCLOSURE AND DOORS.
- POWDER COATED GLOSS WHITE ESCUTCHEONS.
- DOORS ON ALL CUBICLES WITH 3 POINT 92268 KEY LOCKABLE FLUSH HANDLES.
- LIFT OL1 HINGES ON ALL DOORS AND ESCUTCHEONS.
- 1/4 TURN LATCHES AND D HANDLES ON ALL ESCUTCHEONS.
- ALL SWITCHGEAR TO BE SCHNEIDER OR NHP/ TERASAKI.
- PROVIDE SHOP DRAWINGS FOR APPROVAL.
- ALL COMPONENTS ARE TO BE LABELLED WITH NON-STICK LABELS.

C	TENDER	07/02/2025
REV:	DESCRIPTION:	DATE:
DRAWING: ELECTRICAL SERVICES NOTES		
SCALE: NOT TO SCALE AT A1	PROJECT NO: C3401a	DRAWING NO: E03
		REVISION: C

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