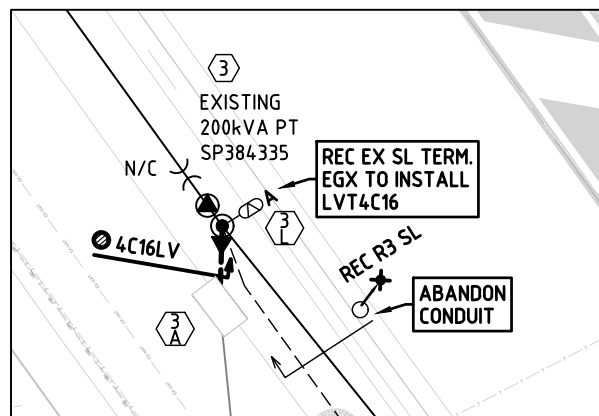


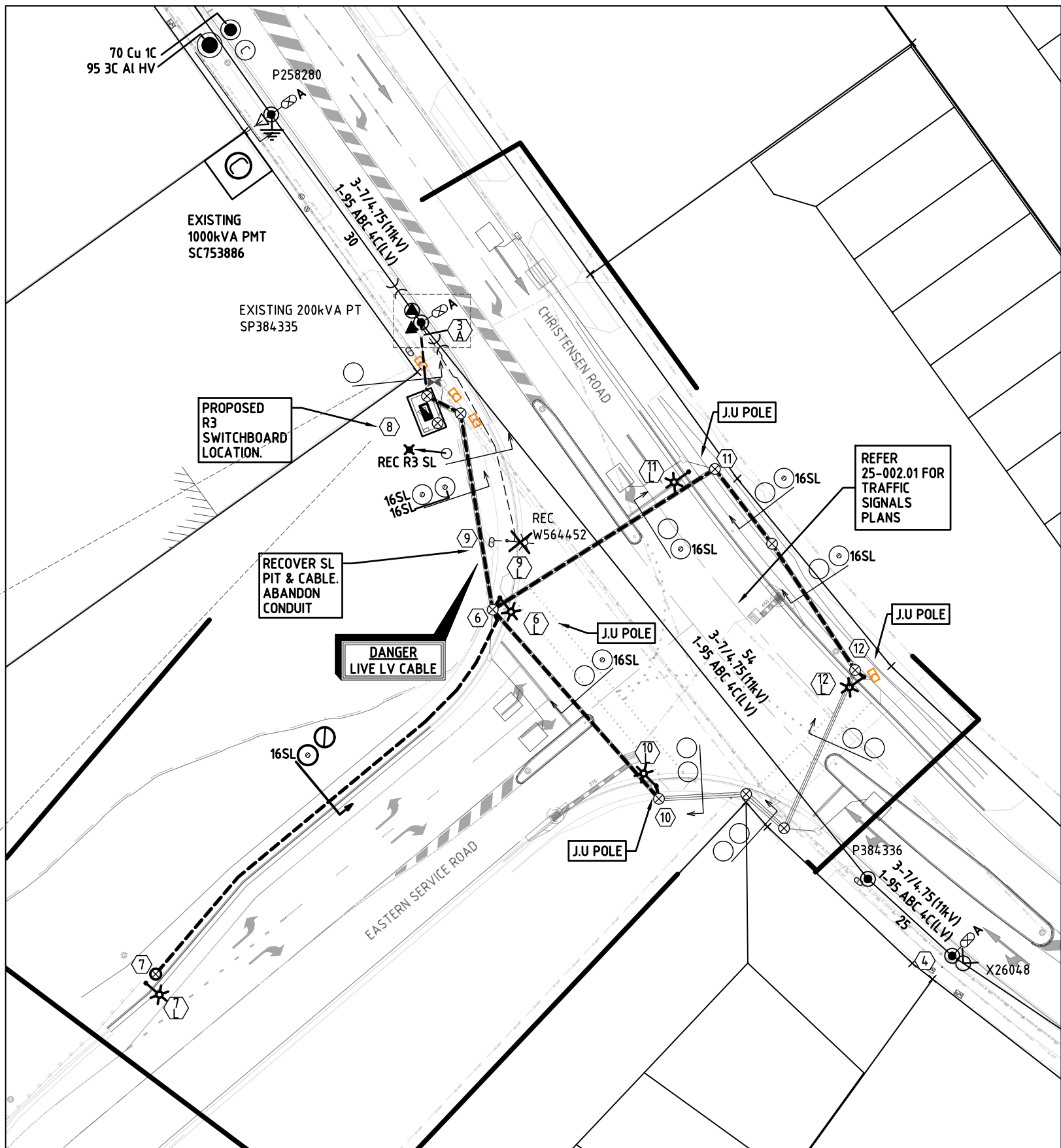


SITE LOCALITY
(SCALE: N.T.S.)

REFER TO PROJECT S1302459 WORKS PLANS FOR
RATE 2 LIGHTING WORKS PLANS.



STN 3 - DETAIL 'B'
SCALE 1:100 @ A1



ELECTRICAL / STREET LIGHT CERTIFICATION

THIS IS TO CERTIFY THAT THE DESIGN OF ENERGEX RETICULATION IS IN ACCORDANCE WITH ENERGEX DESIGN MANUALS AND WORK CATEGORY SPECIFICATION 47.1 & 47.3 WHERE APPLICABLE.

ROAD LIGHTING CERTIFIED TO COMPLY WITH AS/NZS 1158.1.1:2022 FOR 'V' CATEGORY & AS/NZS 1158.3.1:2020 FOR 'P' CATEGORY LIGHTING FOR ROADS & PUBLIC SPACES SUPPLIED UNDER ENERGEX CONTRACT. THE LIGHTING DESIGN IS BASED UPON THE FOLLOWING MAINTENANCE SCHEDULE:

- * LED LAMP REPLACEMENT AT 5 YEAR INTERVALS INC. CLEANING & INSPECTION OF LUMINAIRE EVERY 48 MONTHS.
- * LAMP REPLACEMENT AT 36 MONTH INTERVALS INC. CLEANING & INSPECTION OF LUMINAIRE.
- * VEGETATION TO BE KEPT CLEAR OF LUMINARIES.
- * INSPECTION PATROLS & SPOT LAMP REPLACEMENT TO MAINTAIN SERVICE AVAILABILITY AT MIN. 95%.
- * LUMINARIES & LAMPS TO BE REPLACED WITH EXACT EQUIVALENTS.

STREET NAME
CHRISTENSEN RD, EASTERN SERVICE RD
CHRISTENSEN RD x EASTERN SERVICE RD INTERSECITON

LIGHTING CATEGORY
PR3
V5

KRIS BOVEINIS (RPEQ 22272)
DATE 13/05/2025

RATE 3 UNDERGROUND CABLE SCHEDULE												
CABLE SIZE/TYPE		MODEL ID	ROUTE LENGTH (m)	CABLE LENGTH (m)		LCC	REMARKS					
				NEW	REC							
16mm ² 2C Cu PVC/PVC		LVC216PV/PV	37		40							
16mm ² 2C Cu PVC/PVC		LVC216PV/PV	27	30								
16mm ² 2C Cu PVC/PVC		LVC216PV/PV	2	5								
16mm ² 2C Cu PVC/PVC		LVC216PV/PV	27	30								
16mm ² 2C Cu PVC/PVC		LVC216PV/PV	27	30								
16mm ² 2C Cu PVC/PVC		LVC216PV/PV	27	30								
4mm ² 2C Cu PVC/PVC		LVC24PV/PV	2	5								
4mm ² 2C Cu PVC/PVC		LVC24PV/PV	2	5								
4mm ² 2C Cu PVC/PVC		LVC24PV/PV	2	5								
4mm ² 2C Cu PVC/PVC		LVC24PV/PV	2	5								
4mm ² 2C Cu PVC/PVC		LVC24PV/PV	2	5								
4mm ² 2C Cu PVC/PVC		LVC24PV/PV	2	5								
16mm ² 2C Cu PVC/PVC		LVC216PV/PV		125	40							
4mm ² 2C Cu PVC/PVC		LVC24PV/PV		30								

EQUIPMENT SCHEDULE													
LOCATION	STN No	SITE I.D.	EXIST	REC	INSTALL	SIZE & DESCRIPTION	IIN	COMP ID	PLANT No.	MODEL ID	QTY	LCC	REMARKS
CHRISTENSEN RD	3A		*			EX SQUARE T.S PIT		PT1		EX			INSTALLED BY OTHERS
	6		*		*	CIRCULAR PIT JUNCTION BOX KIT (FUSED)		PT1		EX SD1699 - 216			INSTALLED BY OTHERS
	8		*		*	GCCC RATE 3 SWITCHBOARD		MSB-SL					INSTALLED BY OTHERS
	9		*	*		S/L PIT & LID (TYPE 4)		PT1		EX			
	10		*		*	CIRCULAR PIT JUNCTION BOX KIT (FUSED)		PT1		EX SD1699 - 216			INSTALLED BY OTHERS
	11		*		*	CIRCULAR PIT JUNCTION BOX KIT (FUSED)		PT1		EX SD1699 - 216			INSTALLED BY OTHERS
	12		*		*	CIRCULAR PIT JUNCTION BOX KIT (FUSED)		PT1		EX SD1699 - 216			INSTALLED BY OTHERS
EASTERN SERVICE RD	7				*	CIRCULAR PIT - TYPE 60 JUNCTION BOX KIT (FUSED)		PT1	EX	SD1415 SD1699 - 216			INSTALLED BY ELECTRICAL CONTRACTOR

COMBINED RATE 3 & ENERGEX URD CIVIL WORKS SCHEDULE (ALONG FOOTPATHS BY ELECTRICAL CONTRACTOR)																												
LOCATION	STATIONS FROM-TO	CONDUIT LENGTH (m)															BENDS (<°/No)					X-SECTION (m)			DRAW WIRE	KERB MARK	STANDARD COVER	REMARKS
		RATE 3					ENERGEX URD																					
		50	No	100	No	2	50	No	100C	No	100	No	125	No	40	No	100C	No	100	No	125	No	EXCAVI- TAPE	COVER STRIP				
EASTERN SERVICE RD	6 - 7			60	2																	60	SP1	120		YES	1 x ELECTRICAL, 1 x GCCC COMMS	
TOTALS				120																		60		120				

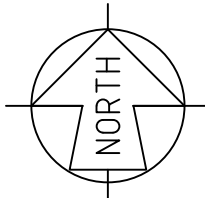
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R	DESCRIPTION	DATE	21.02.25	18.03.25	12.05.25
T1	ISSUED FOR TENDER ONLY. NOT FOR CONSTRUCTION.				
A	ISSUE FOR COUNCIL ACCEPTANCE ONLY. NOT FOR CONSTRUCTION.				
B	ISSUE FOR COUNCIL ACCEPTANCE ONLY. NOT FOR CONSTRUCTION.				

PE CONSULTING ENGINEERS

STREET ADDRESS: U14, 39 Lawrence Dr, Naring QLD 4211
POSTAL ADDRESS: PO Box 2835, Naring QLD 4211
TELEPHONE: (07) 5596 1425
EMAIL: mail@pece.com.au
WEB: pece.com.au



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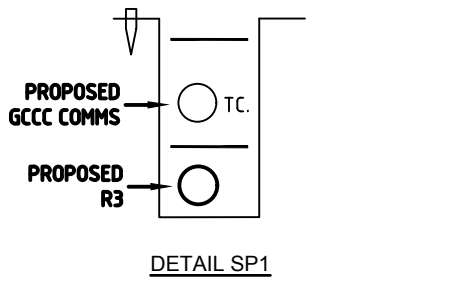
SITE CONTACT DETAILS		COUNCIL STANDARD ALIGNMENTS		WORKS COORDINATOR		PECE	
NAME	Energex OH	0.7m FoK	PARENT PROJECT NO.		APPROVED	KRIS BOVEINIS	
TBC	Energex UG	0-0.9m RP	WORK REQUEST NO.		CHECKED	KRIS BOVEINIS	
COMPANY	NBN	REFER NBN	LOTS		DESIGNER	LUKE ARACE	
-	GAS	REFER GAS			PLANNER	KRIS BOVEINIS	
PHONE	-	HP GAS	REFER GAS	CANCELLING LOTS	PHONE	(07) 5596 1425	
MOBILE	-	WATER	REFER CIVIL	LOCAL AUTHORITY	PHONE	(07) 5596 1425	
FAX	-	SEWERAGE	REFER CIVIL	UBD REF	ISSUE DATE	12 MAY 2025	
		OTHER	REFER CIVIL	PEGGED?			

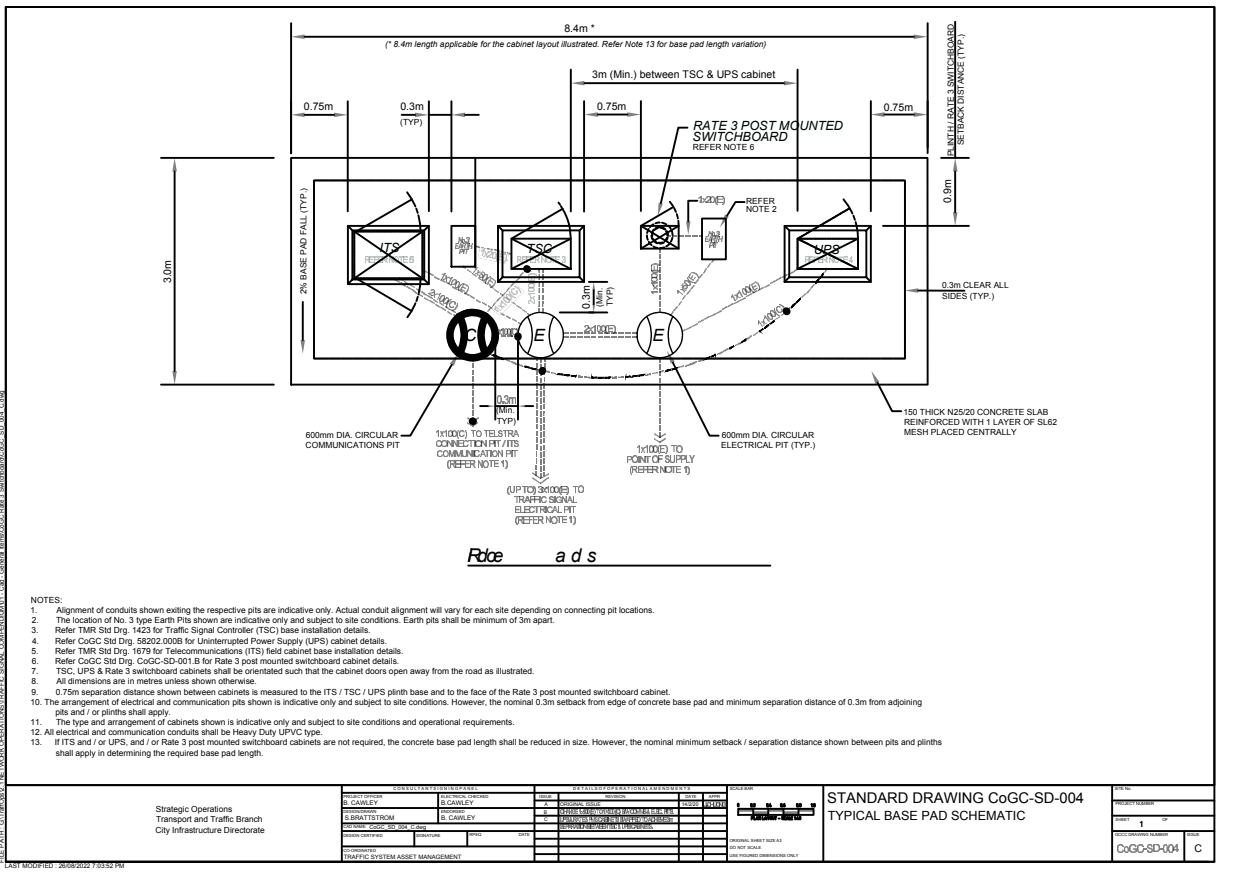
APPROVED	KRIS BOVEINIS	PECE INSTALL STREETLIGHTING, CABLE & EQUIPMENT RATE 3 LIGHTING EASTERN SERVICE ROAD INTERSECTION STAPLYTON, QLD, 4207	WORKSPLAN VERSION 5.5
CHECKED	KRIS BOVEINIS		SCALE: 1:500@A1
DESIGNER	LUKE ARACE		PROJECT / SUB PROJECT NO.
PHONE	(07) 5596 1425		
PLANNER	KRIS BOVEINIS		
PHONE	(07) 5596 1425		S1330019
ISSUE DATE	12 MAY 2025		Sheet 1 of 3 ISSUE NO: B

SYMBOL LEGEND	
	PROPOSED 50mm S/L
	PROPOSED 50mm S/L (RATE 3)
	PROPOSED ENERGEX 100mm COMMS
	PROPOSED 100mm
	PROPOSED 125mm
	EXISTING 40mm S/L
	EXISTING ENERGEX 100mm COMMS
	EXISTING 100mm
	EXISTING 125mm
	PROPOSED CABLE (AS MARKED)
	EXISTING CABLE (AS MARKED)
	PROPOSED UNDERGROUND HV/LV ROUTE
	EXISTING UNDERGROUND HV/LV ROUTE
	PROPOSED OVERHEAD HV/LV ROUTE
	EXISTING OVERHEAD HV/LV ROUTE
	PROPOSED S/L CABLE
	EXISTING S/L CABLE
	PDMOUNT TRANSFORMER
	PMT LV GEOGRAPHIC
	PMT HV GEOGRAPHIC
	RING MAIN UNIT
	RMU HV SCHEMATIC
	PROPOSED SUPPLY PILLAR
	EXISTING SUPPLY PILLAR
	PROPOSED LINK PILLAR
	EXISTING LINK PILLAR
	COMMERCIAL PILLAR
	EARTH
	PROPOSED TYPE 4 PIT
	EXISTING TYPE 4 PIT
	RECOVER EQUIPMENT
	11kV STRAIGHT JOINT
	OVERHEAD POLE TRANSFORMER
	OVERHEAD POLE (HV ONLY)
	OVERHEAD POLE (LV ONLY)
	OVERHEAD POLE (HV & LV)
	OVERHEAD HV TERMINATION
	OVERHEAD LV TERMINATION
	AIR BREAK SWITCH (OPEN)
	AIR BREAK SWITCH (CLOSED)
	DISCONNECT LINKS (OPEN)
	DISCONNECT LINKS (CLOSED)
	WATER METER
	SURVEY PEG
	STATION NUMBER

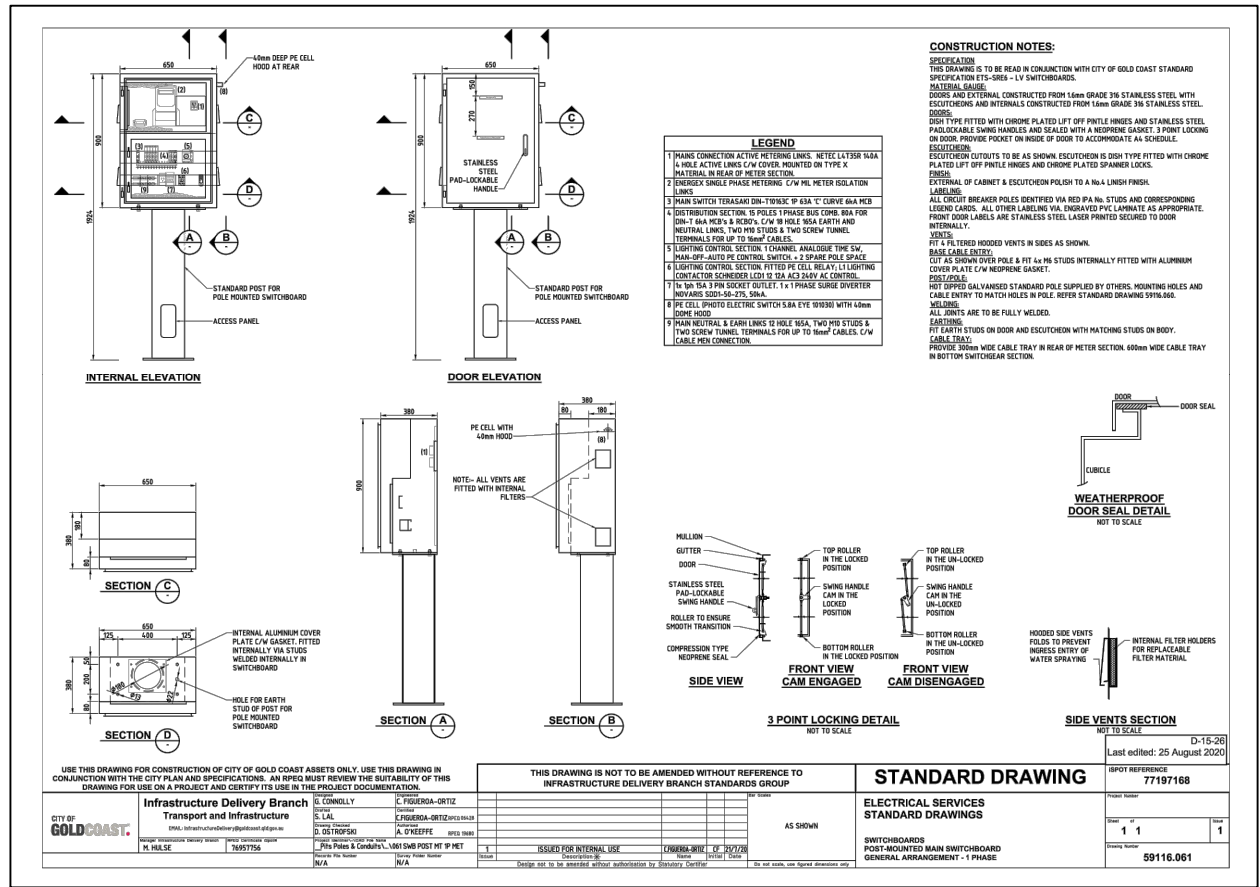
STREET LIGHT SYMBOL LEGEND	
	PROPOSED S/L (RATE 3)
	EXISTING S/L (RATE 3)
	RECOVER S/L (RATE 3)
	EXISTING L60 (RATE 2)
	EXISTING L14A (RATE 2)
	EXISTING M50 (RATE 2)
	EXISTING M400 (RATE 2)
	EXISTING L155 (TMR)
	EXISTING M50 (RATE 9)
	EX CIRCULAR PIT (RATE 3)
	PROPOSED CIRCULAR PIT (RATE 3)
	EX CIRCULAR PIT (RATE 3)

ENERGEX NON-STANDARD TRENCH DETAILS (INTS)

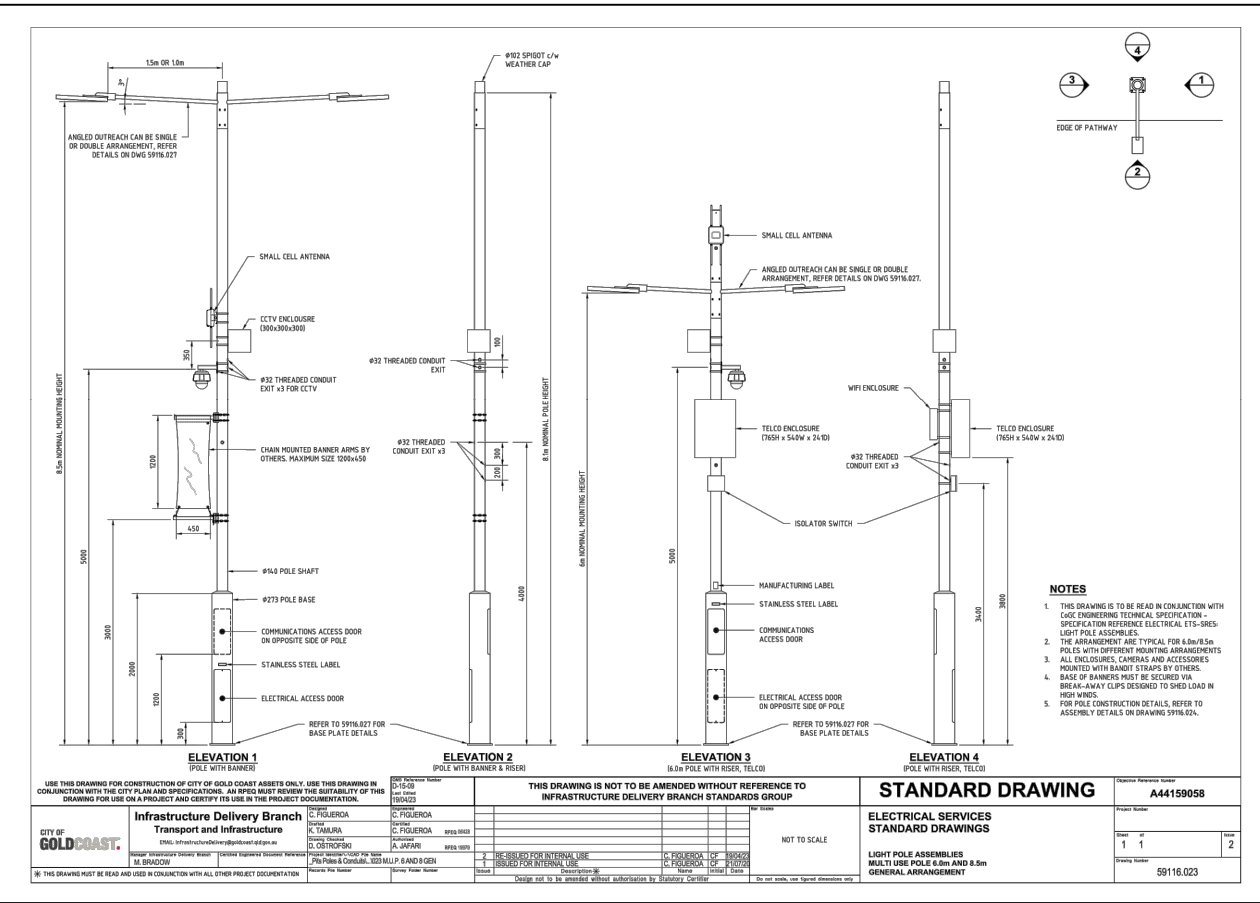




NOTE: REFERENCE ONLY NOT REQUIRED AS PART OF S1302102 WORKS



NOTE: REFERENCE ONLY.

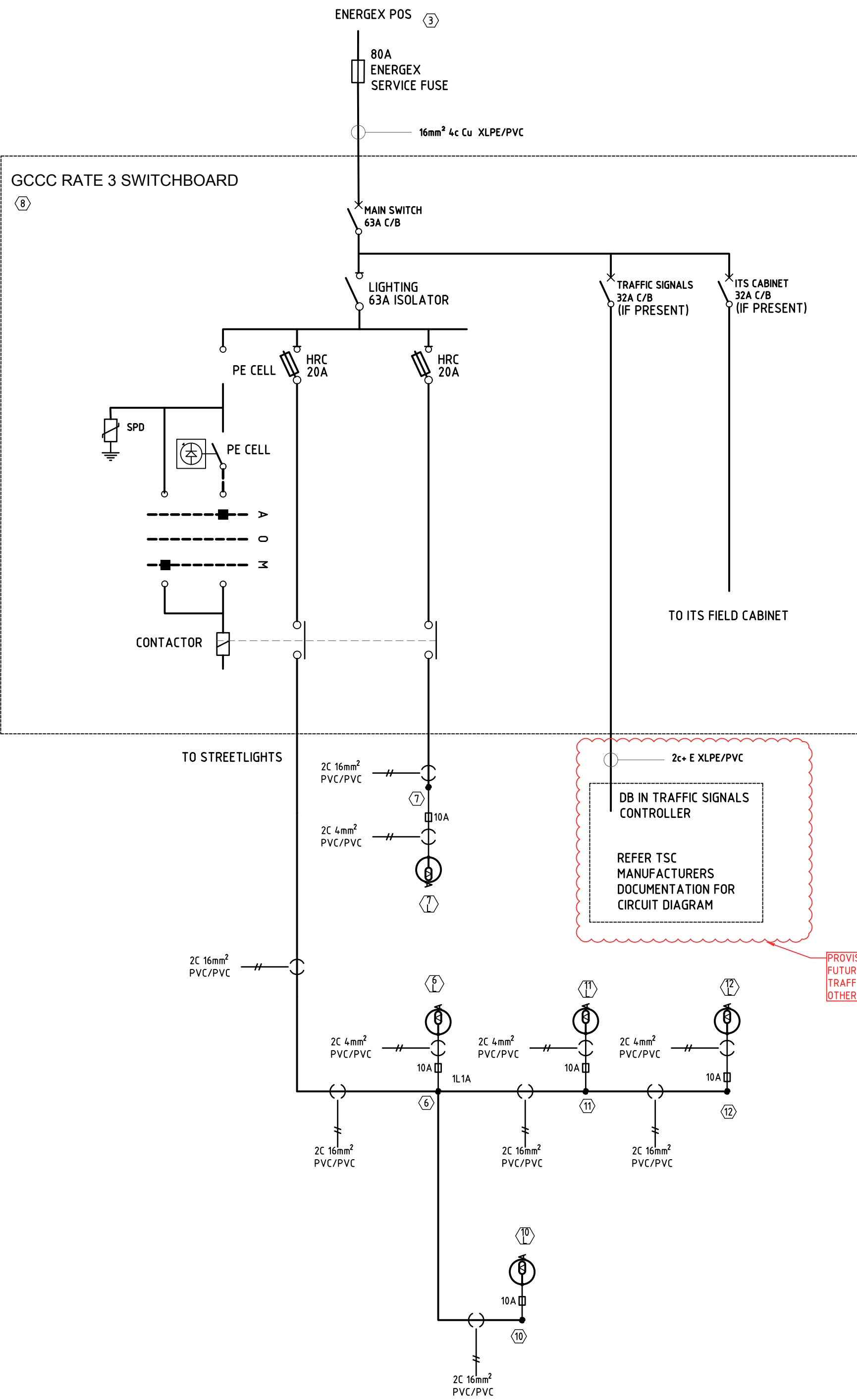


NOTE: REFERENCE ONLY.

REFER TO PROJECT S1302459 WORKS PLANS FOR RATE 2 LIGHTING WORKS PLANS.

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NOTES

- RATE 3 SWITCHBOARD TO COMPLY W/ ENERGEX MANUAL AND COUNCILS STANDARD DRAWING CoGC-SD-001-C
- CABLE SIZE/TYPE, SWITCHGEAR/FUSES RATING AND TYPE SHOWN ARE INDICATIVE ONLY. SITE SPECIFIC ELECTRICAL CALCULATIONS MUST BE COMPLETED BY A SUITABLY EXPERIENCED AND QUALIFIED ELECTRICAL RPEQ IN ACCORDANCE WITH TMR REQUIREMENTS OF AS/NZS3000 & TMR TRUM
- ALL SWITCHGEAR/FUSES SHALL BE RATED GREATER THAN THE MAXIMUM FAULT LEVEL ON-SITE. ELECTRICAL CONTRACTOR SHALL MEASURE AND CONFIRM RATINGS ON-SITE.
- ALL CIRCUIT BREAKERS TO BE 'C' CURVE TYPE.
- ALL SWITCHGEAR TO BE LABELED IN ACCORDANCE WITH AS/NZS 3000 AND TMR SPECIFICATIONS.
- CABLE TO BE INSTALLED TO BE EITHER OF 45QMM OR 165QMM 2C CU/XLPE OR X90 AS PER APPLICABLE DISTANCE LIMIT.
- LIGHTING ONLY TO TMR STANDARDS AND SPECIFICATIONS. TRAFFIC SIGNALS DESIGN DONE BY OTHERS
- DESIGN IS TO CoGC SUPPLEMENTARY SPECIFICATIONS

CoGC SWITCHBOARDS

A RATE 3 POST MOUNTED SWITCH BOARD COMPLYING WITH ALL TMR SPECIFICATIONS AND STANDARD DRAWINGS SHALL BE INSTALLED ADJACENT TO THE TRAFFIC SIGNAL CONTROLLER AND THE TRAFFIC SIGNAL CONTROLLER SHALL BE ENERGISED FROM THIS POST MOUNTED SWITCH BOARD WHEN JOINT USE STREET LIGHTING IS INSTALLED.

IF NO JOINT USE LIGHTING IS INSTALLED THEN NO RATE 3 SWITCHBOARD IS REQUIRED.

THE RATE 3 SWITCHBOARD SHALL BE IN ACCORDANCE WITH COUNCIL'S STANDARD DRAWING CoGC-SD-001C. THE RATE 3 SWITCHBOARD SHALL BE CONSTRUCTED TO THE LATEST CoGC WIRING DIAGRAM (I.E. 2 MAIN SWITCHES).

NOTE WITHIN ITEM 4 (CITY OF GOLD COAST SUPPLEMENTARY SPECIFICATION VERSION 23) REGARDING COMMUNICATIONS PIT TO BE TYPE ROUND.

ADDITIONAL CITY RELATED INFRASTRUCTURE (ITS CABINET, CCTV ETC.) SHALL BE ENERGISED FROM THE RATE 3 SWITCHBOARD - NOT THE TRAFFIC SIGNAL CONTROLLER.

CoGC CONDUITS

ALL ELECTRICAL AND COMMUNICATIONS CONDUITS ARE TO BE HEAVY DUTY IN ACCORDANCE WITH TMR SPECIFICATIONS.

A 50MM WHITE HEAVY DUTY COMMUNICATIONS CONDUIT SHALL BE INSTALLED LINKING THE TRAFFIC SIGNAL CONTROLLER WITH THE NEAREST TELECOMMUNICATIONS PIT (CONFIRMED SUITABLE BY TELSTRA / NBN). CONNECTION IS VIA A TYPE ROUND PIT IN THE CONTROLLER SLAB AND NO. 4 PIT ADJACENT TO THE TELECOMMUNICATIONS INFRASTRUCTURE.

ELECTRICAL CONDUITS INSTALLED FOR ADVANCED VEHICLE LOOPS ARE TO BE 80MM AND INSTALLED WITH 500MM COVER (FOR ALL MEDIAN AND FOOTPATH AREAS).

NOTE TMR NRTS91 REQUIREMENTS FOR ELECTRICAL AND COMMUNICATIONS CONDUIT INSTALLATION (SECTION 9.4)

REINSTATEMENT OF ALL ROAD CROSSINGS IS TO BE IN ACCORDANCE WITH COUNCIL STANDARD DRAWING 05-02-602.

FOR ALL ELECTRICAL AND COMMUNICATIONS CONDUIT RUNS PROOF OF HANDREL TESTING AND ROPING OF CONDUITS IS REQUIRED BEFORE COMMISSIONING.

WIRING RULES

ALL WORKS SHALL COMPLY WITH THE FOLLOWING CURRENT EDITIONS OF STANDARDS AND PUBLICATIONS AND ALL CURRENT AUSTRALIAN STANDARDS:
AS 3000 SAA WIRING RULES
AS 3008.1.1 SELECTION OF CABLES
BCA BUILDING CODE OF AUSTRALIA

WIRING NOTES

1. UNDERGROUND WIRING SYSTEMS.

- ALL TRENCH ROUTES SHALL BE CONFIRMED PRIOR TO EXCAVATION COMMENCING.
- EXISTING UNDERGROUND SERVICES SHALL BE LOCATED BY THE CONTRACTOR AND SHALL BE AVOIDED AND PROTECTED TO PREVENT DAMAGE. ALL DAMAGE TO EXISTING SERVICES SHALL BE IMMEDIATELY

REPAIRED TO ORIGINAL CONDITION AT THE CONTRACTORS EXPENSE.

- UNLESS NOTED OTHERWISE ALL ELECTRICAL AND COMMUNICATIONS SERVICES SHALL BE ENCLOSED IN CONDUIT AND ALL SPARE CONDUITS SHALL BE COMPLETE WITH NYLON DRAW ROPES. REFER EXTENT OF WORKS

- ALL TRENCHES SHALL BE KEPT AS STRAIGHT AS POSSIBLE AND ON THE NOMINATED ALIGNMENT WHERE INDICATED. THE DEPTH OF TRENCHES SHALL BE INCREASED TO ALLOW FOR STACKED CONDUIT RUNS AND BEDDING SAND.

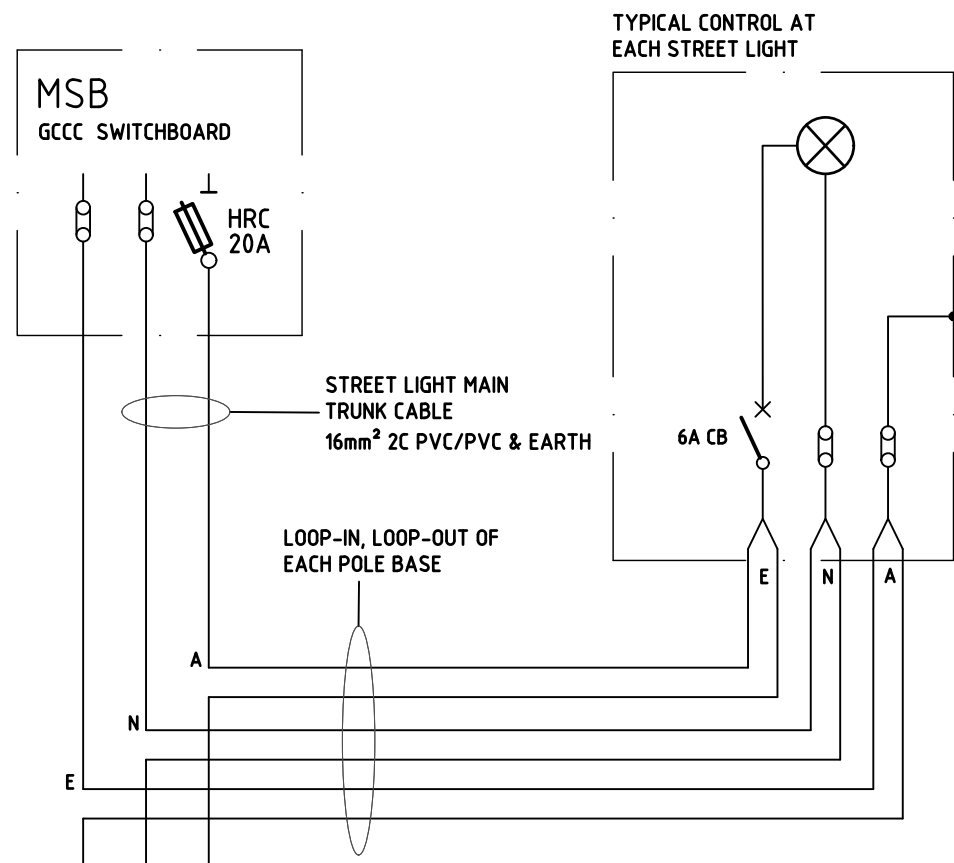
- ALL TRENCHES SHALL BE COMPLETE WITH A MINIMUM 50mm COVER OF BEDDING SAND ON ALL SIDES OVER CONDUITS AND CABLES AND WARNING TAPES ALONG THE FULL LENGTH (ADDITIONAL PARALLEL WARNING TAPE RUNS ARE REQUIRED OF EACH 300mm WIDTH OF TRENCH).

- BACKFILLING MATERIAL SHALL BE FREE FROM ROCKS AND GRAVEL AND SHALL BE SIEVED OR REPLACED WITH CLEAN FILL WHERE REQUIRED.

- ROAD CROSSING AND EXISTING PAVED AREA TRENCH RUNS SHALL BE SAW CUT UNLESS NOTED OTHERWISE. CLEAN BACK FILLING SHALL BE USED AND MECHANICALLY COMPACTED. THE SURFACE TREATMENT REINSTATE TO MATCH EXISTING.

- UNLESS SPECIFIED OTHERWISE, UNDERGROUND CABLE JOINTS SHALL BE CRIMP LINKED AND INSULATED WITH RESIN INFILLED HEAT SHRINK PROPRIETARY JOINTING KIT (RAYCHEM OR EQUAL)

- INCOMING CABLE - SOURCE, SIZE AND TYPE
- MAIN SWITCHBOARD MANUFACTURERS SPECIFICATION DETAILS LABEL.



TYPICAL STREET LIGHT POLE INSTALLATION SCHEMATIC

AS BUILT DRAWINGS AND MAINTENANCE MANUALS

"AS BUILT" DRAWINGS AND OPERATING/MAINTENANCE MANUALS SHALL BE PREPARED AND SUBMITTED TO THE CLIENTS REPRESENTATIVE FOR APPROVAL TWO WEEKS PRIOR TO THE GRANTING OF PRACTICAL COMPLETION, WITH THE FINAL ISSUE WITHIN FOUR WEEKS AFTER PRACTICAL COMPLETION. HARD BACKED MANUALS AND "AS BUILT" DRAWINGS SHALL BE PROVIDED IN TRIPPLICATE TOGETHER WITH AN AUTO CAD (LATEST VERSION) DISK COPY OF DRAWINGS IN EACH HARD BACKED MANUAL.

MAINTENANCE MANUALS SHALL BE WITHIN A HARD BACKED THREE RING FOLDER. THE MANUAL SHALL HAVE -

- A TITLE SHEET STATING THE NAME OF THE PROJECT, SERVICES COVERED BY THE MANUAL AND THE NAME AND ADDRESS OF THE BUILDER AND THE SUB-CONTRACTOR.

- AN INDEX AND HEAVY DUTY DIVIDER TABS

- TECHNICAL DATA SHEETS OF ALL ITEMS OF EQUIPMENT USED IN THE PROJECT I.e. LUMINAIRES, ACCESSORIES, DISTRIBUTION BOARDS, COMMUNICATIONS EQUIP ETC.

- A BRIEF DESCRIPTION OF EACH SYSTEM INSTALLED AND RECOMMENDATIONS REGARDING MAINTENANCE PREFERABLY MANUFACTURER'S RECOMMENDED MAINTENANCE DETAILS.

- ALL AS INSTALLED DRAWINGS PLUS COPIES OF ALL WORKSHOP DRAWINGS ALSO UPDATED TO AS INSTALLED.

- A LAMINATED A3 COPY IS TO BE INSTALLED IN THE CONTROLLER, RATE 3 SWITCHBOARD AND ITS INSTALLATIONS UPON COMPLETION OF PROJECT

- ELECTRICAL CONTRACTORS SHALL PROVIDE A CERTIFIED AS CONSTRUCTED DOCUMENT AND CERTIFICATE OF TEST FOR ALL NEW AND MODIFIED INSTALLATIONS WITHIN 24HOURS OF COMMISSIONING

EXTENT OF WORK

ELECTRICAL RETICULATION CONTRACTOR

- SUPPLY AND INSTALL ALL UNDERGROUND CONDUITS INCLUDING BEDDING SAND AND MARKER TAPE, AS DESCRIBED ON THE DRAWING INCLUDING OTHER SERVICES CONDUITS AND ROAD CROSSINGS.

- EXTEND STREET LIGHTING CABLES.

- SUPPLY AND INSTALL STREET LIGHTING.

- TESTING AND COMMISSIONING PLUS AS MAINTENANCE MANUALS AND 12 MONTHS MAINTENANCE.

NOTES:

- ALL WORKS SHALL COMPLY WITH AS3000 AND ENERGEX SPECIFICATIONS WHERE APPLICABLE.

- WHEREVER INDICATED, ALL ELECTRICAL CONDUITS SHALL BE RUN IN COMMON TRENCHES WITH COMMUNITY POWER AND COMMUNICATIONS SERVICES.

- PROVIDE MARKER TAPE AND BEDDING SAND IN ALL CABLE TRENCHES.

- PROVIDE KERB MARKERS AT ALL CONDUIT ROAD CROSSINGS.

- MAINTAIN ALL STATUTORY CLEARANCES FROM ALL OTHER SERVICES AND STRUCTURES.

- ALL SPARE CONDUITS SHALL BE COMPLETE WITH 4mm DIA NYLON DRAW ROPES.

- REFER TO LANDSCAPE LAYOUT DRAWINGS PRIOR TO CONFIRMING FINAL LOCATION OF LUMINAIRES WITH THE PRINCIPAL.

ELECTRICAL / STREET LIGHT CERTIFICATION

THIS IS TO CERTIFY THAT THE DESIGN OF ENERGEX RETICULATION IS IN ACCORDANCE WITH ENERGEX DESIGN MANUALS AND WORK CATEGORY SPECIFICATION 47-1 & 47-3 WHERE APPLICABLE.

ROAD LIGHTING CERTIFIED TO COMPLY WITH AS/NZS 1158.1.1:2022 FOR 'V' CATEGORY & AS/NZS 1158.3.1:2020 FOR 'P' CATEGORY LIGHTING FOR ROADS & PUBLIC SPACES SUPPLIED UNDER ENERGEX CONTRACT. THE LIGHTING DESIGN IS BASED UPON THE FOLLOWING MAINTENANCE SCHEDULE:

- * LED LAMP REPLACEMENT AT 5 YEAR INTERVALS INC. CLEANING & INSPECTION OF LUMINAIRE EVERY 48 MONTHS.
- * LAMP REPLACEMENT AT 36 MONTH INTERVALS INC. CLEANING & INSPECTION OF LUMINAIRE
- * VEGETATION TO BE KEPT CLEAR OF LUMINAIRES
- * INSPECTION PATROLS & SPOT LAMP REPLACEMENT TO MAINTAIN SERVICE AVAILABILITY AT MIN. 95%.
- * LUMINAIRES & LAMPS TO BE REPLACED WITH EXACT EQUIVALENTS.

STREET NAME
CHRISTENSEND RD, EASTERN SERVICE RD

LIGHTING CATEGORY
PR3

CHRISTENSEND RD x EASTERN SERVICE RD INTERSECTION

V5

KRIS BOVEINIS (RPEQ 22272)

DATE 13/05/2025

PECE

INSTALL STREETLIGHTING, CABLE & EQUIPMENT

**RATE 3 LIGHTING
EASTERN SERVICE ROAD INTERSECTION
STAPLYTON, QLD, 4207**

S1330019

Sheet 3 of 3

ISSUE NO: A