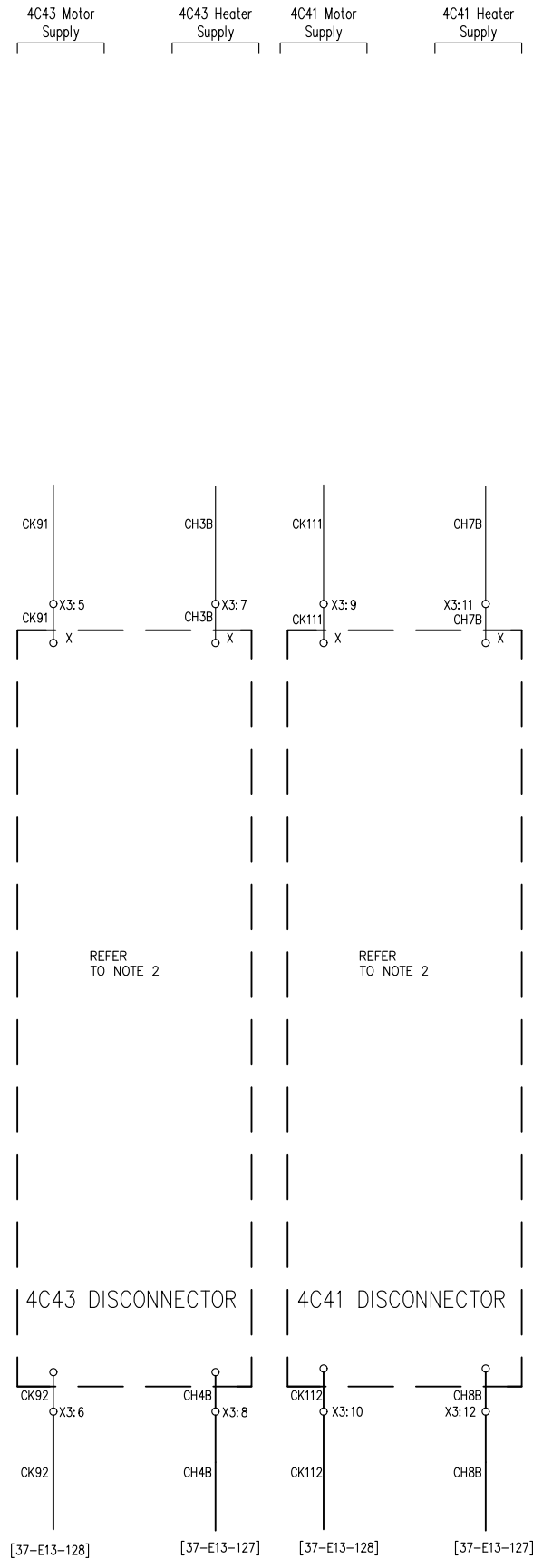
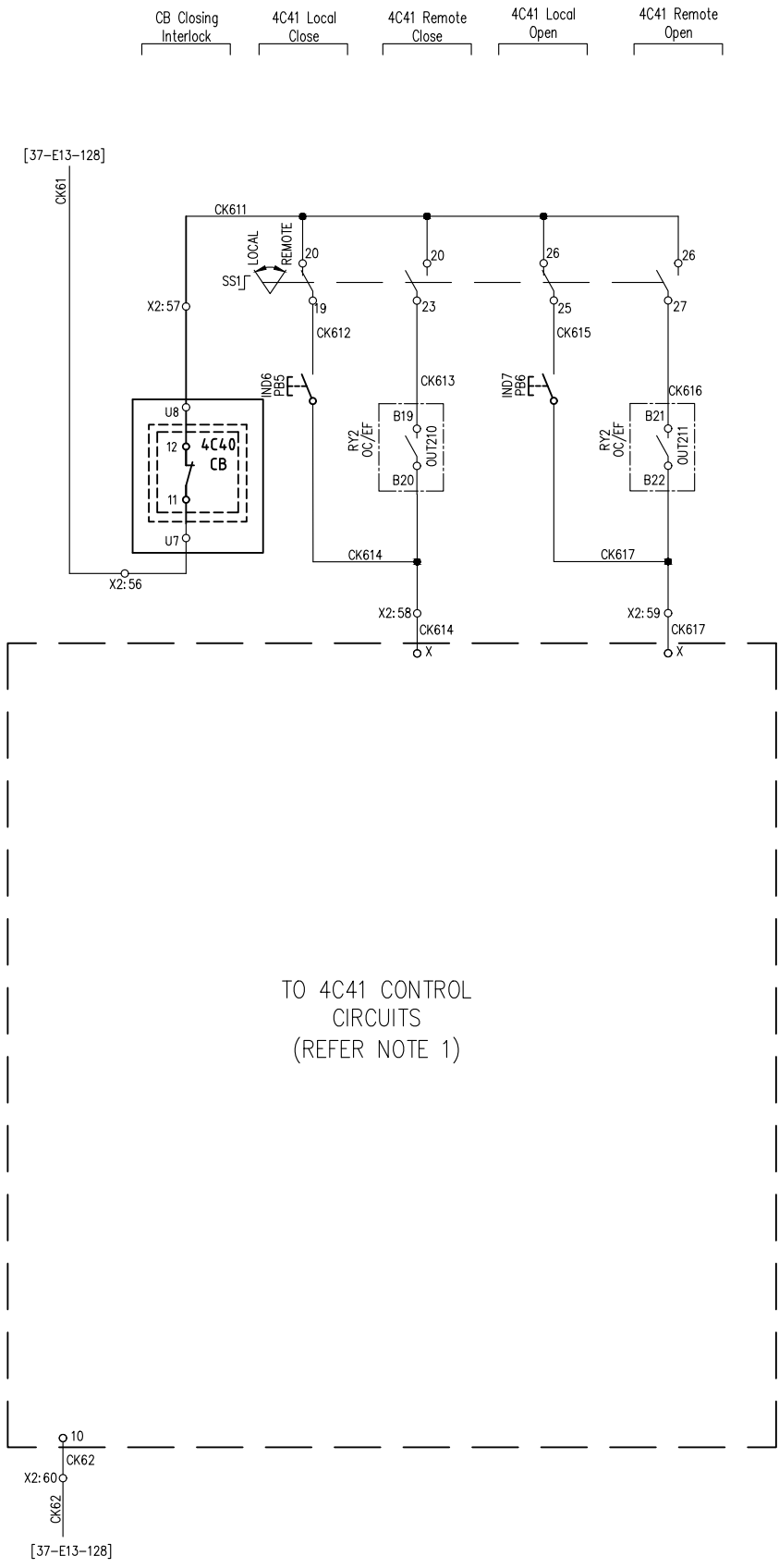
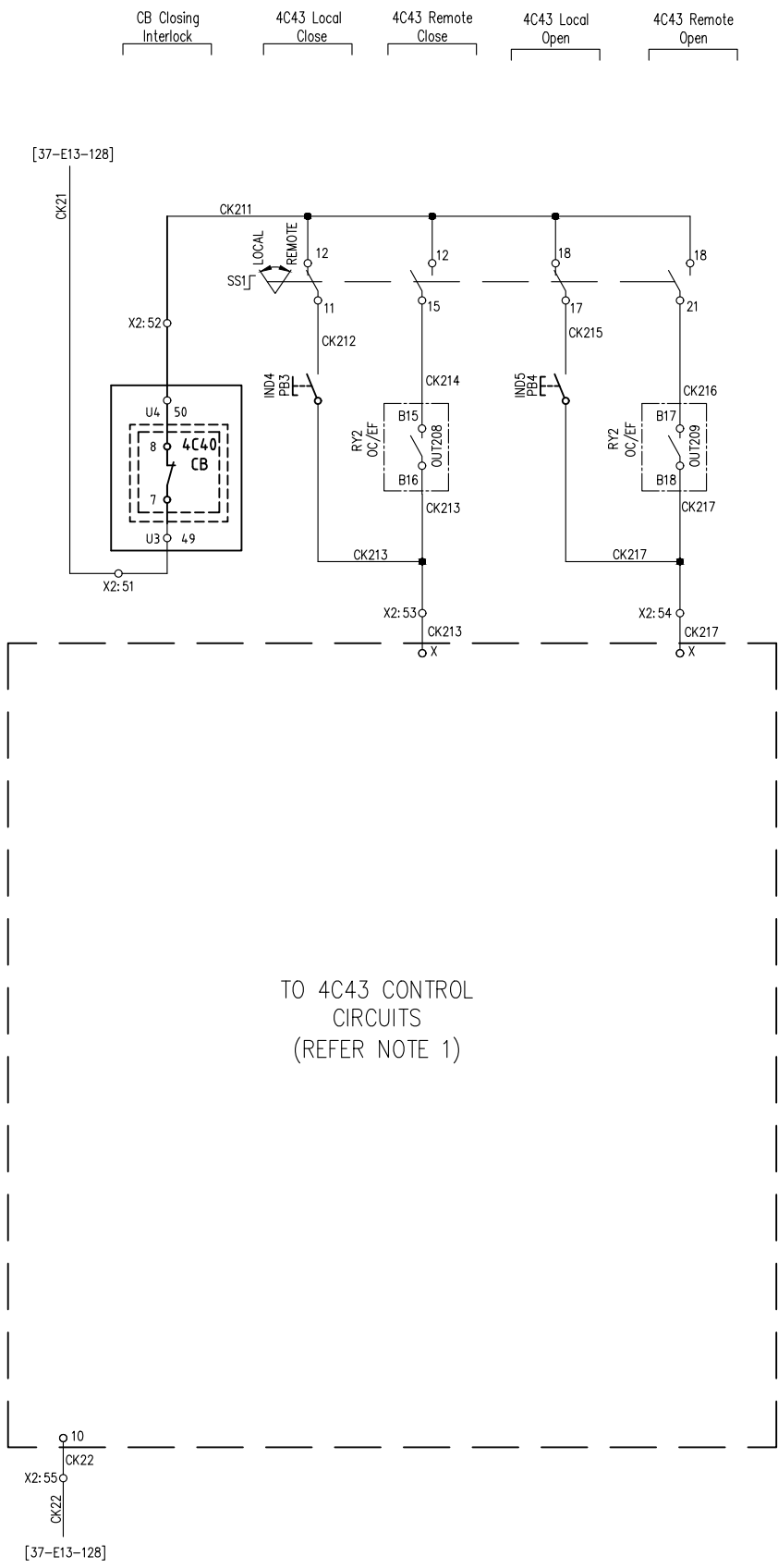


EB – Earth Bar Terminations		
A	ES	Tank Earth
B	GP-Earth	Cubicle gland plate
1	90	Cubicle Door
2	91	Low Gas Board
3	92	DC-DC Converter
4	93	230VAC supply
5	94	Heater
6	1-90	CT-Core 1
7	2-90	CT- Core 2
8	5-90	CT-Core 5
9	6-90	CT- Core 6
10	GP0-90	GP0
11	H-90	Heater
12	L-90	Light
13	L/H GP	LH Gear Plate
14	R/H GP	RH Gear Plate
15	C-90	Capacitor Box
16	ID-90	Instrument Door
17	Spare	
18	Spare	

DRAWN	ASHNEEL K	23.10.24
CHECKED	ASHNEEL K	23.10.24
CHIEF DRAUGHTSMAN		
TEAM LEADER		
ENGINEER	ABHINEET S	23.10.24
HEAD OF DEPARTMENT	J.V.K	

ENERGY FIJI LIMITED							
WAQADRA 33kV/11kV SUBSTATION 33/11kV TRANSFORMER T1 33kV CB 4C40 DC CIRCUIT DIAGRAM - PART 1			DRAWING NUMBER				
			A3	41	E13	522	A
			SCALE		NTS		

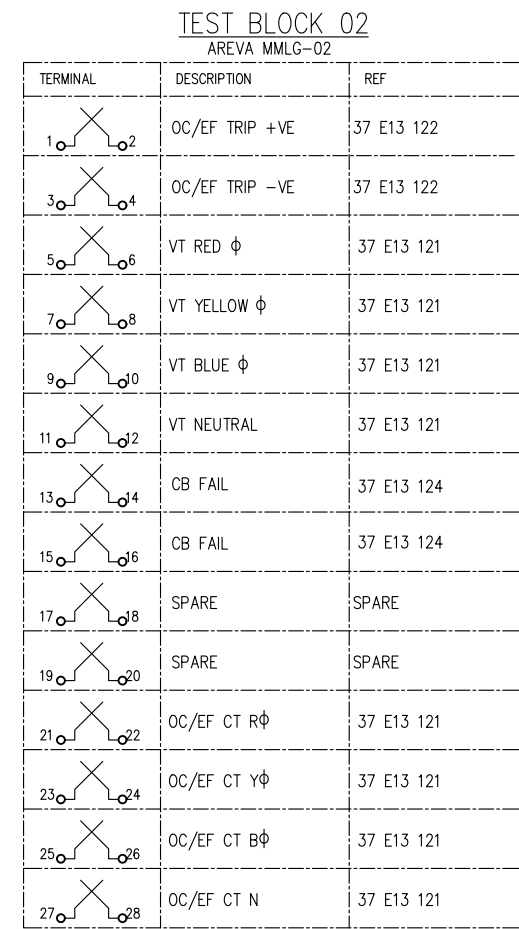


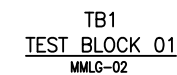
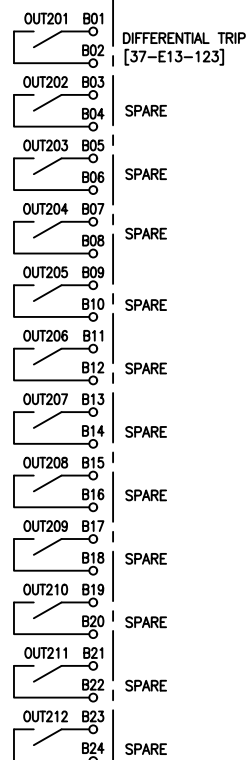
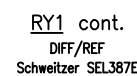
NOTES:
1. CONTROL CIRCUIT DETAILS TO BE UPDATED UPON RECEIPT OF MANUFACTURER DRAWING
2. MOTOR & HEATER CIRCUIT DETAILS TO BE UPDATED UPON RECEIPT OF MANUFACTURER DRAWING

						REFERENCE			DRAWN	ASHNEEL K	23.10.24	ENERGY FIJI LIMITED WAQADRA 33KV/11KV SUBSTATION 33/11KV TRANSFORMER T1 FUTURE ISOLATOR DC CONTROL CIRCUIT					DRAWING NUMBER A141E13526A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
										ASHNEEL K	23.10.24																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
										CHIEF DRAUGHTSMAN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
										TEAM LEADER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
										ENGINEER	ABHINEET S										23.10.24																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
A	ISSUED FOR PROCUREMENT	23.10.24	AK	AK	AS		AS				HEAD OF DEPARTMENT	J.V.K																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
No.	REVISION	DATE	BY	CBK	PSD	APP		DRAWING No.	TITLE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

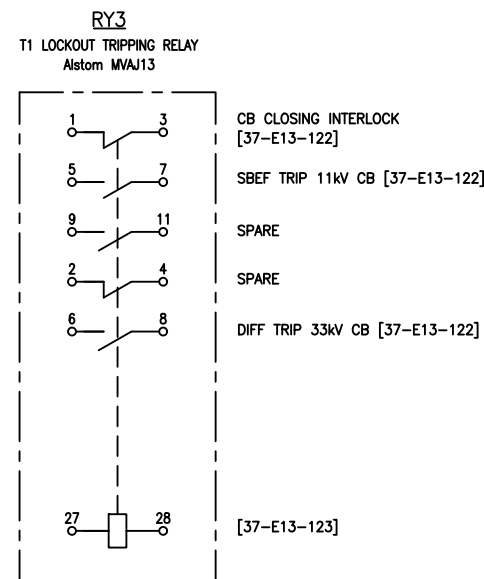




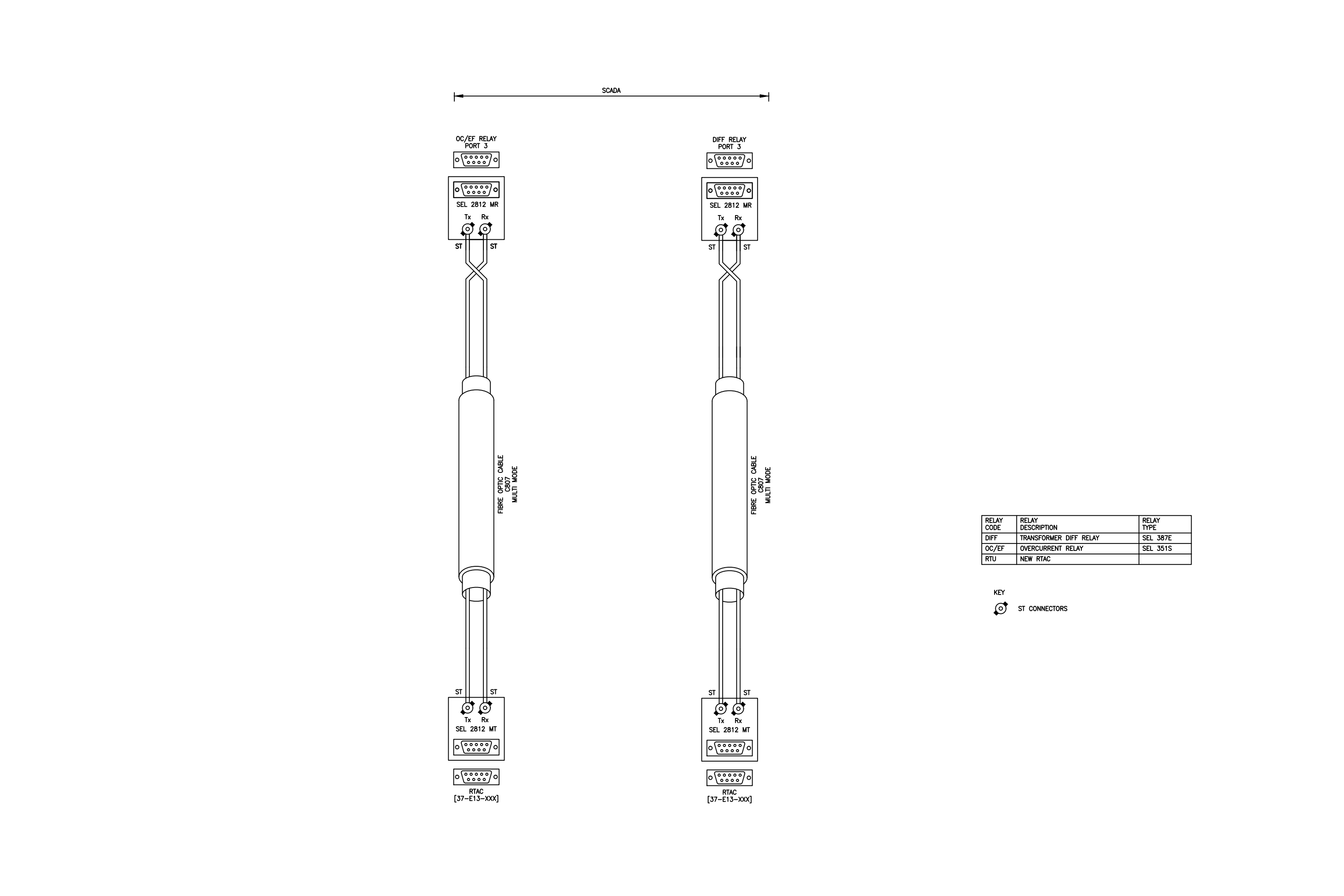
[illegible]



TERMINAL	DESCRIPTION	REF
1  2	DIFF PROTECTION TRIP	37-E13-123
3  4	DIFF PROTECTION TRIP	37-E13-123
5  6	11KV CT - R	37-E13-121
7  8	11KV CT - Y	37-E13-121
9  10	11KV CT - B	37-E13-121
11  12	11KV CT - N	37-E13-121
13  14	NEUTRAL CT	37-E13-121
15  16	NEUTRAL CT	37-E13-121
17  18	CB FAULT INITIATE	37-E13-124
19  20	CB FAULT INITIATE	37-E13-124
21  22	33KV CT - R	37-E13-121
23  24	33KV CT - Y	37-E13-121
25  26	33KV CT - B	37-E13-121
27  28	33KV CT - N	37-E13-121



							REFERENCE			DRAWN	ASHNEEL K	23.10.24	ENERGY FIJI LIMITED								
										CHECKED	ASHNEEL K	23.10.24	WAQADRA 33kV/11kV SUBSTATION				DRAWING NUMBER				
										CHIEF DRAUGHTSMAN				33/11kV TRANSFORMER T1				A3	41	E13	530
										TEAM LEADER				33kV CB 4C40							
A	ISSUED FOR PROCUREMENT							23.10.24	AK	AK	AS	AS		ASSEMBLED FORM - PART 2				SCALE			NTS
No.	REVISION							DATE	BY	CHK	PSD	APP									
														DRAWING No.	TITLE						



RELAY CODE	RELAY DESCRIPTION	RELAY TYPE
DIFF	TRANSFORMER DIFF RELAY	SEL 387E
OC/EF	OVERCURRENT RELAY	SEL 351S
RTU	NEW RTAC	

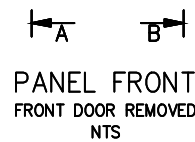
KEY
 ST CONNECTORS

							REFERENCE					DRAWN	ASHNEEL K	23.10.24	ENERGY FIJI LIMITED																				
													CHECKED	ASHNEEL K	23.10.24	WAQADRA 33kV/11kV SUBSTATION						DRAWING NUMBER													
													CHIEF DRAUGHTSMAN				33/11kV TRANSFORMER T1																		
													TEAM LEADER				33kV CB 4C40						A341E13531A												
													ENGINEER		ABHINEET S	23.10.24	SERIAL CONNECTIONS						SCALE NTS												
												HEAD OF DEPARTMENT		J.V.K																					
A	ISSUED FOR PROCUREMENT						23.10.24	AK	AK	AS	AS																								
No.	REVISION						DATE	BY	CHK	PSD	APP	DRAWING No.		TITLE																					

EQUIPMENT SCHEDULE						
CODE	ITEM	DESCRIPTION	TYPE	QTY	SUPPLIED BY	COMMENTS
.	a	Panel 600(W) X 800(D) X 2000(H)	Rittal TS IT, OK 5530.120, 8608.500	1	Contractor	With glazed door and as per details in EFL specification
.	b	1U BLANKING PLATE (RITTAL)	Cold Rolled Steel 2.5mm thick	8	Contractor	Finish color RAL7035
.	c	2U BLANKING PLATE (RITTAL)	Cold Rolled Steel 2.5mm thick	4	Contractor	Finish color RAL7035
TB 1,2	.	Test Block	Areva MMLG02	2	Contractor	P# MMLG02R1AA0001E
IND8	.	EARTH SWITCH CLOSE Indication Lamp – RED LED + COLLAR	ZB5AV043, ZBVBG4, ZB5A2009	1	Contractor	DC
IND9	.	EARTH SWITCH OPEN Indication Lamp – GREEN LED + COLLAR	ZB5AV033, ZBVBG3, ZB5A2009	1	Contractor	DC
IND1	.	Trip Circuit Supervision Indication Lamp – White LED + COLLAR	ZB5AV013, ZBVBG1, ZB5A2009	1	Contractor	DC
SS1	.	Switch – Control Selector (Local or Remote)	KRAUS & NAIMER CA10–A373	1	Contractor	FT6 Rectangular Escutcheon Plate; Local/Remote Switch
SS2	.	Switch – Circuit Breaker Fail Isolate	KRAUS & NAIMER CA10–A721	1	Contractor	FT6 Rectangular Escutcheon Plate
SS3	.	Switch – Protection Isolate	KRAUS & NAIMER CA10–A721	1	Contractor	Distance Protection Isolate
SS4	.	CB INT Bypass	KRAUS & NAIMER CA10–A721	1	Contractor	For Bar Isolator Electrical Interlock Bypass
PB1		Push Button Switch – CB Control (Indication)	SCHNEIDER ZB5AW343, ZBVBG4	1	Contractor	Complete with collar and mounting ZB5AZ009, ZBE101, ZBE102
PB2		Push Button Switch – CB Control (Indication)	SCHNEIDER ZB5AW333, ZBVBG3	1	Contractor	Complete with collar and mounting ZB5AZ009, ZBE101, ZBE102
PB3, PB5		Push Button Switch – Isolator Control (Indication)	SCHNEIDER ZB5AW343, ZBVBG4	2	Contractor	Complete with collar and mounting ZB5AZ009, ZBE101, ZBE102
PB4, PB6		Push Button Switch – Isolator Control (Indication)	SCHNEIDER ZB5AW333, ZBVBG3	2	Contractor	Complete with collar and mounting ZB5AZ009, ZBE101, ZBE102
RY2	.	Overcurrent/Earth Fault Relay	SEL351S	1		P# 0351S7X7D3F1322
RY1	.	TRANSFORMER PROTECTION Relay	SEL387E	1		P# 0387E014X1H2234
RY3	.	MVAJ 13 LOCKOUT RELAY	MVAJ 13	1	Contractor	P# MVAJ13R1BB0754F
HS	.	Switch – Heater	KRAUS & NAIMER CA10–A201	1	Contractor	FT6 Rectangular Escutcheon Plate
MCB 1, 2, 3, 8, 10	.	Miniature Circuit Breaker 110VDC, 16A	Schneider A9N–61528	6	Contractor	
MCB 6	.	Miniature Circuit Breaker 110VDC, 2A	Schneider A9N–61522	2	Contractor	
MCB 4, 5, 7, 9, 11, 12	.	Miniature Circuit Breaker 110VDC, 6A	Schneider A9N–61526	4	Contractor	
MCB 13– 18	.	Miniature Circuit Breaker 240VAC, 10A	Schneider A9F–44210	6	Contractor	
.	e	Internal Punched Section	Rittal 8612.180	9	Contractor	
.	f	Cable Trunking	Critchley Betaduct	2	Contractor	
.	g	DIN Rail	Weidmuller TS35	2	Contractor	
X1	.	Measuring Disconnect Terminal	Weidmuller WTL 6/1/STB	40	Contractor	Terminal Block to have label, X1 above X1:1. Each Terminal to be numbered
X2	.	Terminal	Phoenix Contact UK5N	74	Contractor	Terminal Block to have label, X2 above X2:1. Each Terminal to be numbered
X3	.	Terminal	Phoenix Contact UK5N	12	Contractor	Terminal Block to have label, X3 above X3:1. Each Terminal to be numbered
X4		Terminal	Phoenix Contact UK5N	6	Contractor	Terminal Block to have label, X4 above X4:1. Each Terminal to be numbered
.	h	Cable Trunking 2	Critchley Betaduct	2	Contractor	
.	j	Plinth	Rittal 8602.080, 8602.600	1	Contractor	
.	k	6u Blanking Plate (RITTAL)	Cold Rolled Steel 2.5mm thick	1	Contractor	With cutout for Test Block and MVAJ13 Relay.
.	l	PANEL HEATER, 30W	Rittal	1	Contractor	
.	m	Thermostat	Rittal	1	Contractor	
.	PB40	Push Button (PB40)	Telemecanique Harmony 5 XALD102	1	Contractor	Green PB + 1 NO Contact (Also RS 330–8464)
.	p	Panel Light Time Delay Relay	Rockwell 700–Ha32z01 + 700–Ht3 Timer Module	1	Contractor	c/w Hnz04 Base & Retainer Clips
.	n	Panel Light LED's (White)	Innovec Control LEDTL/18 / 100 125VDC/35C	1	Contractor	c/w Bracket and 1m Lead
MCB 19, 20		Miniature Circuit Breaker 110 Vac, 2Amps	Schneider A9F–54402	2	Contractor	
		Media Converter, Fibre Optic	SEL2812MR	2	Contractor	
		Media Converter, Fibre Optic	SEL2812MT	2	Contractor	

NOTE:
1. DRAWINGS ARE TO BE READ TOGETHER WITH TENDER/PANEL SPECIFICATION.
2. THESE ITEMS ARE TO BE PRICED SEPARATELY AND EFL MAY DECIDE TO TAKE THE PRICE OUT OF.

						REFERENCE			DRAWN	ASHNEEL K	23.10.24	ENERGY FIJI LIMITED											
									CHECKED	ASHNEEL K	23.10.24	WAQADRA 33kV/11kV SUBSTATION					DRAWING NUMBER						
									CHIEF DRAUGHTSMAN				33/11kV TRANSFORMER T1					A3	41	E13	534	A	
									TEAM LEADER				33kV CB 4C40										
									ENGINEER			ABHINEET S	23.10.24	RELAY PANEL EQUIPMENT SCHEDULE					SCALE		NTS		
									HEAD OF DEPARTMENT			J.V.K											
No.	REVISION					DATE	BY	CHK	PSD	APP			DRAWING No.	TITLE									
A ISSUED FOR PROCUREMENT						23.10.24	AK	AK	AS	AS													



A	ISSUED FOR APPROVAL.	23.10.24	AK			
No.	REVISION	DATE	BY	CHK	PSD	APP

S	REFERENCE		
		DRAWING No.	TITLE

DRAWN	ASHNEEL K	23.10.24
CHECKED	ASHNEEL K	23.10.24
CHIEF DRAUGHTSMAN		
TEAM LEADER		
ENGINEER	ABHINEET S	23.10.24
HEAD OF DEPARTMENT	J.V.K	

ENERGY FIJI LIMITED							
WAQADRA 33kV/11kV SUBSTATION 33/11kV TRANSFORMER T1 33kV CB 4C40 RELAY PANEL LAYOUT			DRAWING NUMBER				
			A2	37	E13	532	A
			SCALE		NTS		