CEYLON ELECTRICITY BOARD
SRI LANKA

MANNAR NADUKUDA EMBILIPITIYA GRID SUBSTATIONS AUGMENTATION PROJECT

(Funds: Savings from ADB Loan Nos.3585-SRI and 3147-SRI)

GRID SUBSTATIONS

Procurement of Plant

Design, Supply, and Installation

Single-Stage: Two-Envelope Bidding Procedure

BIDDING DOCUMENT FOR

Augmentation of:

Mannar 220/33 kV Grid Substation

Nadukuda 220/33 kV Grid Substation

Embilipitiya 132/33 kV Grid Substation

VOLUME 6 of 8

Part II- REQUIREMENTS

Section 6 - Employer's Requirements: Part C-Drawings

Issued on: 02 Sep 2021
Invitation for Bids No.: CEB/AGM/PRO/2021/IFB/MNEGSAP
OCB No.: CEB/AGM/PRO/2021/OCB/MNEGSAP
Employer: Ceylon Electricity Board
Country: Sri Lanka

Projects Division
Ceylon Electricity Board,
P.O. Box 540, Colombo 02
Sri Lanka

Document – Revision 1

Preface

This Bidding Document for Procurement of Plant – Design, Supply, and Installation, has been prepared by Ceylon Electricity Board and is based on the Standard Bidding Document for Procurement of Plant – Design, Supply, and Installation (SBD Plant) issued by the Asian Development Bank dated June 2018.

ADB's SBD Plant has the structure and the provisions of the Master Procurement Document entitled "Procurement of Plant – Design, Supply, and Installation", prepared by multilateral development banks and other public international financial institutions except where ADB-specific considerations have required a change.

Savings of ADB Loan No. 3585-SRI is used for the Augmentation of Mannar Grid Substation and Nadukuda Grid Substation. Savings of ADB Loan No. 3147-SRI is used for the Augmentation of the Embilipitiya Grid Substation. In order to make the payment for the augmentation of Mannar Grid Substation and Nadukuda Grid Substation by ADB Loan No. 3585-SRI and augmentation of Embilipitiya Grid Substation by ADB Loan No. 3147-SRI, this procurement is separated into two lots as follows.

Lot A - Augmentation of Mannar 220/33kV Grid Substation and Nadukuda 220/33kV Grid Substation
Lot B - Augmentation of Embilipitiya 132/33kV Grid Substation

Separation of this procurement into two lots is only for the above mentioned purpose. It is mandatory for all Bidders to bid for both lots (Lot A and Lot B). Preparation of Bidding Document, evaluation, awarding etc. is carried out accordingly and a single contract that includes both lots will be signed with the successful Bidder.

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VOLUME 6 OF 8

PART II REQUIREMENTS

VOLUME 7 OF 8

PART II REQUIREMENTS

VOLUME 8 OF 8

PART III CONDITIONS OF CONTRACT AND CONTRACT FORMS

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DRAWINGS

MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATIONS AUGMANTATION PROJECT

General

LOT - A

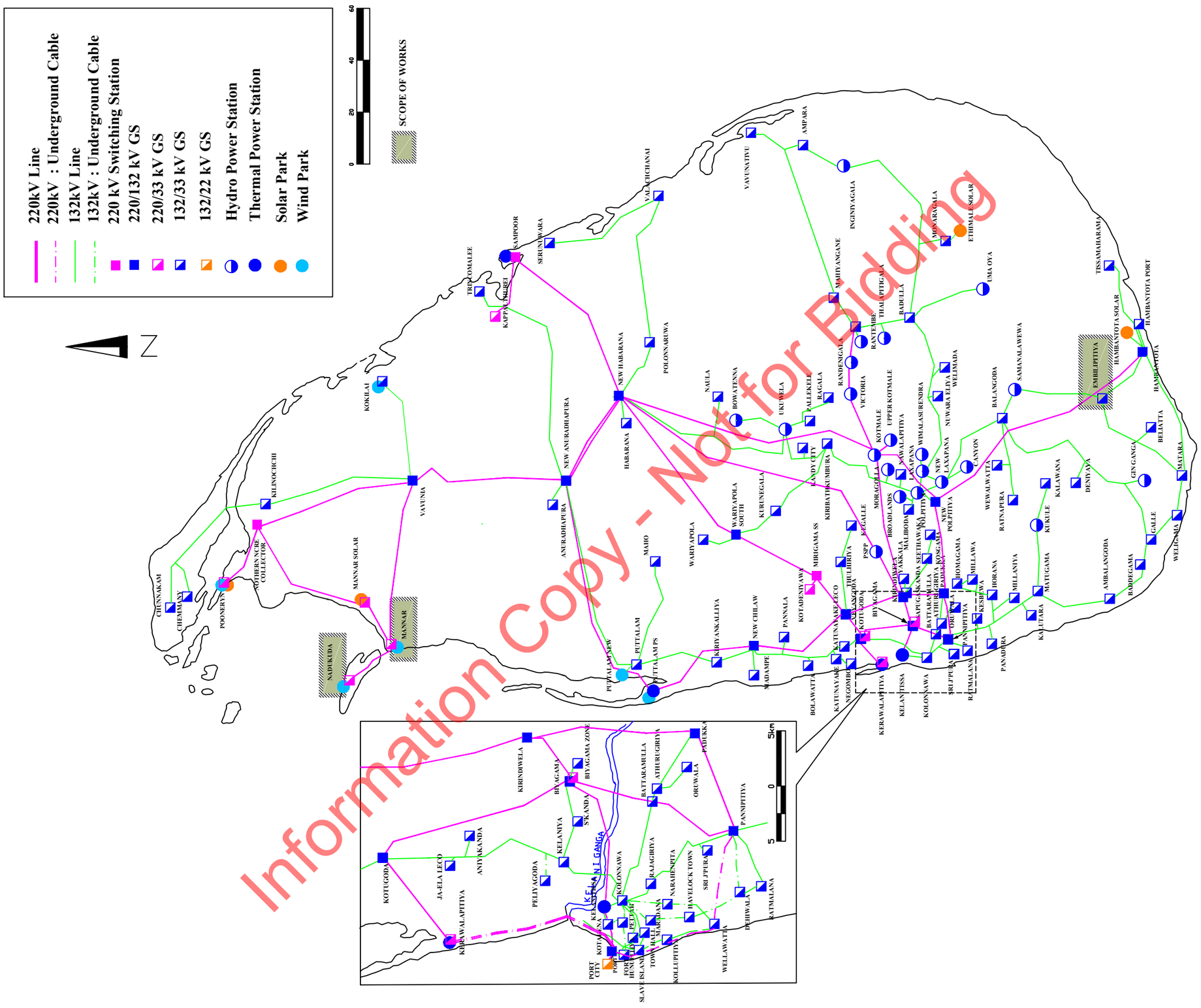
Mannar GSS

Nadukuda GSS

LOT - B

Embilipitiya GSS

The Map of Sri Lanka Transmission System in Year 2027



Property of CEB Tr. Design Branch

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

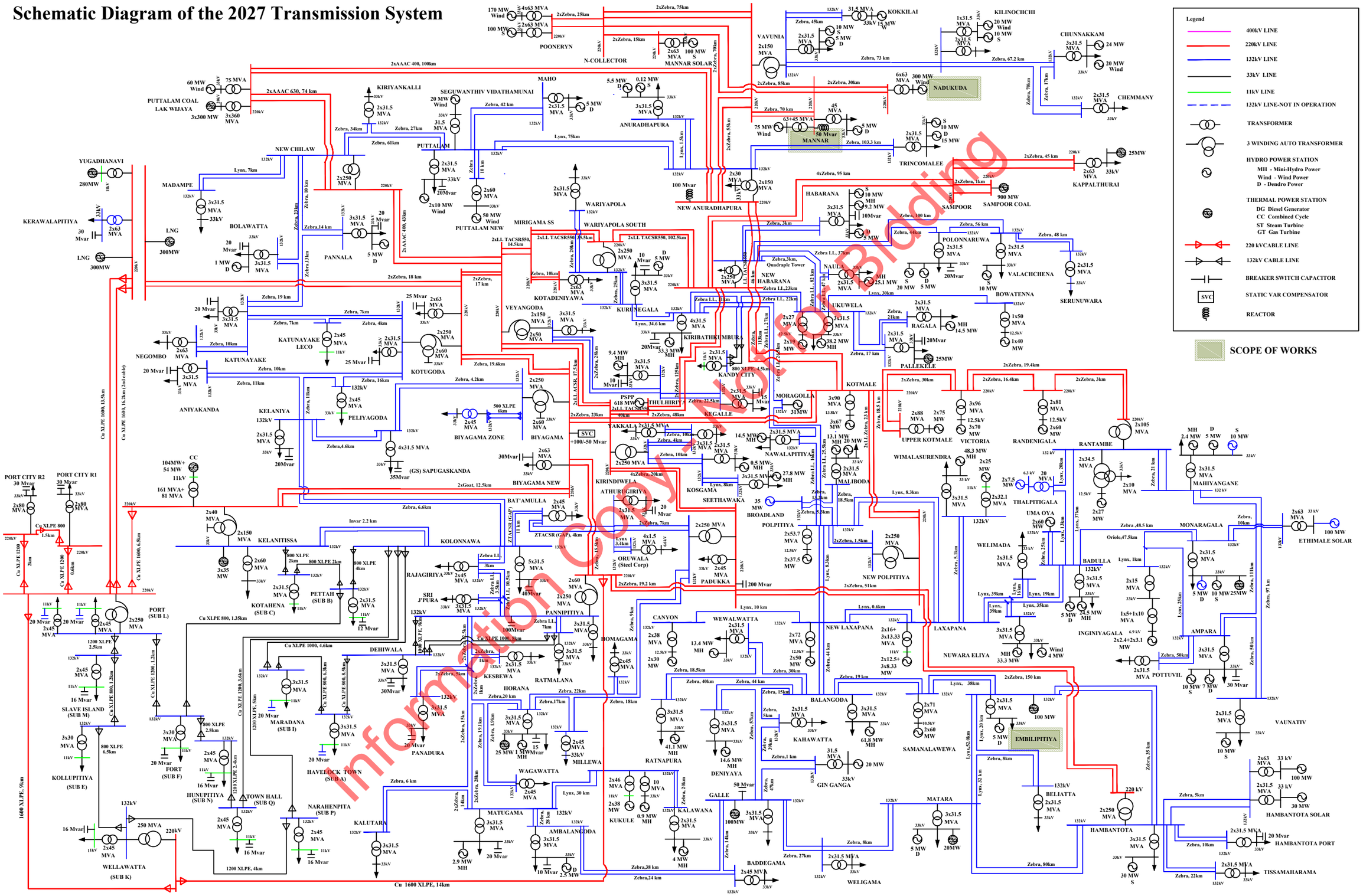
Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

Funding Agency
ADB

Drawing Title
MAP SHOWING THE
LOCATION OF SITES

Scale - NTS	Rev. Date		Signature / Date
Size - A3	05.03.2021	Drawn	Anusha 30.01.2019
Sheet of	Rev.	Designed	Bhasura
Dwg. No. TD/CE/1/201/D/09/00		Checked	
		Approved	
		Released for	Tendering ✓
			Construction

Schematic Diagram of the 2027 Transmission System



Property of CEB Tr. Design Branch

Property of CEB Tr. Design Branch

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Rev. No.	Date	Description	Drawn	Checked	Approved

Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

Funding Agency
ADB

Drawing Title
CEB Power System Diadram in Year 2027

Scale -	NTS	Rev. Date	
Size -	A3	05.03.2021	
Sheet	of	Rev.	
Dwg. No.	TD/CE/1/201/D/08/00		

	Signature		Date
Drawn	Anusha		07.01.2019
Designed	Bhasura		
Checked			
Approved			

Released for	
Tendering	✓
Construction	

- Disconnector Switch
- Circuit Breaker
- Disconnector Switch with Earth Switch
- Lightning Arrester
- Motor
- Delta – Star Auxiliary Transformer
- Star – Delta Transformer
- Zigzag – Earthing Transformer
- Auto Transformer
- Three phase Transformer with on load tap change (Primary)
- Voltage Transformer
- Capacitor Voltage Transformer with three windings
- Two core Current Transformer
- Three core Current Transformer
- Four core Current Transformer
- Neutral Current Transformer
- Interposing current transformer

SINGLE BATTERY BANK

- Relay supplied by Battery /Triping at trip coil 01

DOUBLE BATTERY BANK

- Relay supplied by Battery No1/Triping at trip coil 01
- Relay supplied by Battery No2/Triping at trip coil 02
- Redundend supplied by both Batteries /Triping both trip coil of the CB
- MCCB – Moulded Case Circuit Breaker
- MCB – Miniature Circuit Breaker
- Battery
- Auto Reclose Device
- Timer
- Rectifier in full wave
- Fuse
- Plug & Socket
- Synchronoscope
- Cable head
- Ammeter
- Volt meter
- Ammeter / Voltmeter selector switch
- Watt meter
- Var meter
- Frequency meter
- Power Factor meter
- Over current relay
- SF6 Bus Duct
- Neutral Resistor

- I > – Directional over current relay
- I >> – Instantaneous over current relay
- Z < – Distance relay
- U < – Undervoltage relay
- U > – Overvoltage relay
- I ⏚ – Earth Fault relay
- I ⏚ > – Directional Earth Fault relay
- Id/> – Differential Relay
- REF – Restricted Earth Fault relay
- SBEF – Stand By Earth Fault relay
- AVR – Automatic Valtage Regulator
- SEF – Sensitive Earth Fault relay
- SYN – Check Synchronising relay
- MDI Wh – Watt–hour meter with Maximum Demand indicator
- BFR – Breaker Failure relay
- VTS – Voltage supervision relay
- TCS – Trip Circuit supervision
- BB – Busbar Protection
- VCU – Voltage Control Unit
- Protective device (Gas relay)
- Oil Level indicator
- P> – Over Pressure relief
- P>o – Sudden Pressure relief
- Oil Temperature indication
- Oil Flow indicator
- f > – Over Frequency Relay
- f < – Under Frequency Relay
- df/dt – Rate of change of Frequency Relay

- Battery Charger
- Set of Battery
- 3 – Over Load Protection
- A – Ammeter DC
- V – Volt meter DC
- Inductor
- Capacitor
- Variable Shunt Reactor with On Load Tap Changer

REFERENCE – IEC 617

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title: *MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATIONS AUGMANTATION PROJECT*

Funding Agency: ADB

Drawing Title: SYMBOLS

		Signature	Date
Drawn	Sandamali		30.01.2019
Designed	Bhasura		
Checked			
Approved			

Scale - NTS | Rev. Date 05.03.2021
Size - A3 | Sheet | of | Rev. 0
Dwg. No. TD/CE/1/201/D/00/00

Released for: Tendering ✓ | Construction

CONVERTER SYSTEM

CONVERTER SYSTEM
BUS SECTION 1

FROM 110V DC
BUS SECTION 2

PL INDICATION LAMPS

MCB 2P 16A

U < ALARM

110V TO 48V
DC – DC
CONVERTER
(20A @ 48V)

V

U < >

U >

MCB 2P 20A

A

48V DC DISTRIBUTION BOARD

DC 48 V

MCB
2P 10A — Mux
2P 10A — Mux
2P 10A — PABX
2P 10A — PABX
2P 10A — Common use
NC
2P 10A — Spare
NO
2P 10A — Spare

SCADA

MCB
2P 10A — SCADA
2P 10A — SCADA
NC
2P 10A — Common use
NO
2P 10A — Spare
2P 10A — Spare

Revision Record					
Rev. No	Date	Description	Drawn	Checked	Approved

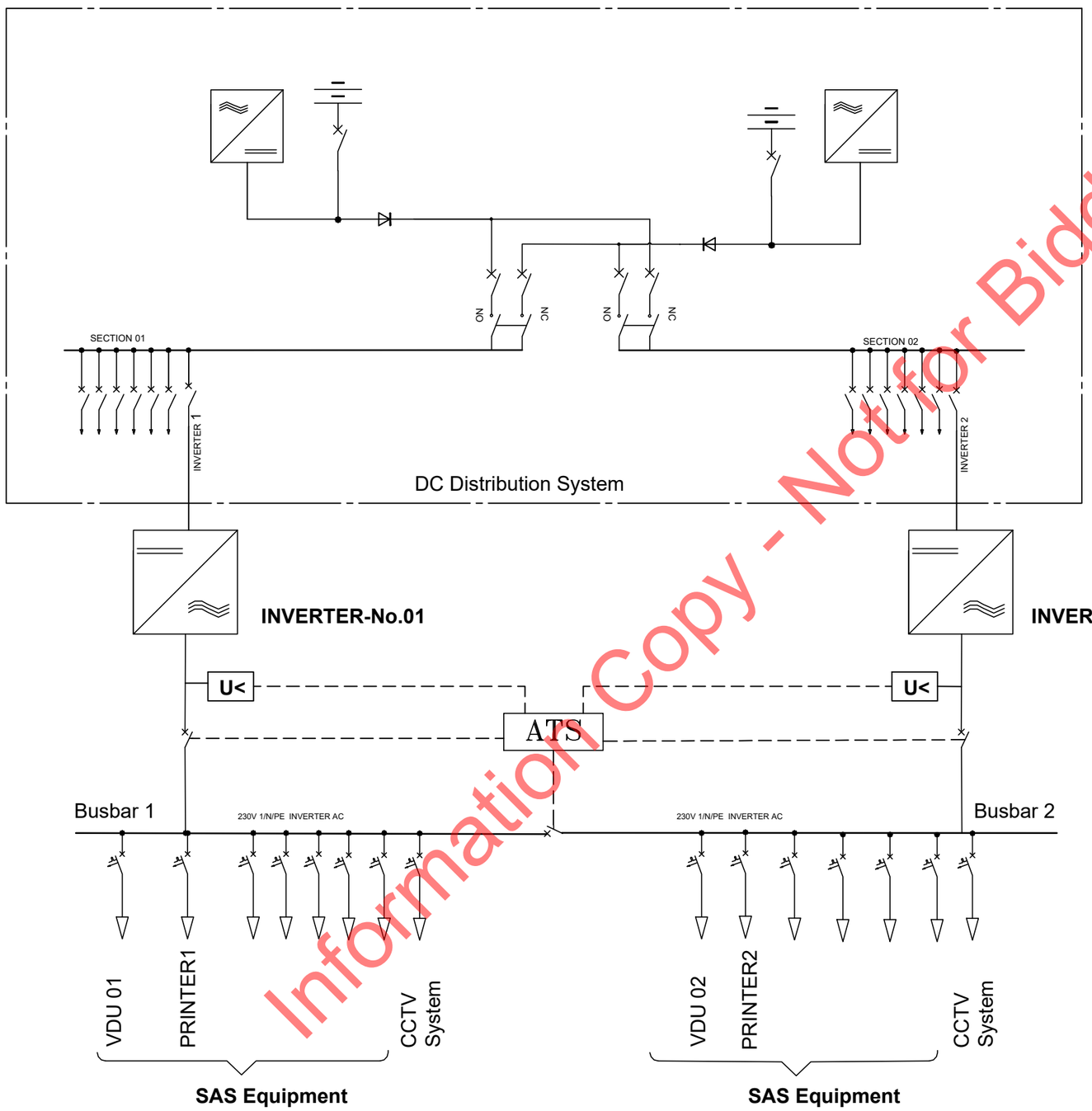
CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title
MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATIONS AUGMANTATION PROJECT

Funding Agency
ADB

Drawing Title
DC 48V DISTRIBUTION AND CONVERTER SINGLE LINE DIAGRAM

Scale - NTS	Rev. Date		Signature / Date
Size - A3	05.03.2021	Drawn	Sandamali 07.01.2019
Sheet of	Rev. 0	Designed	Bhasura
Dwg. No. TD/CE/1/201/D/04/00		Checked	
		Approved	
		Released for	Tendering ✓
			Construction



LEGEND :

NO.	DESIGNATION/SYMBOL	MEANING
1.		CIRCUIT BREAKER
2.		MINITURE CIRCUIT BREAKER
3.		BATTERY CHARGER
4.		BATTERY
5.		FUSE
6.		DIODE (DECOUPLING)
7.	ATS	AUTOMATIC TRANSFER SYSTEM
8.		RECTIFIER
9.		INVERTER
10.	UPS	UN–INTERRUPTIBLE POWER SUPPLY
11.	SAS	Substation Automation System

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

Funding Agency
ADB

Drawing Title
TYPICAL INVERTER DISTRIBUTION SYSTEM

Scale - NTS | Rev. Date
Size - A3 | 05.03.2021
Sheet of | Rev.
Dwg. No. TD/CE/1/201/D/03/00

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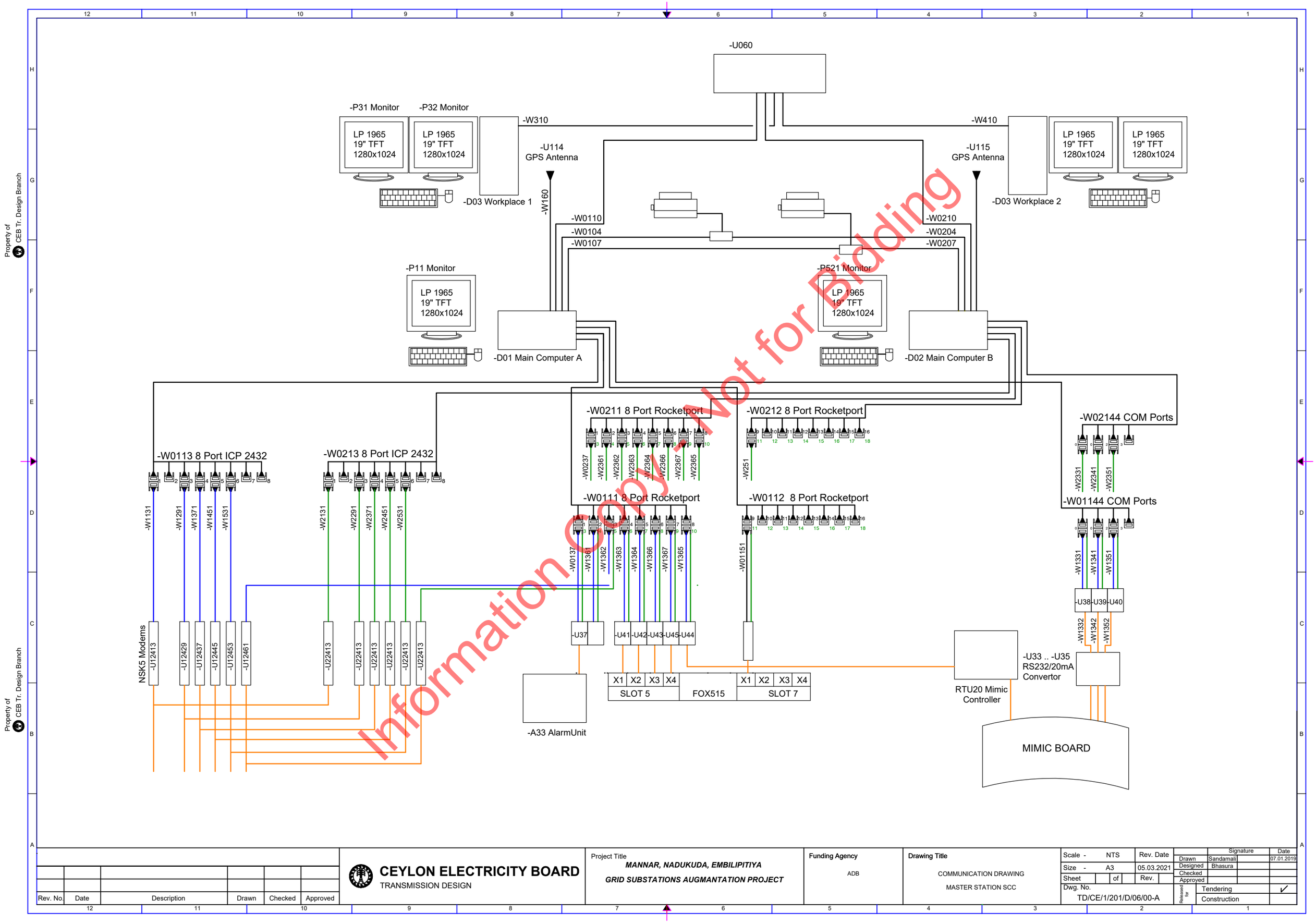
Drawn	Sandamali		07.01.2019
Designed	Bhasura		
Checked			
Approved			

Released for: Tendering ✓ | Construction



Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

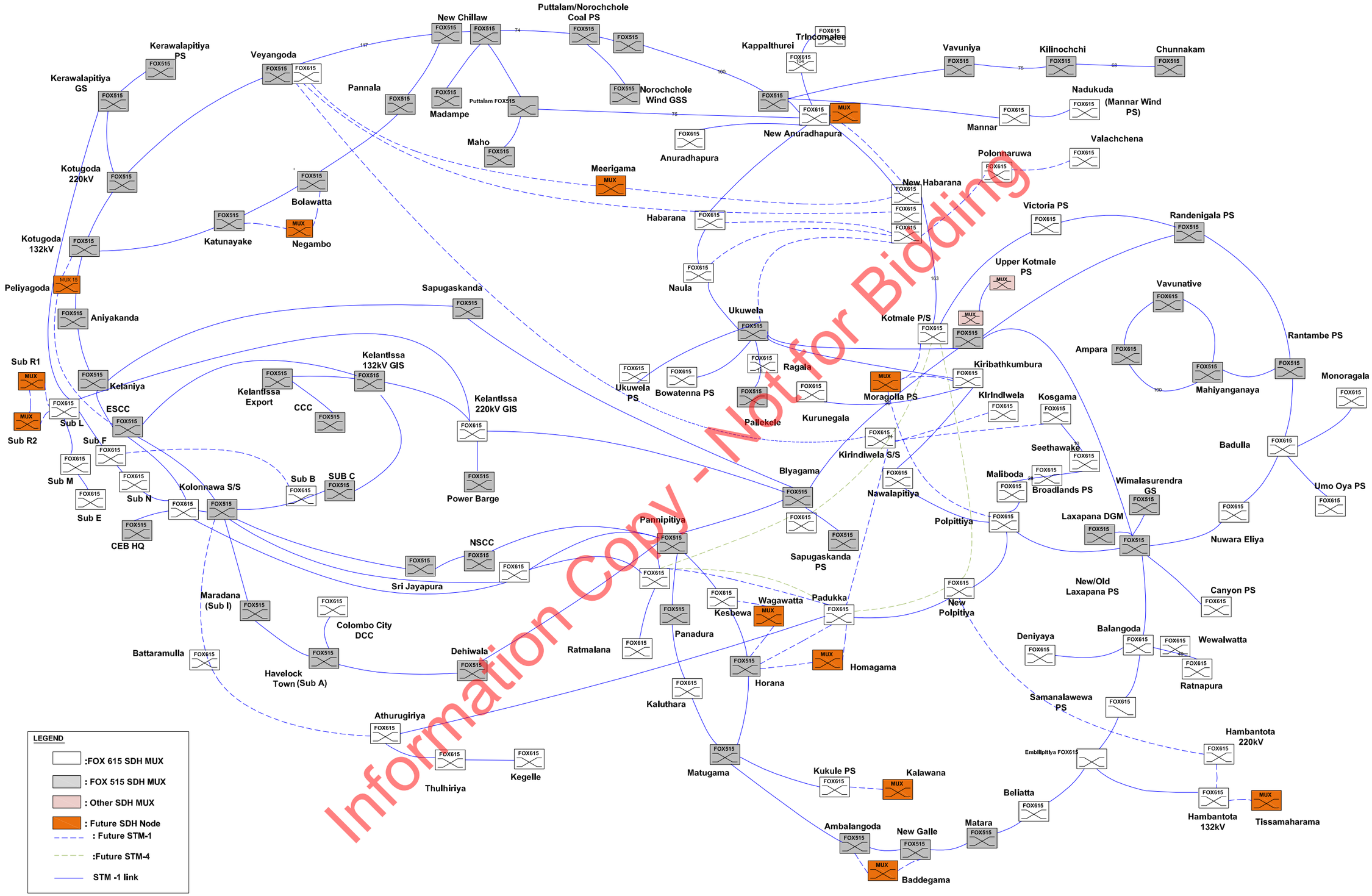
Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

Funding Agency
ADB

Drawing Title
COMMUNICATION DRAWING
MASTER STATION SCC

Scale -	NTS	Rev. Date	
Size -	A3	05.03.2021	
Sheet	of	Rev.	
Dwg. No.	TD/CE/1/201/D/06/00-A		

		Signature	Date
Drawn	Sandamali		07.01.2019
Designed	Bhasura		
Checked			
Approved			
Released for	Tendering		✓
	Construction		



SDH Network Overview

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

Funding Agency
ADB

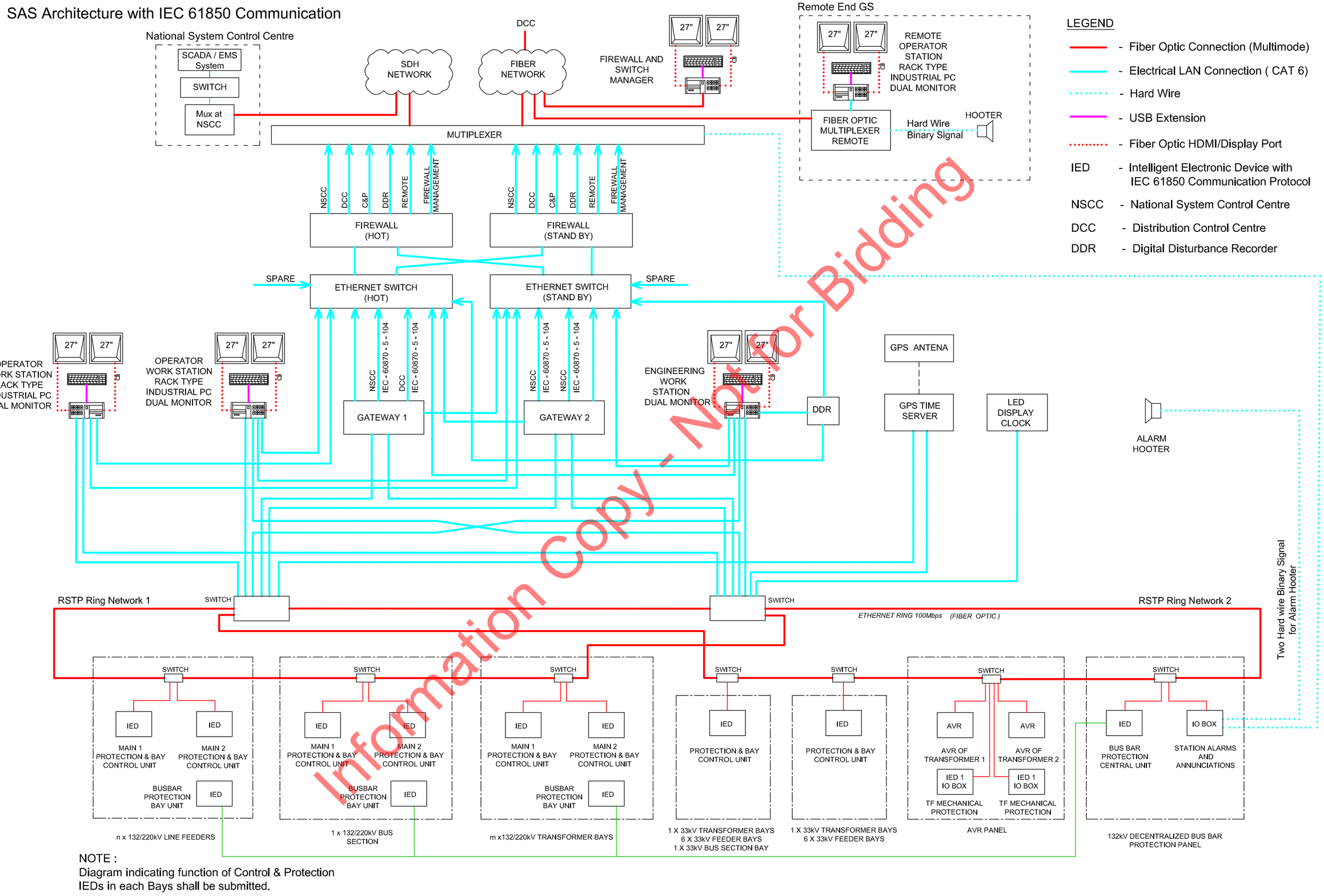
Drawing Title
SDH NETWORK OVERVIEW

Scale -	NTS	Rev. Date	
Size -	A3	18.06.2021	
Sheet	of	Rev.	
Dwg. No.	TD/CE/1/201/D/06/00-B		

	Signature	Date
Drawn	Anusha	18.06.2021
Designed	Bhasura	
Checked		
Approved		

Released for: Tendering ✓ / Construction

SAS Architecture with IEC 61850 Communication



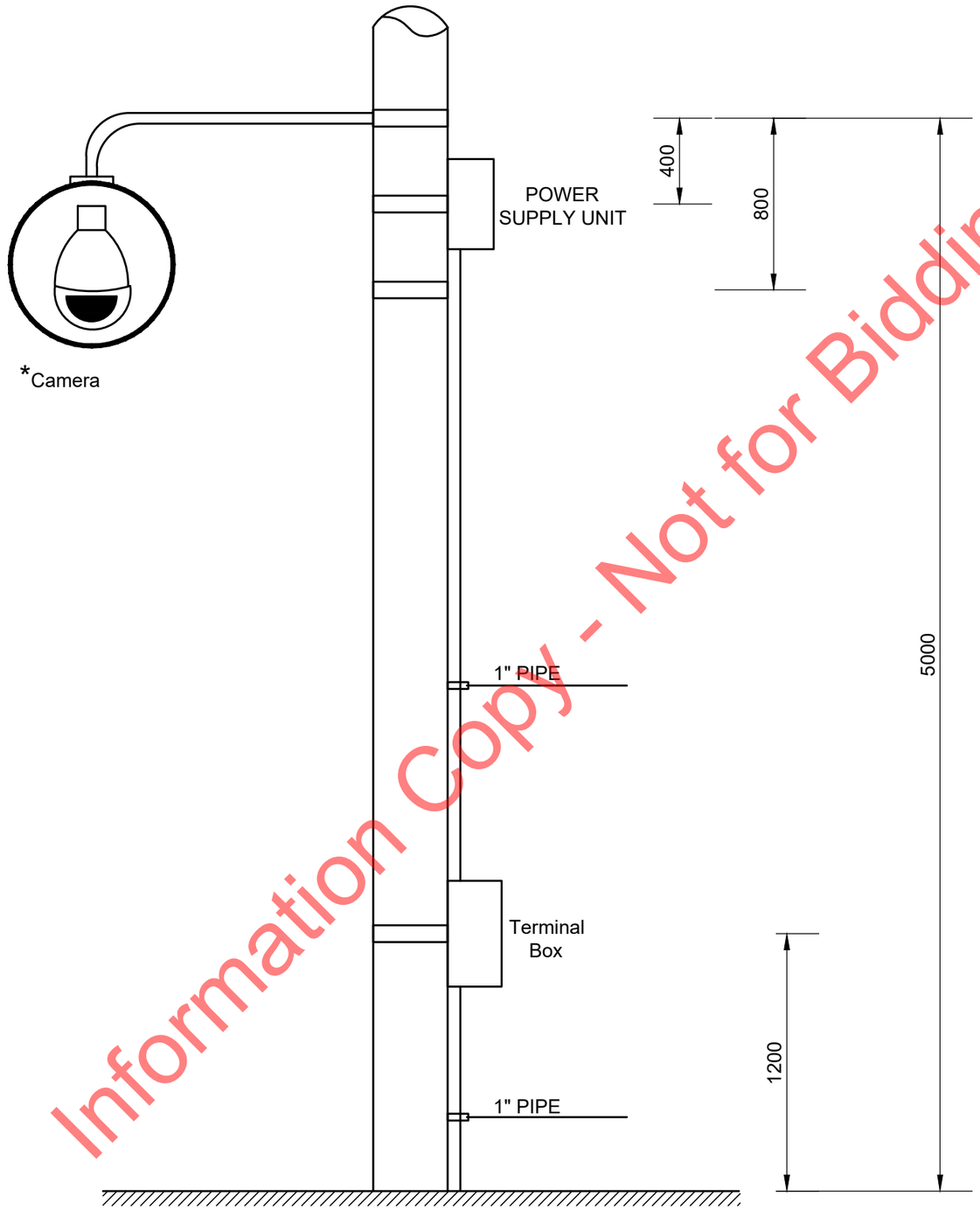
NOTE :
Diagram indicating function of Control & Protection IEDs in each Bays shall be submitted.

Rev. No	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title	*MANNAR, NADUKUDA, EMBILIPITIYA* *GRID SUBSTATIONS AUGMANTATION PROJECT*
Funding Agency	ADB
Drawing Title	TYPICAL ARCHITECTURE FOR THE SUBSTATION AUTOMATION SYSTEM
Scale -	NTS
Size -	A3
Rev. Date	12.08.2021
Sheet	01 of 01
Rev.	
Dwg. No.	TD/CE/1/201/D/07/00

	Signature	Date
Drawn	PRJ	17.06.2021
Designed	comm.	
Checked		
Approved		
Released for Tendering		✓
Released for Construction		



Note:-
All Dimensions are in Millimeters

* For Illustration Purpose Only

Rev. No.	Date	Description	Drawn	Checked	Approved

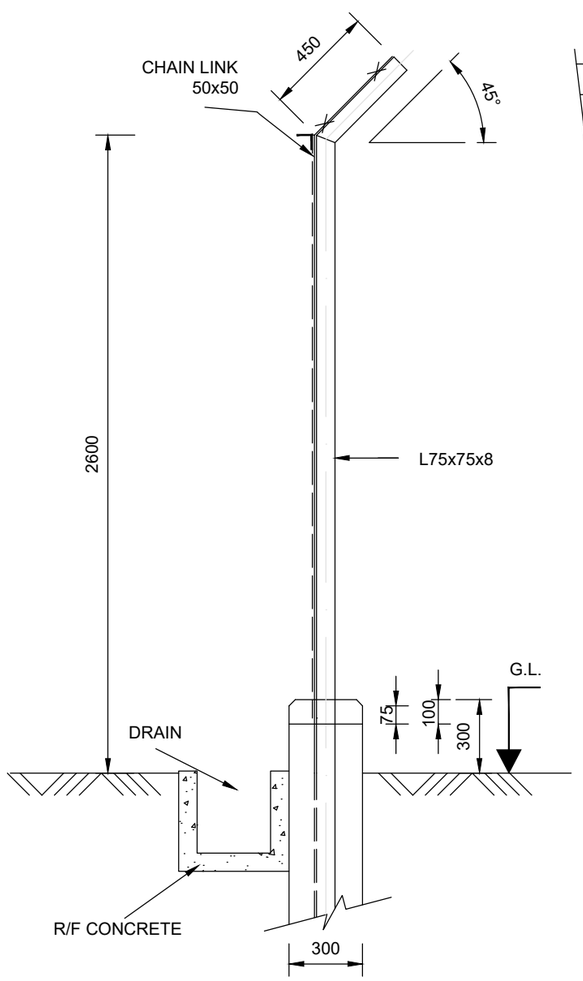
CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

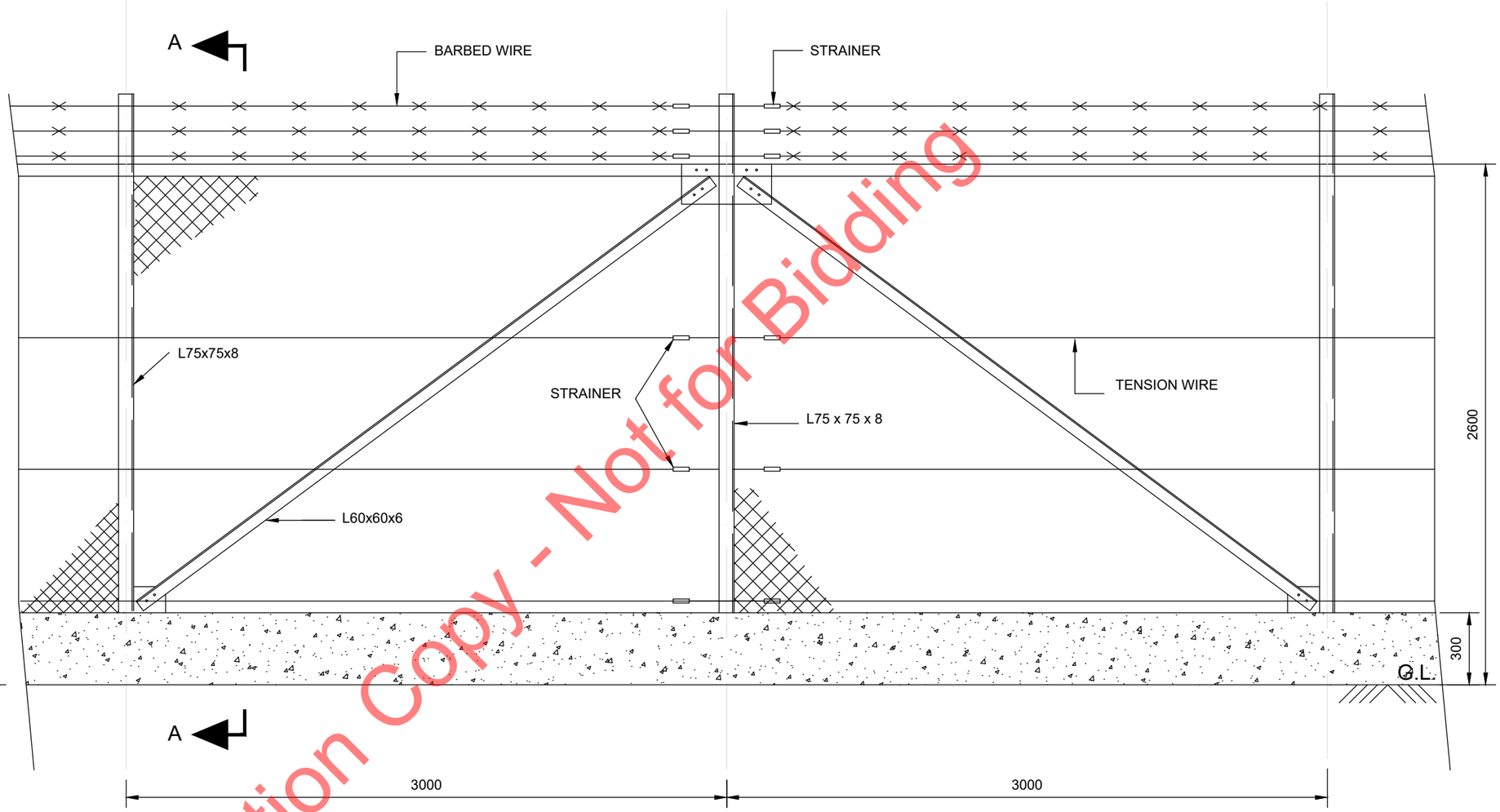
Funding Agency
ADB

Drawing Title
OUT DOOR CAMERA
MOUNTING ARRANGEMENT

			Signature	Date
Scale - 1:25	Rev. Date	Drawn	Sandamali	07.01.2019
Size - A3	05.03.2021	Designed	Bhasura	
Sheet of	Rev.	Checked		
Dwg. No. TD/CE/1/201/D/60/00-B		Approved		
		Released for: Tendering		
		Released for: Construction		



SECTION A-A



ELEVATION

NOTE

ALL STEEL COMPONENTS SHALL BE GALVANIZED

ALL DIMENSIONS ARE IN MILLIMETRES

Rev. No.	Date	Description	Drawn	Checked	Approved

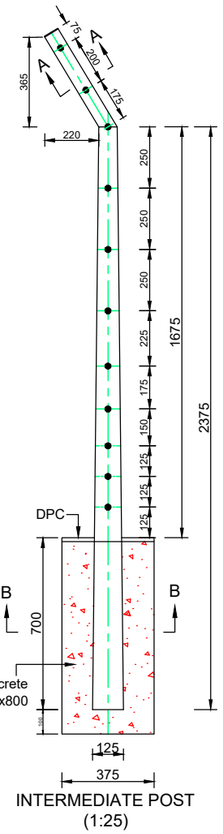
CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

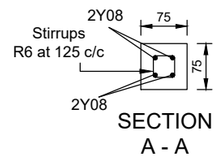
Funding Agency
ADB

Drawing Title
CHAIN LINK FENCE

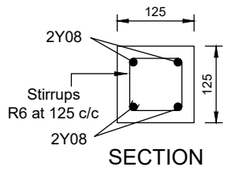
			Signature	Date
Scale - NTS	Rev. Date	Drawn	Sandamali	09.01.2019
Size - A3	05.03.2021	Designed	Bhasura	
Sheet of	Rev.	Checked		
Dwg. No. TD/CE/1/201/D/60/00-C		Approved		
		Released for: Tendering		✓
		Construction		



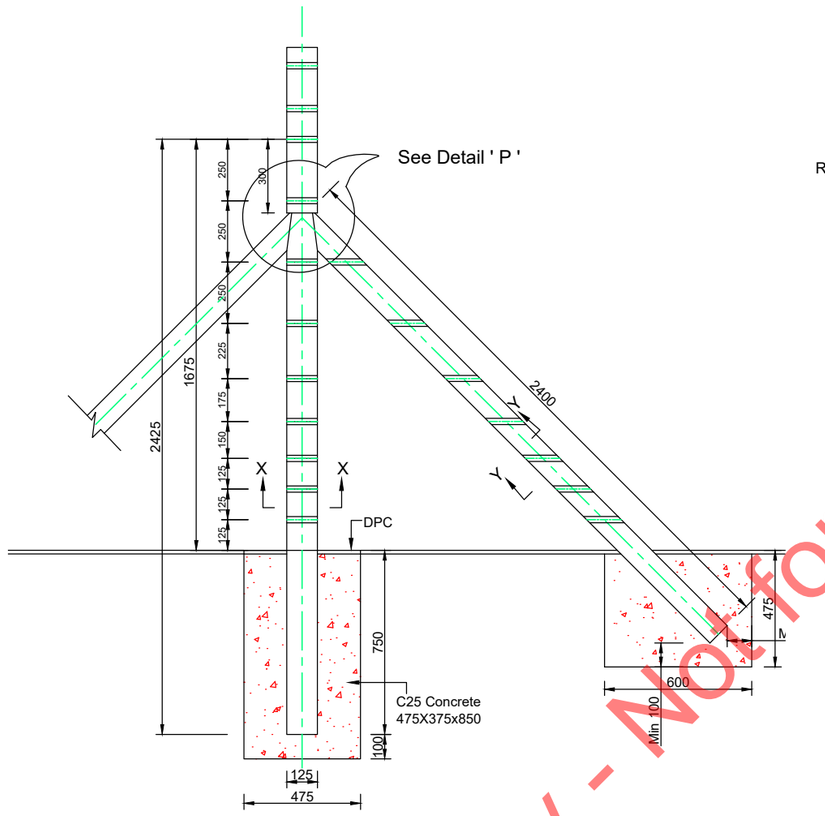
INTERMEDIATE POST
(1:25)



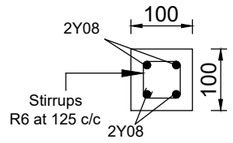
SECTION
A - A



SECTION
B - B



FRONT ELEVATION
STRAINING POST / CORNER POST
(1:25)



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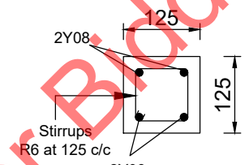
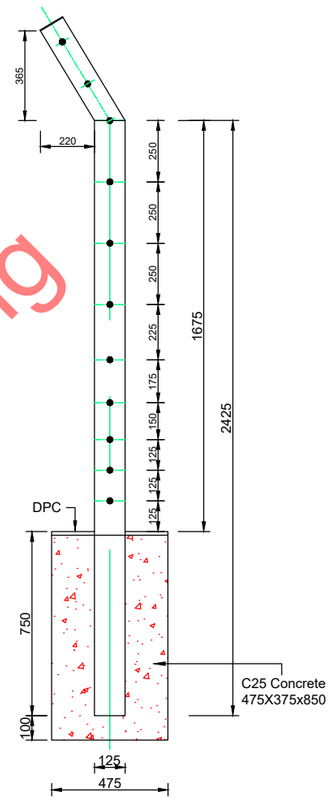
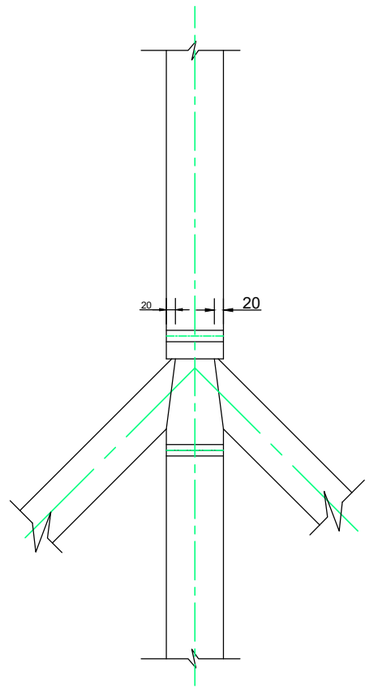
Y - Y



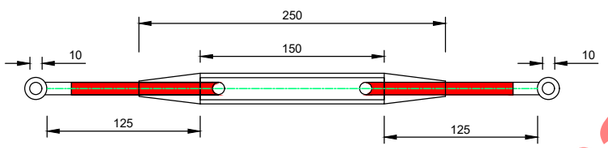
SECTION
B - B



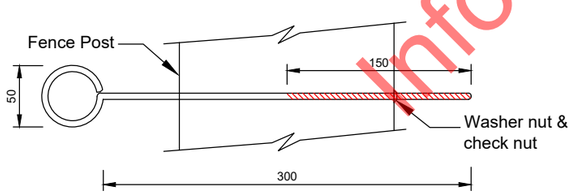
SIDE ELEVATION
STRAINING POST / CORNER POST
(1:25)



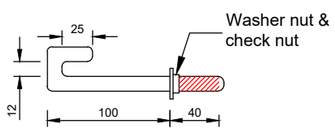
DETAIL AT ' P '



TURN BUCKLE FOR STRAINING
(1:5)



50mm dia. STRAINING BOLT
(1:5)



6mm dia. G.I. HOOK BOLT
(1:5)

NOTES -:

1. All demensions are in Millimeters.
2. Grade 25 Concrete for Foundation.
3. Minimum cover for main Reinforcement - 20mm
4. Straining Post to be provided at every 06th fence post & at all bends.

Rev. No.	Date	Description	Drawn	Checked	Approved

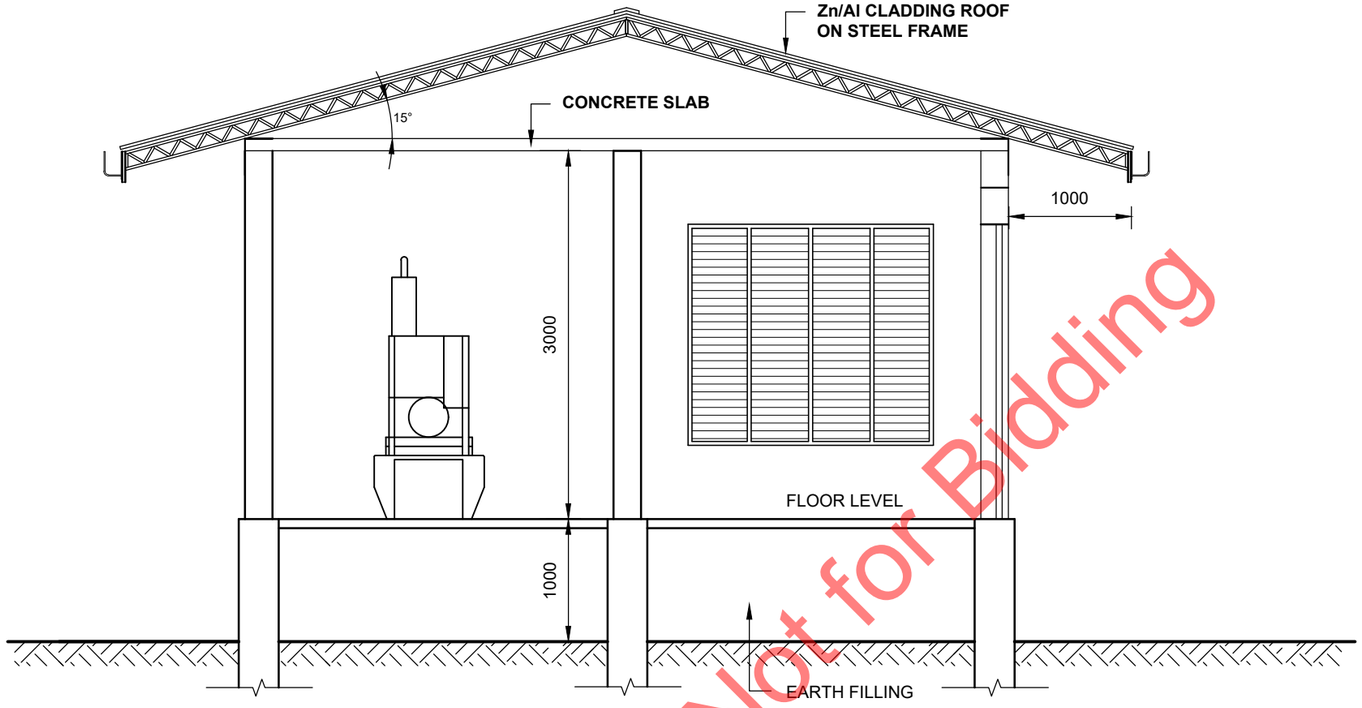
CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

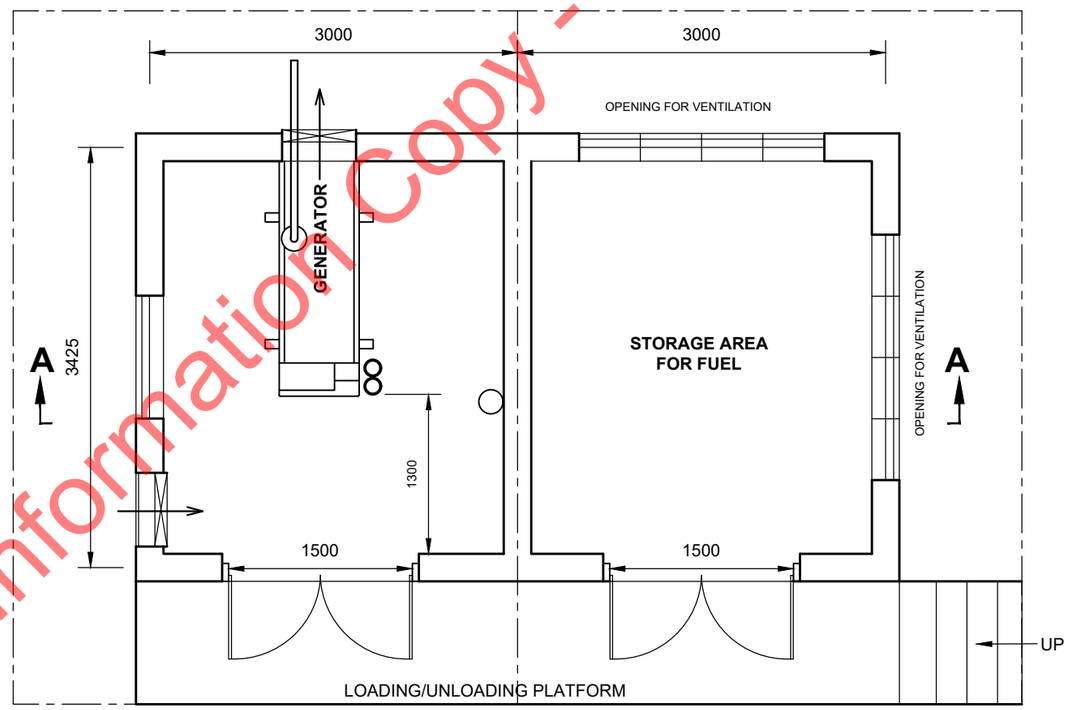
Funding Agency
ADB

Drawing Title
BENT TYPE BARBED WIRE FENCE POST

			Signature	Date
Scale - As Shown	Rev. Date	Drawn	Sandamali	29.01.2019
Size - A3	05.03.2021	Designed	Bhasura	
Sheet of	Rev.	Checked		
Dwg. No. TD/CE/1/201/D/60/00-E		Approved		
		Released for	Tendering	
			Construction	



SECTION A - A



PLAN

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

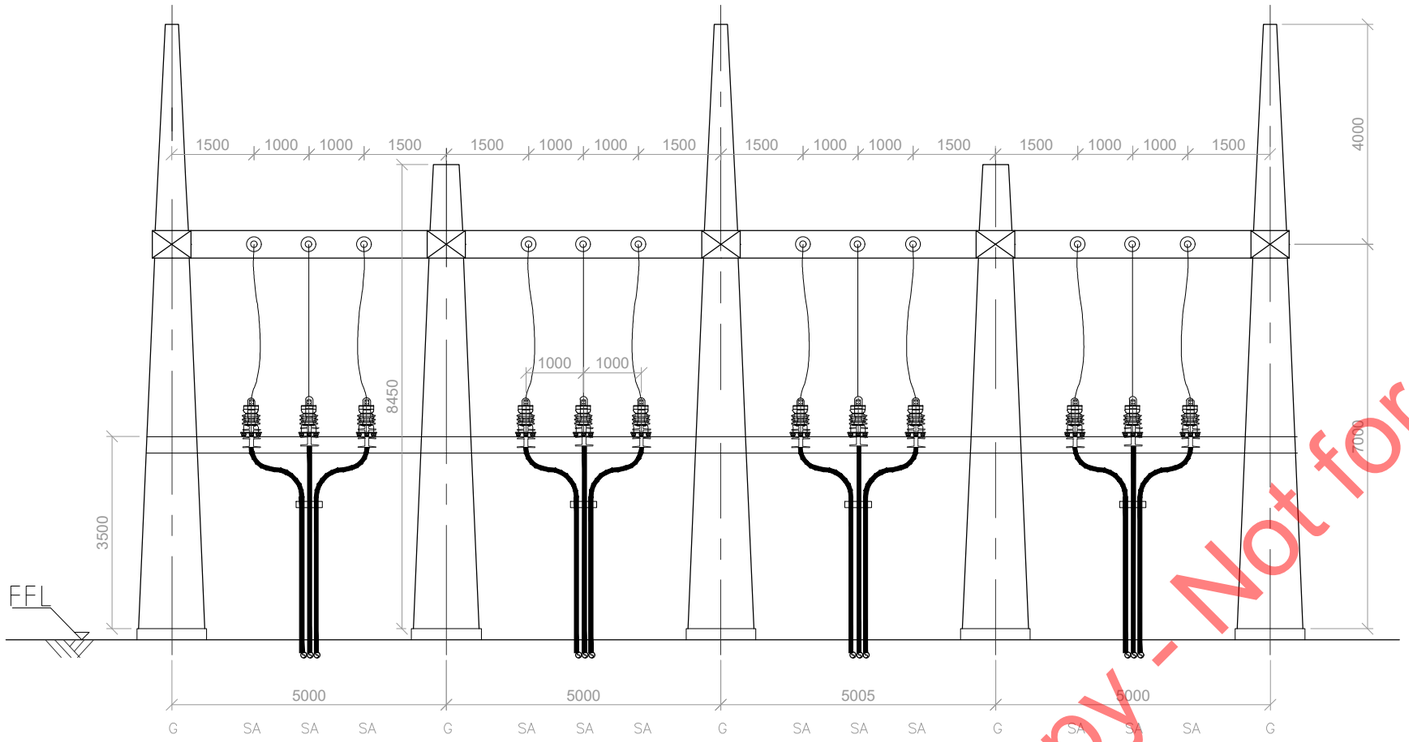
Funding Agency
ADB

Drawing Title
TYPICAL GENERATOR ROOM LAYOUT FOR GRID SUBSTATION

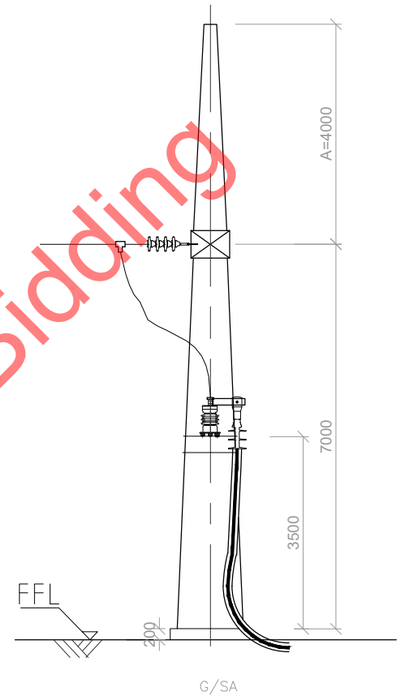
Scale - 1:50
Size - A3
Sheet of
Dwg. No. TD/CE/1/201/D/60/00-G
Rev. Date 05.03.2021
Rev.

	Signature	Date
Drawn	Sandamali	07.01.2019
Designed	Bhasura	
Checked		
Approved		

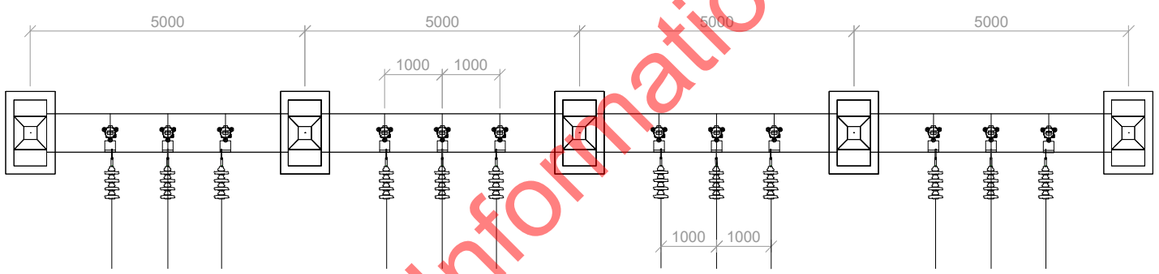
Released for: Tendering / Construction



FRONT VIEW



SIDE VIEW



PLAN

NOTE:—

1. A=HEIGHT SHALL BE INCRESED IF REQUIRED BY DSLP CALCULATION

Revision Record					
Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title: ***MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATIONS AUGMANTATION PROJECT***

Funding Agency: ADB

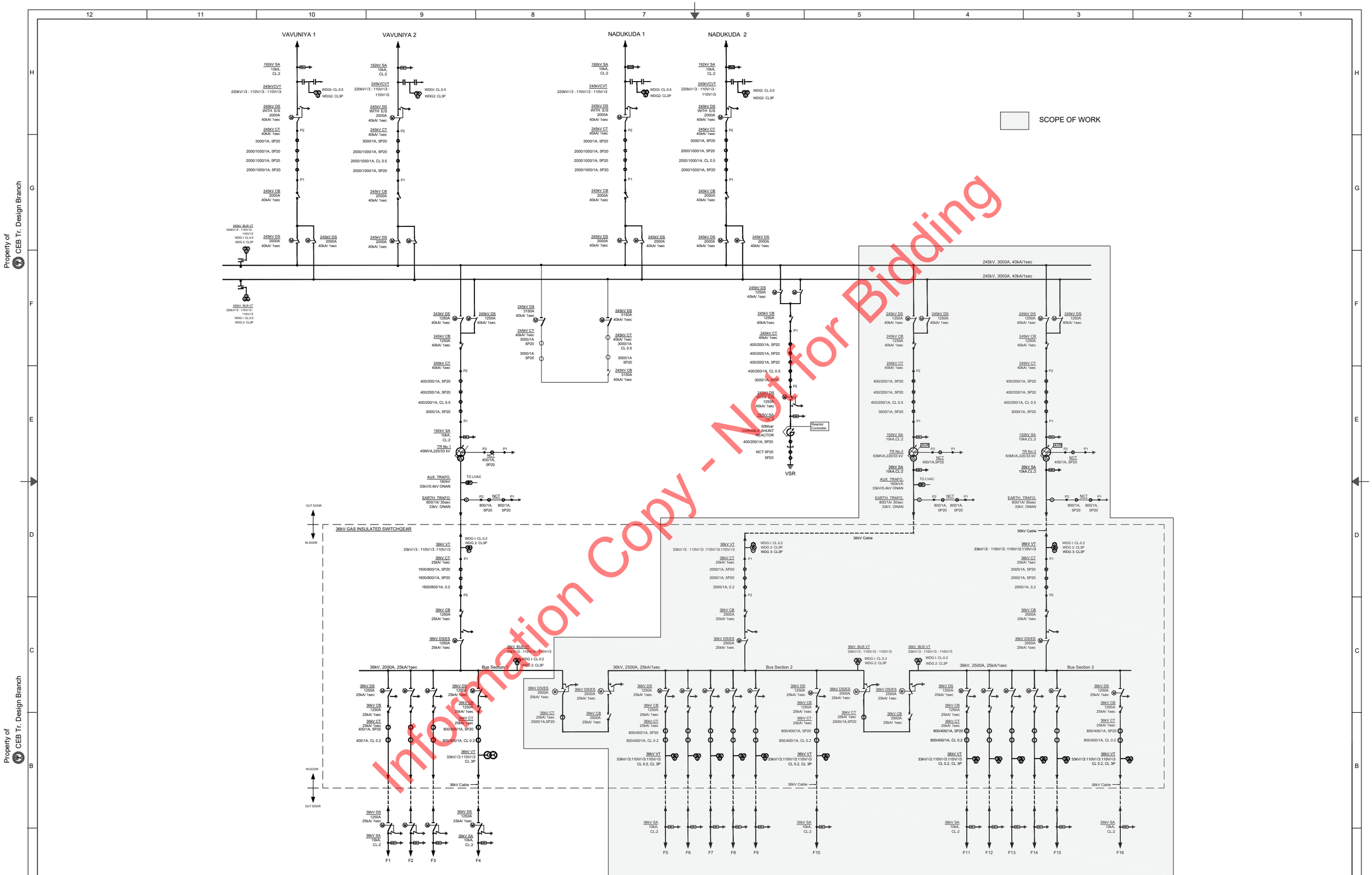
Drawing Title: TYPICAL 33kV FEEDER TAKE-OFF STRUCTURE ARRENGEMENT

Scale - 1:100 | Size - A3 | Sheet of | Dwg. No. TD/CE/1/201/D/01/00

Rev. Date: 05.03.2021 | Rev.

		Signature	Date
Drawn	Ranjana		25.04.2019
Designed	Bhasura		
Checked			
Approved			

Released for: Tendering / Construction



Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

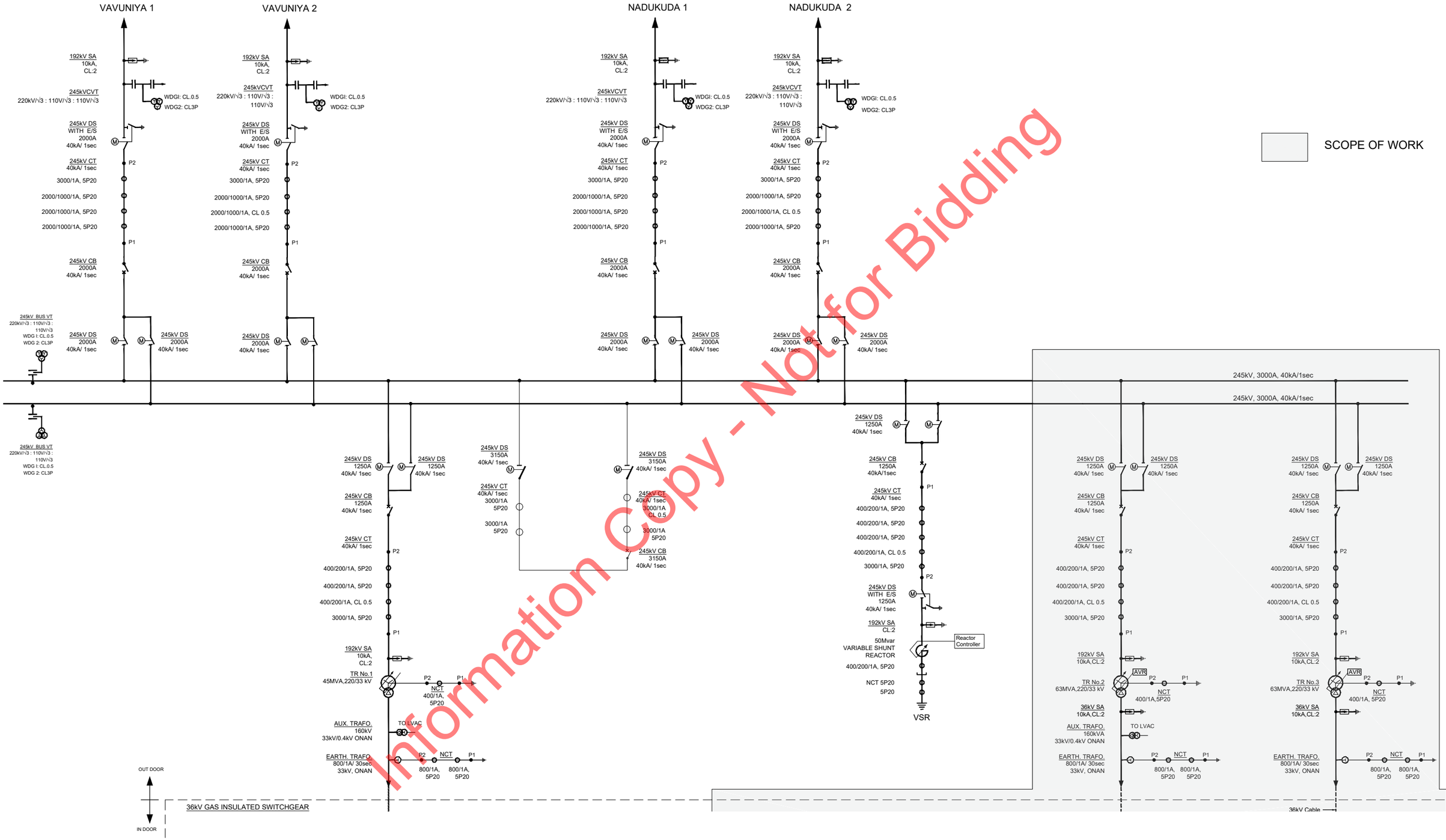
Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

Funding Agency
ADB

Drawing Title
SINGLE LINE DIAGRAM FOR AUGMENTATION OF MANNAR GSS

Scale - NTS	Rev. Date		
Size - A3	03.03.2021		
Sheet	of	Rev.	
Dwg. No. TD/CE/1/201/D/00/01-A			

	Signature	Date
Drawn	Anusha	03.03.2021
Designed	Bhasura	
Checked		
Approved		
Released for: Tendering		✓
Released for: Construction		



Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

Funding Agency
ADB

Drawing Title
SINGLE LINE DIAGRAM FOR AUGMENTATION OF MANNAR GSS (PART 1)

			Signature	Date
Scale - NTS	Rev. Date	Drawn	Anusha	03.03.2021
Size - A3	03.03.2021	Designed	Bhasura	
Sheet 01 of 02	Rev.	Checked		
Dwg. No. TD/CE/1/201/D/00/01-B		Approved		
		Released for	Tendering	✓
			Construction	

SCOPE OF WORK

OUT DOOR

IN DOOR

36kV GAS INSULATED SWITCHGEAR

36kV, 2000A, 25kA/1sec — Bus Section 1

36kV, 2500A, 25kA/1sec — Bus Section 2

36kV, 2500A, 25kA/1sec — Bus Section 3

36kV Cable

F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 F13 F14 F15 F16

Rev. No.	Date	Description	Drawn	Checked	Approved

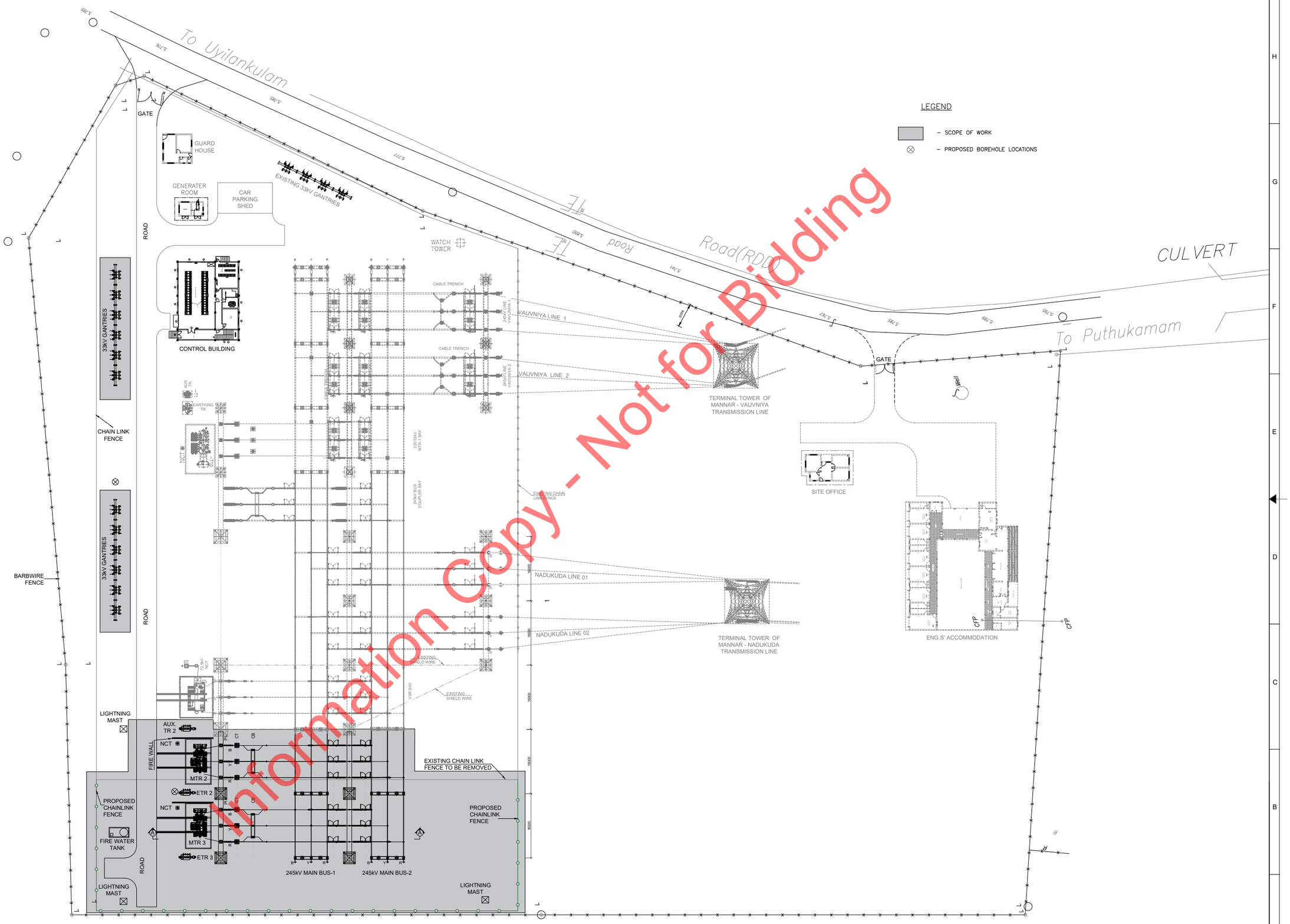
CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

Funding Agency
ADB

Drawing Title
SINGLE LINE DIAGRAM FOR AUGMENTATION OF MANNAR GSS (PART 2)

			Signature	Date
Scale - NTS	Rev. Date	Drawn	Anusha	03.03.2021
Size - A3	03.03.2021	Designed	Bhasura	
Sheet 02 of 02	Rev.	Checked		
Dwg. No. TD/CE/1/201/D/00/01-C		Approved		
		Released for: Tendering	✓	
		Released for: Construction		



Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

Funding Agency
ADB

Drawing Title
PROPOSED GENERAL LAYOUT FOR MANNAR GSS

Scale -	1:900	Rev. Date	
Size -	A3	13.08.2021	
Sheet	of	Rev.	
Dwg. No.	TD/CE/1/201/D/01/01- A		

	Signature	Date
Drawn	Anusha	22.06.2017
Designed	Bhasura	
Checked		
Approved		
Released for	Tendering	✓
	Construction	

LEGEND

– SCOPE OF WORK

– PROPOSED BOREHOLE LOCATIONS

WATCH TOWER

CABLE TRENCH

24kV LINE VAVUNIYA-1

24kV LINE VAVUNIYA-2

220/33kV MTR-1 BAY

24kV BUS COUPLER BAY

EXISTING SHIELD WIRE

VSR BAY

EXISTING CHAIN LINK FENCE TO BE REMOVED

PROPOSED CHAINLINK FENCE

LIGHTNING MAST

245kV MAIN BUS-2

245kV MAIN BUS-1

CB

CT

PI

MTR 2

ETR 2

MTR 3

ETR 3

AUX. TR 2

NCT

72.5kV NCT

EP

FIRE WALL

ROAD

CONTROL BUILDING

EARTHING TR.

AUX. TR.

33kV GANTRIES

CHAIN LINK FENCE

FIRE WATER TANK

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

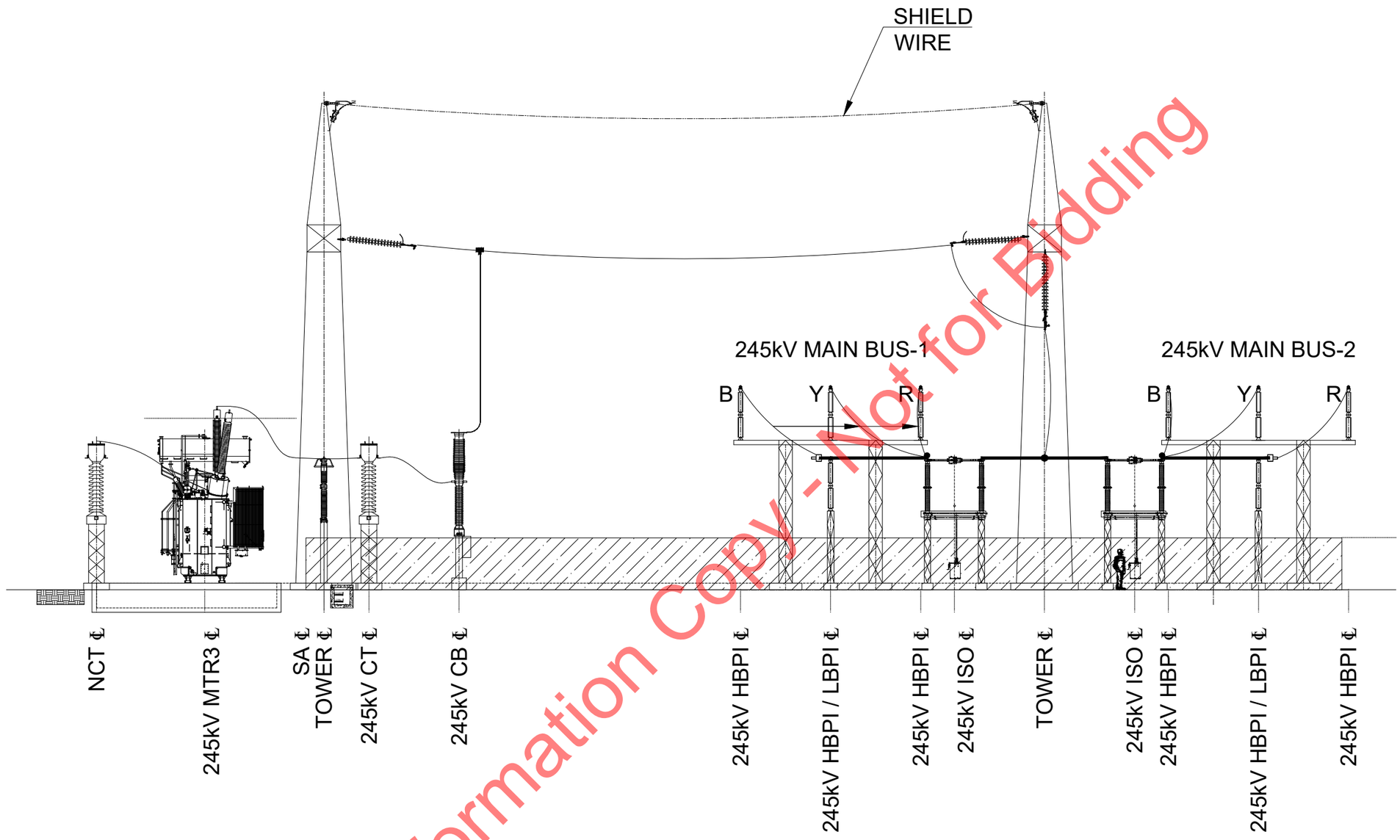
Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

Funding Agency
ADB

Drawing Title
PROPOSED GENERAL LAYOUT FOR MANNAR GSS

			Signature	Date
Scale - 1:900	Rev. Date	Drawn	Anusha	22.06.2017
Size - A3	13.08.2021	Designed	Bhasura	
Sheet of	Rev.	Checked		
Dwg. No. TD/CE/1/201/D/01/01- B		Approved		

Released for: Tendering ✓ / Construction



SECTIONAL ELEVATION A-A
TRANSFORMER BAY - 245kV

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

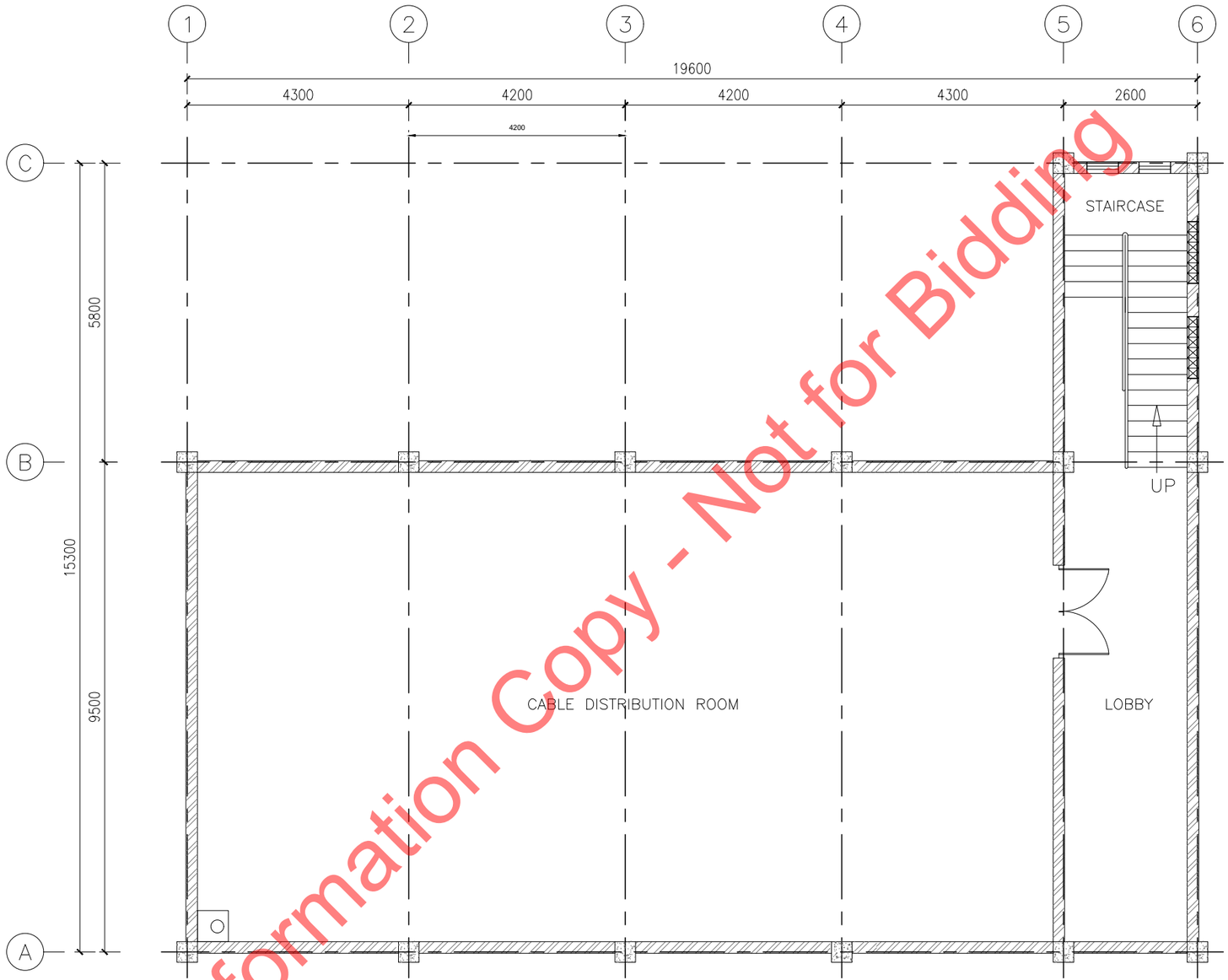
Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

Funding Agency
ADB

Drawing Title
TYPICAL TRANSFORMER BAY SECTION
FOR MANNAR GSS

Scale - 1 : 200		Rev. Date	
Size - A3		13.08.2021	
Sheet	of	Rev.	
Dwg. No. TD/CE/1/201/D/01/01- C			

		Signature	Date
Drawn	Anusha		05.03.2021
Designed	Bhasura		
Checked			
Approved			
Released for	Tendering		✓
	Construction		



BASEMENT

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

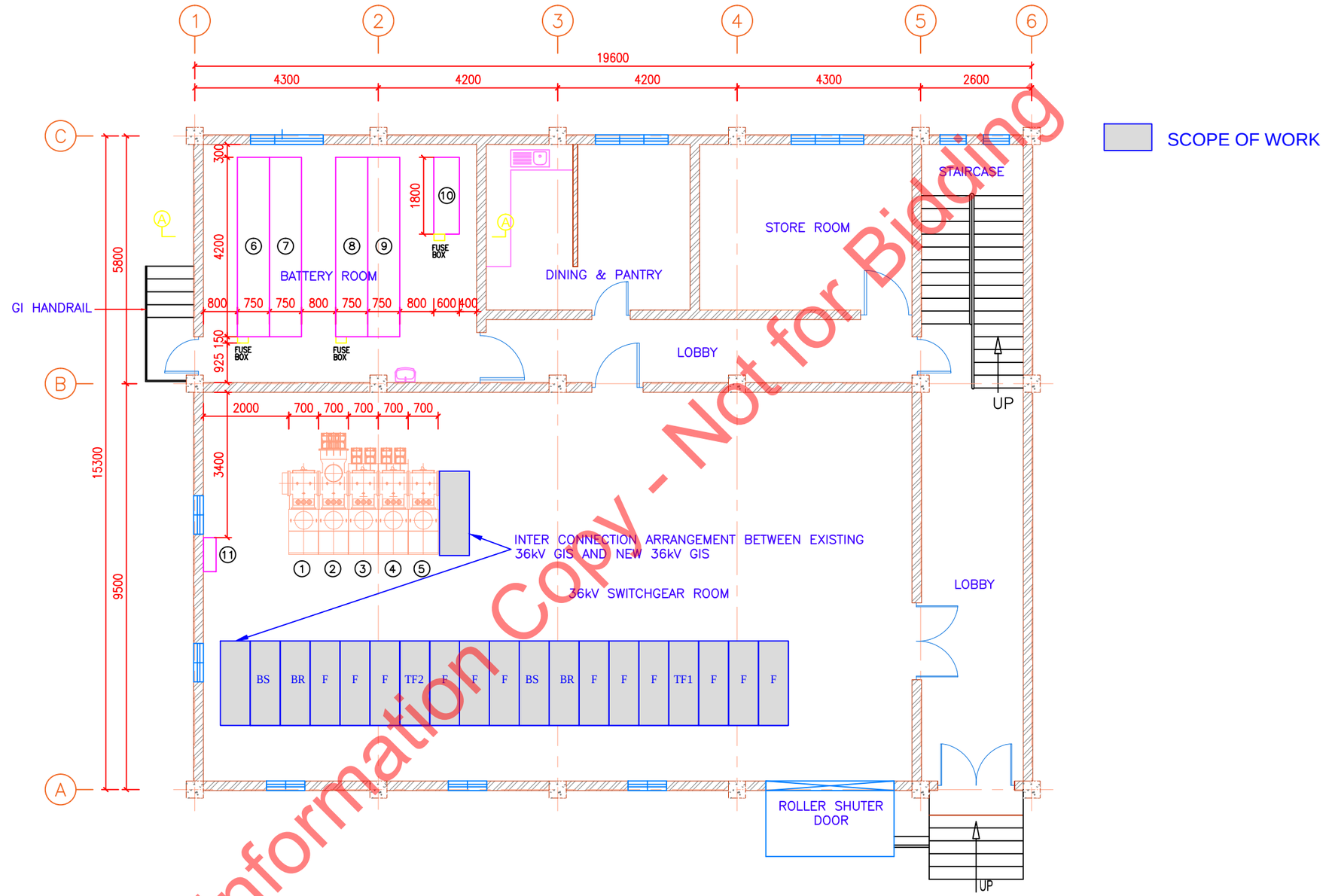
Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

Funding Agency
ADB

Drawing Title
CONTROL BUILDING OF MANNAR GSS (BASEMENT)

Scale - 1:100		Rev. Date	
Size - A3		18.06.2021	
Sheet	of	Rev.	
Dwg. No. TD/CE/1/201/D/60/01- A			

		Signature	Date
Drawn	Anusha		18.06.2021
Designed	Bhasura		
Checked			
Approved			
Released for	Tendering		✓
	Construction		



GROUND FLOOR

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD

Project Title: *MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATION AUGMENTATION PROJECT*

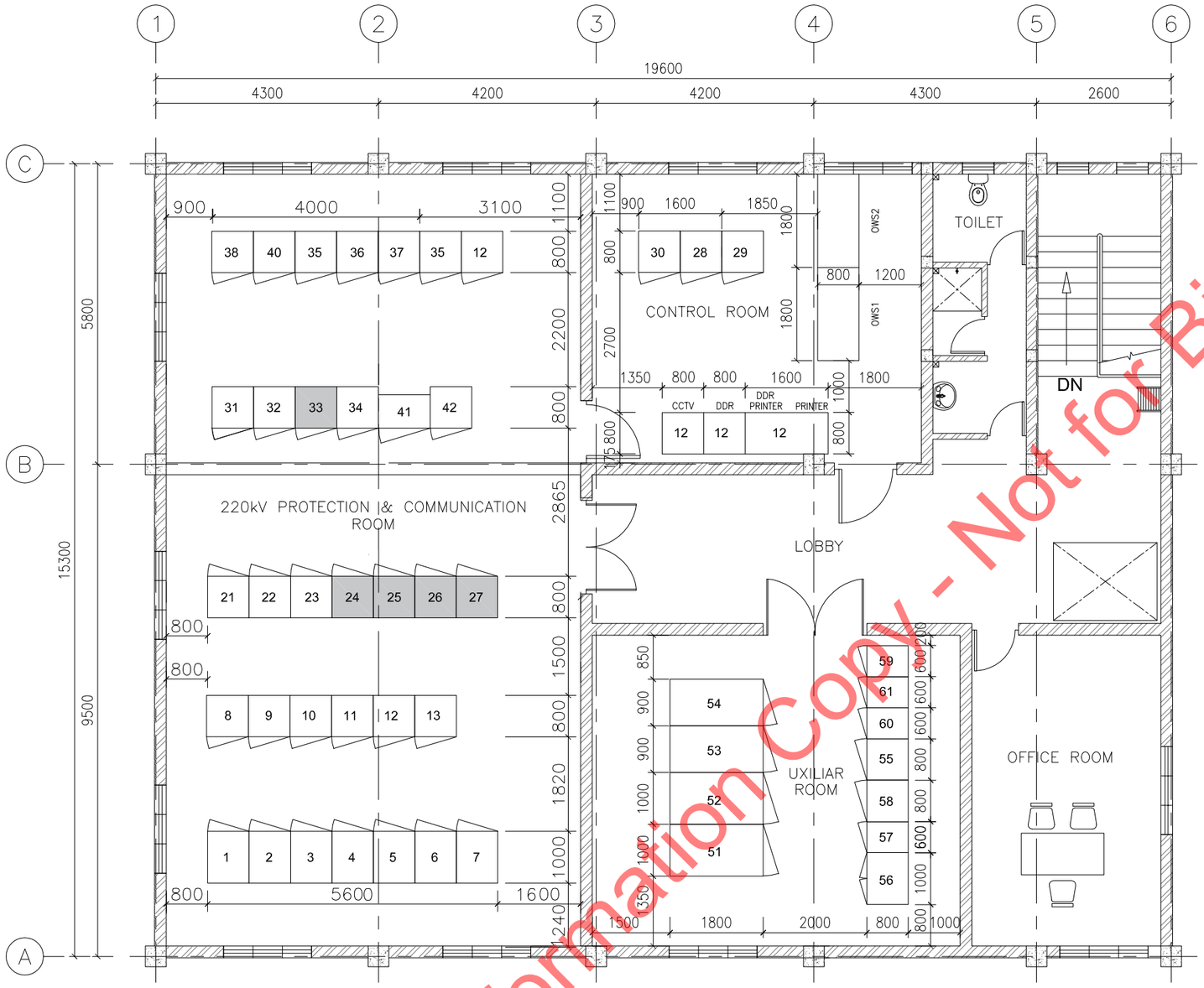
Funding Agency: ADB

Drawing Title: PROPOSED CONTROL BUILDING FOR MANNAR GSS (GROUND FLOOR)

Scale - 1:100					Rev. Date		
Size - A3							
Sheet	1	of	1	Rev.	0		
Dwg. No. TD/CE/1/201/D/60/01-B							

	Signature	Date
Drawn		
Designed		
Checked		
Approved		

Reason for issue: Tendering ✓ / Construction



SCOPE OF WORK

1st FLOOR

NO.	DESCRIPTION	DIMENSION
1	MAIN1 LINE BAY PROTECTION PANEL (NEW ANURADHAPURA 01)	800W X 1000D X 2300H
2	MAIN2 LINE BAY PROTECTION PANEL (NEW ANURADHAPURA 01)	800W X 1000D X 2300H
3	MAIN1 LINE BAY PROTECTION PANEL (NEW ANURADHAPURA 02)	800W X 1000D X 2300H
4	MAIN2 LINE BAY PROTECTION PANEL (NEW ANURADHAPURA 02)	800W X 1000D X 2300H
5	MAIN1 TRANSFORMER PROTECTION PANEL (TR.1)	800W X 1000D X 2300H
6	MAIN2 TRANSFORMER PROTECTION PANEL (TR.1)	800W X 1000D X 2300H
7	BUSBAR PROTECTION PANEL	800W X 1000D X 2300H
8	MAIN1 LINE BAY PROTECTION PANEL (FUTURE - NADUKUDA 1)	
9	MAIN2 LINE BAY PROTECTION PANEL (FUTURE - NADUKUDA 1)	
10	MAIN1 LINE BAY PROTECTION PANEL (FUTURE - NADUKUDA 2)	
11	MAIN1 LINE BAY PROTECTION PANEL (FUTURE - NADUKUDA 2)	
12	MAIN1 TRANSFORMER PROTECTION PANEL (TR.2)	
13	MAIN2 TRANSFORMER PROTECTION PANEL (TR.2)	
21	PROTECTION PANEL (VSR1)	
22	BAY CONTROL AND TAP CONTROL PANEL (VSR1)	
23	PROTECTION AND CONTROL PANEL (FUTURE)	
24	TR. 2 PROTECTION & CONTROL PANEL	
25	TR. 2 MECHANICAL PROTECTION & CONTROL PANEL	
26	TR. 3 PROTECTION & CONTROL PANEL	
27	TR. 3 MECHANICAL PROTECTION & CONTROL PANEL	
28	SUBSTATION AUTOMATION SYSTEM PANEL	800W X 800D X 2200H
29	SUBSTATION AUTOMATION SYSTEM PANEL (FUTURE)	
30	GATEWAY COMMON BCU PANEL	800W X 800D X 2200H
31	ENERGY METER PANEL -1	800W X 800D X 2200H
32	ENERGY METER PANEL -2	800W X 800D X 2200H
33	ENERGY METER PANEL (FUTURE -1)	
34	ENERGY METER PANEL (FUTURE -2)	
35	DIGITAL DISTURBANCE RECODER (FAULT RECODER)	800W X 800D X 2200H
36	DIGITAL DISTURBANCE RECODER (FUTURE)	
37	POWER QUALITY ANALYZER	800W X 800D X 2200H
38	FIBER OPTIC EQUIPMENT PANEL	800W X 600D X 2000H
39	WALL MOUNT OPTICAL DISTRIBUTION PANEL (BY OTHERS)	
40	FIBER OPTIC EQUIPMENT PANEL (FUTURE)	
41	REMOTE TAP CHANGER CONTROL CUBICLE (RTCC)	1000W X 600D X 2315H
42	REMOTE TAP CHANGER CONTROL CUBICLE (FUTURE)	
51	LVAC MAIN INCOMING PANEL	1000W X 1800D X 2250H
52	LVAC ESSENTIAL LOAD PANEL	1000W X 1800D X 2250H
53	LVAC DISTRIBUTION BOARD -1	900W X 1800D X 2250H
54	LVAC DISTRIBUTION BOARD -2	900W X 1800D X 2250H
55	DC 220V BATTERY CHARGER -1	800W X 800D X 1830H
56	AC 230V INVERTER PANEL	1000W X 800D X 1600H
57	DC 220V DISTRIBUTION BOARD	600W X 800D X 1830H
58	DC 220V BATTERY CHARGER -2	800W X 800D X 1830H
59	DC 48V BATTERY CHARGER -1	600W X 800D X 1600H
60	DC 48V DISTRIBUTION BOARD	600W X 800D X 1600H
61	DC 48V BATTERY CHARGER -2	600W X 800D X 1600H

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

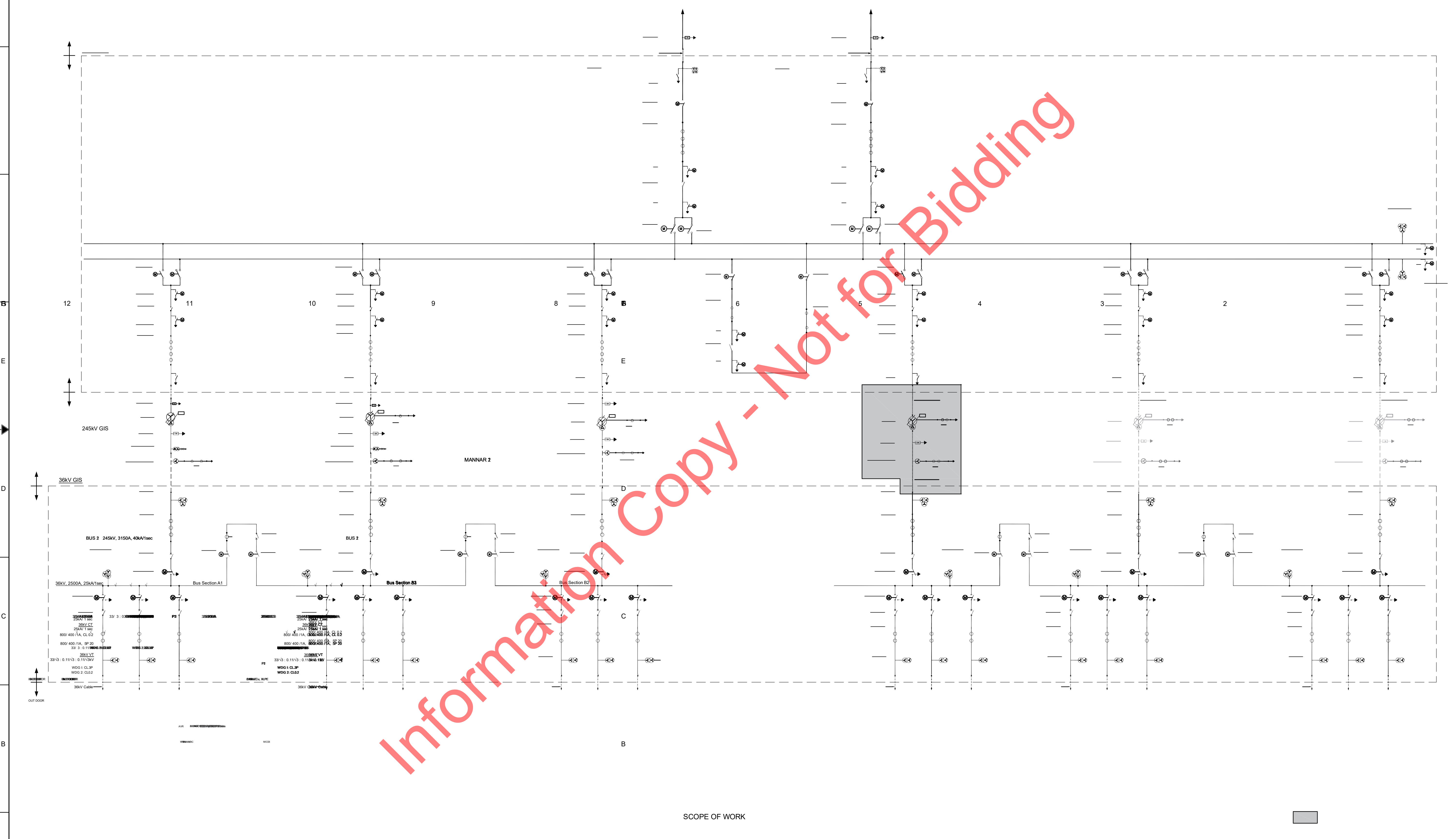
Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

Funding Agency
ADB

Drawing Title
PROPOSED CONTROL BUILDING FOR MANNAR GSS (FIRST FLOOR)

				Signature	Date
Scale - 1:100	Rev. Date	Drawn	Anusha		18.06.2021
Size - A3	18.06.2021	Designed	Bhasura		
Sheet of	Rev.	Checked			
Dwg. No. TD/CE/1/201/D/60/01- C		Approved			

Released for: Tendering ✓ / Construction



Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

22.05.2019

Signature / Drawn / Designed / Checked / Approved

Project Title: *GRID SUBSTATIONS AUGMANTATION PROJECT*

MANNAR, NADUKUDA, EMBILIPITIYA

Drawing Title: SINGLE LINE DIAGRAM FOR AUGMENTATION OF NADUKUDA GSS

Date: 03.2021

Tendering / Construction

TD/CE/1/201/D/00/02-A

245kV CT
40kA/ 1 sec
200/1A ,5P20
200/1A ,5P20
200/1A ,CL0.5
3000/1A ,5P20

P1
P2

HSES
245 kV

IN DOOR

OUT DOOR

245kV Cu, XLPE Cable

TR No.4
63MVA,220/33kV

AVR
P2
P1
NCT
200/1A,5P20
200/1A,5P20

36kV SA
10kA,CL:2

EARTH. TRAFO.
800A/30 sec
33kV, ONAN

P2
P1
NCT
800/1A,5P20
800/1A,5P20

36kV Cu, XLPE Cable

OUT DOOR

IN DOOR

36kV VT
33/√3 : 0.11/√3 : 0.11/√3kV
WDG I: CL0.2
WDG 2: CL.3P

36kV CT
25kA/ 1 sec
1600/1A, 5P20
1600/1A, 5P20
1600/1A, CL 0.2

P1
P2

36kV CB
1600A
25kA/ 1 sec

36kV DS/ES
1600A
25kA/ 1 sec

36kV BUS VT
33/√3 : 0.11/√3 : 0.11/√3kV
WDG I: CL.3P
WDG 2: CL0.2

2500/1A

36kV DS
2500A
25kA

36kV CB
2500A
25kA

36kV DS
2500A
25kA

36kV BUS VT
33/√3 : 0.11/√3 : 0.11/√3kV
WDG I: CL.3P
WDG 2: CL0.2

Bus Section B1

AVR
NCT
P2

245kV CT
40kA/ 1 sec
200/1A ,5P20
200/1A ,5P20
200/1A ,CL0.5
3000/1A ,5P20
P2

HSES
245 kV

(FUTURE) TR No.5
63MVA,220/33kV

36kV SA
10kA,CL:2

EARTH. TRAFO.
800A/30 sec
33kV, ONAN

36kV VT
33/√3 : 0.11/√3 : 0.11/√3kV
WDG I: CL0.2
WDG 2: CL.3P

36kV CT
25kA/ 1 sec
1600/1A, 5P20
1600/1A, 5P20
1600/1A, CL 0.2
P2

36kV CB
1600A
25kA/ 1 sec

36kV DS/ES
1600A
25kA/ 1 sec

36kV BUS VT
33/√3 : 0.11/√3 : 0.11/√3kV
WDG I: CL.3P
WDG 2: CL0.2

Rev. No.	Date	Description	Drawn	Checked	Approved

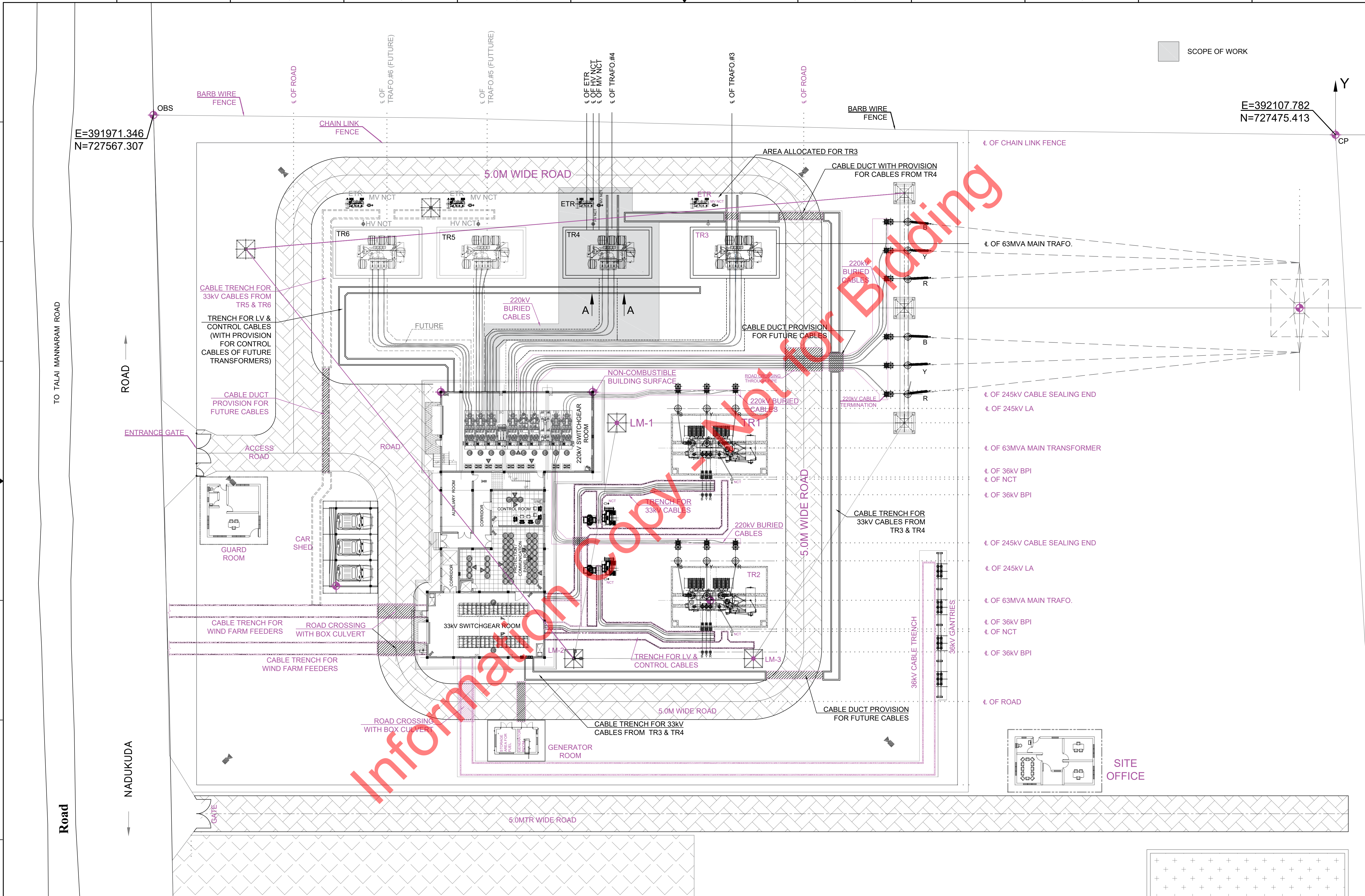
CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

22.05.2019

Project Title
MANNAR-NADUKUDA, EMBILIPITIYA GRID SUBSTATIONS AUGMANTATION PROJECT

Drawing Title
SINGLE LINE DIAGRAM FOR PROCUREMENT OF NADUKUDA GSS

TD/CE/1/201/D/00/02-C

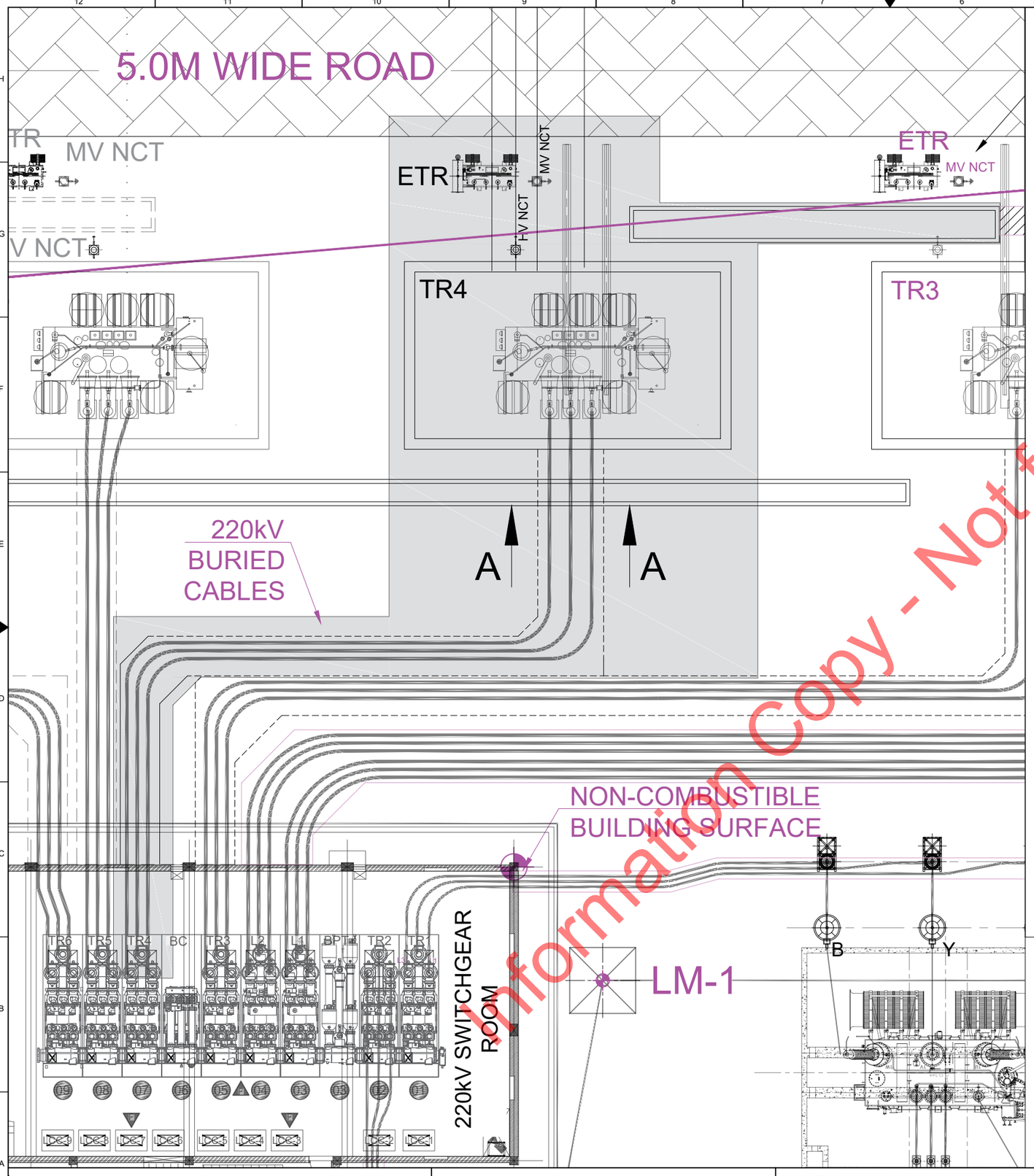

SCOPE OF WORK
E=391971.346
N=727567.307
OBS
E=392107.782
N=727475.413
CP
Y
BARB WIRE FENCE
CHAIN LINK FENCE
℄ OF ROAD
℄ OF TRAFO.#6 (FUTURE)
℄ OF TRAFO.#5 (FUTURE)
℄ OF ETR
℄ OF HV NCT
℄ OF MV NCT
℄ OF TRAFO.#4
℄ OF TRAFO.#3
℄ OF CHAIN LINK FENCE
AREA ALLOCATED FOR TR3
CABLE DUCT WITH PROVISION FOR CABLES FROM TR4
5.0M WIDE ROAD
TR6
TR5
TR4
TR3
TR2
TR1
ETR
MV NCT
HV NCT
℄ OF 63MVA MAIN TRAFO.
220kV BURIED CABLES
CABLE TRENCH FOR 33kV CABLES FROM TR5 & TR6
TRENCH FOR LV & CONTROL CABLES (WITH PROVISION FOR CONTROL CABLES OF FUTURE TRANSFORMERS)
FUTURE
CABLE DUCT PROVISION FOR FUTURE CABLES
NON-COMBUSTIBLE BUILDING SURFACE
ROAD CROSSING THROUGH PIPE
220kV CABLE TERMINATION
℄ OF 245kV CABLE SEALING END
℄ OF 245kV LA
CABLE DUCT PROVISION FOR FUTURE CABLES
LM-1
LM-2
LM-3
220kV SWITCHGEAR ROOM
ENTRANCE GATE
ACCESS ROAD
ROAD
℄ OF 63MVA MAIN TRANSFORMER
℄ OF 36kV BPI
℄ OF NCT
CABLE TRENCH FOR 33kV CABLES FROM TR3 & TR4
TRENCH FOR 33kV CABLES
GUARD ROOM
CAR SHED
CONTROL ROOM
CORRIDOR
PROTECTION & COMMUNICATION PANEL ROOM
AUXILIARY ROOM
℄ OF 63MVA MAIN TRAFO.
36kV CABLE TRENCH
36kV GANTRIES
CABLE TRENCH FOR WIND FARM FEEDERS
ROAD CROSSING WITH BOX CULVERT
33kV SWITCHGEAR ROOM
TRENCH FOR LV & CONTROL CABLES
5.0M WIDE ROAD
℄ OF ROAD
CABLE TRENCH FOR 33kV CABLES FROM TR3 & TR4
GENERATOR ROOM
SITE OFFICE
TO TALAI MANNARAM ROAD
ROAD
NADUKUDA
Road
GATE
5.0MTR WIDE ROAD

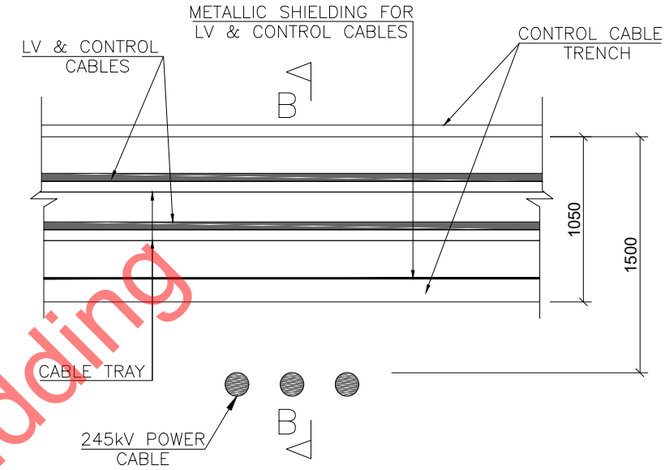
Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title	MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATIONS AUGMANTATION PROJECT
Funding Agency	ADB
Drawing Title	PROPOSED LAYOUT OF NADUKUDA GSS

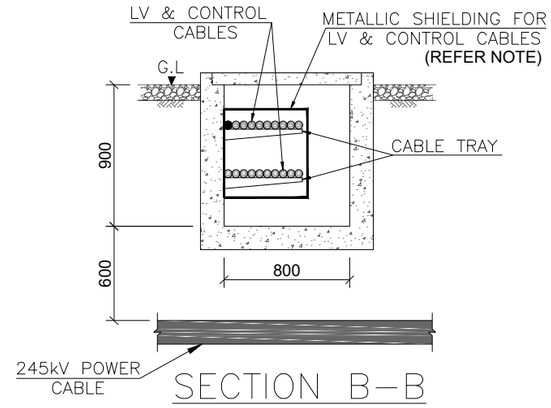
Scale -	NTS	Rev. Date			Signature	Date
Size -	A3	27.07.2021	Drawn	Anusha		26.10.2020
Sheet	of	Rev.	Designed	Bhasura		
Dwg. No.	TD/CE/1/201/D/01/02		Checked			
			Approved			
			Released for	Tendering	✓	
				Construction		





VIEW A

(245kV POWER CABLE & LV & CONTROL CABLE CROSSING)



SECTION B–B

(245kV POWER CABLE & LV & CONTROL CABLE CROSSING)

NOTE – METALLIC SHIELDING FOR LV & CONTROL CABLES.
THIS ARRANGEMENT SHALL BE OPENABLE FROM THE TOP AND THE SIDE IN ORDER TO PROVIDE EASE IN ACCESSING THE CABLES.

THE METALLIC SHIELDING SHALL BE CONNECTED TO THE SUBSTATION EARTHING SYSTEM AT MULTIPLE LOCATIONS.

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

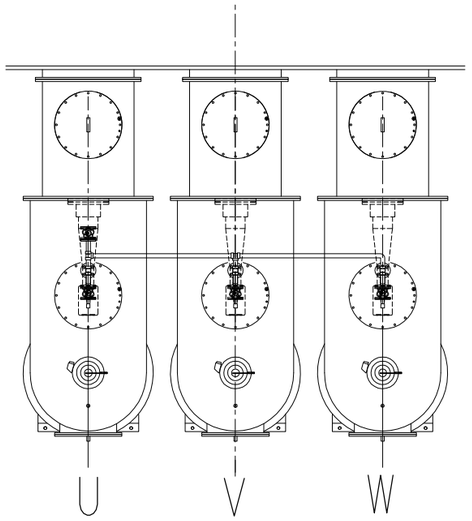
Funding Agency
ADB

Drawing Title
PROPOSED LAYOUT OF
NADUKUDA GSS

Scale - NTS
Size - A3
Sheet of Rev.
Dwg. No. TD/CE/1/201/D/01/02-A
Rev. Date

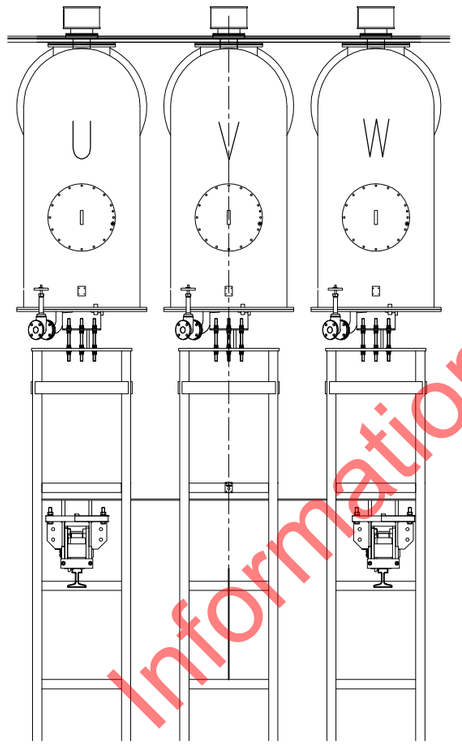
	Signature	Date
Drawn	Anusha	05.08.2021
Designed	Bhasura	
Checked		
Approved		

Released for: Tendering ✓ / Construction

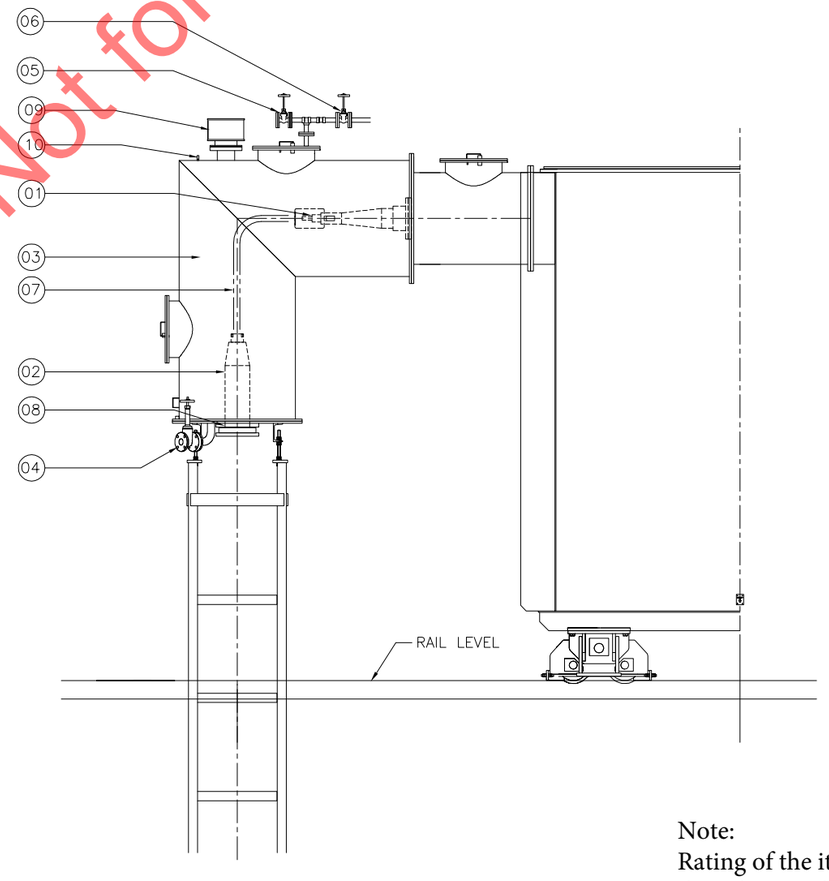


PLAN

NO.	ITEM
1	HV BUSHING
2	CABLE HEADER (WITHOUT GASKET GROOVE)
3	HV CABLE CHAMBER
4	DRAIN VALVE (1INCH GATE)
5	OIL FILTER VALVE (1INCH GATE)
6	CONNECTING VALVE (1INCH GATE)
7	FLEXIBLE CONDUCTOR
8	FLANGE FOR CABLE HEADER
9	PRESSURE RELIEF DEVICE FOR HV CABLE BOX
10	AIR RELEASE PLUG FOR HV CABLE BOX



FRONT VIEW



SIDE VIEW

Note:
Rating of the item (7) shall be greater than the over loading capacity of the transformer.

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

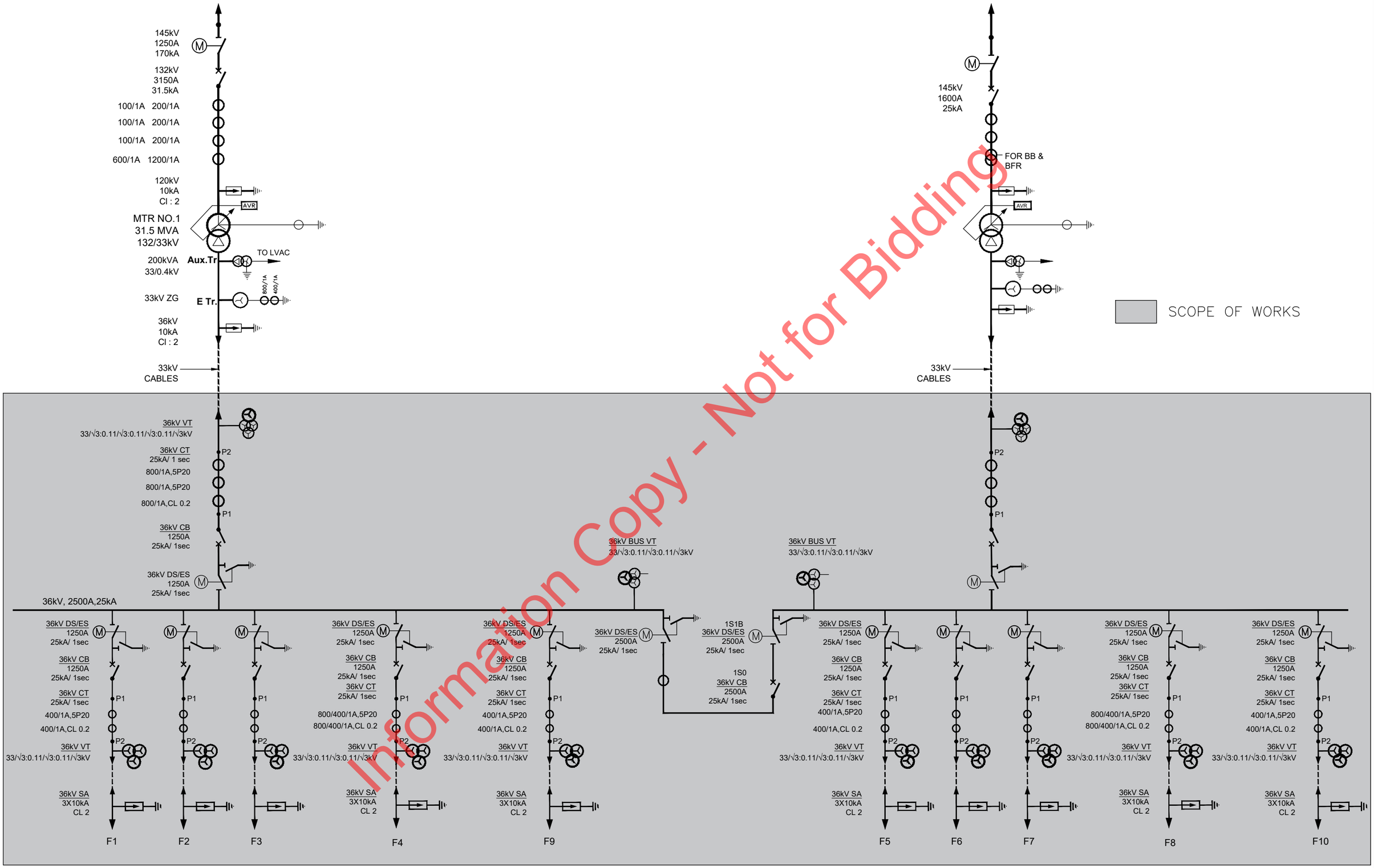
Funding Agency
ADB

Drawing Title
TYPICLE HV CHAMBER FOR
POWER TRANSFORMER OF NADUKUDA GSS

Scale -	NTS	Rev. Date	
Size -	A3	09.08.2021	
Sheet	of	Rev.	
Dwg. No.	TD/CE/1/201/D/03/02		

		Signature	Date
Drawn	Anusha		09.08.2021
Designed	Bhasura		
Checked			
Approved			

Released for: Tendering ✓ / Construction



Revision Record					
Rev. No.	Date	Description	Drawn	Checked	Approved

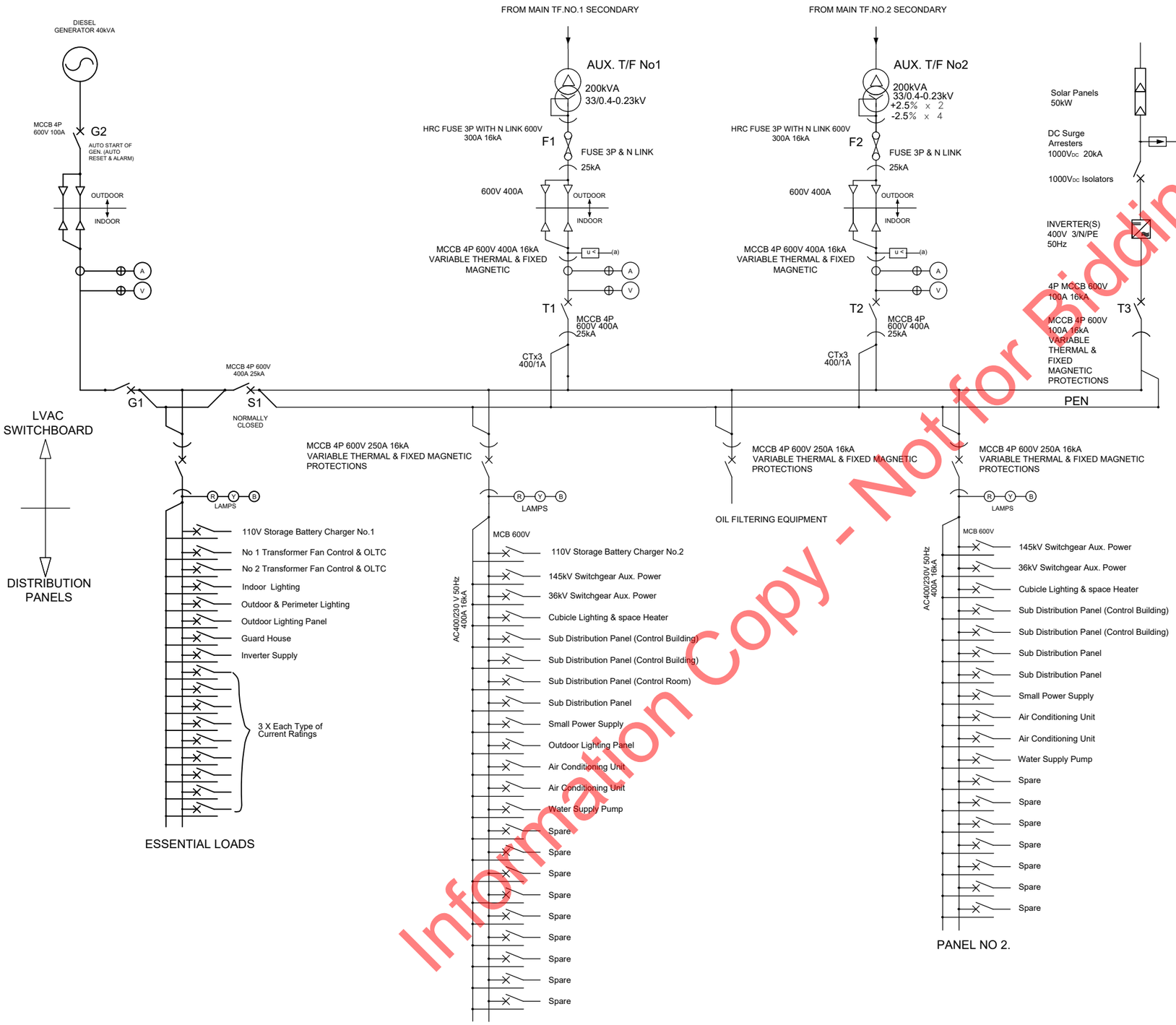
CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title: ***MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATIONS AUGMANTATION PROJECT***

Funding Agency: ADB

Drawing Title: 33kV SINGLE LINE DIAGRAM FOR EMBILIPITIYA GSS

			Signature	Date
Scale - NTS	Rev. Date	Drawn	Anusha	10.01.2019
Size - A3	01.02.2021	Designed	Bhasura	
Sheet 1 of 1	Rev.	Checked		
Dwg. No. TD/CE/1/201/D/00/03		Approved		
		Released for	Tendering	✓
			Construction	



NOTE:

THE MAIN SUPPLY IS TO BE AUTOMATICALLY SELECTED & INTERLOCKED TO PREVENT PARALLELING OF THE THREE SUPPLIES & TO ALWAYS SUPPLY THE ESSENTIAL SERVICES

1 UNDER NORMAL OPERATING CONDITIONS:

1.1 CIRCUIT BREAKER T1 OR T2 WILL BE CLOSED.

1.2 CIRCUIT BREAKER G1 WILL BE OPENED.

2. LOSS OF SUPPLY FROM AUXILIARY TRANSFORMER SHALL AUTOMATICALLY INITIATE THE FOLLOWING OPERATIONS:

2.1 AFTER A SHORT TIME DELAY THE DIESEL GENERATOR SHALL START.

2.2 CIRCUIT BREAKER G1 SHALL CLOSE AFTER THE GENERATOR VOLTAGE IS REACHED. CIRCUIT BREAKERS T1, T2 & S1 WILL BE OPENED SIMULTANEOUSLY BEFORE G1 CLOSED.

3. ON RESTORATION OF MAIN SUPPLY.

3.1 CIRCUIT BREAKER G1 SHALL BE OPENED WITH A TIME DELAY.

3.2 CIRCUIT BREAKER T1 OR T2 & S1 SHALL BE CLOSED.

4 AUTO CHANGE OVER FACILITY SHALL BE PROVIDED WITH GENERATOR SUPPLY & AUXILIARY T/F SUPPLIES

5 INTERLOCKING REQUIREMENTS.

ONLY ONE OF THE BREAKERS G1, T1 & T2 CAN BE IN CLOSED POSITION AT A TIME FOR ALL OPERATING CONDITIONS.

6 THE CAPACITY OF THE SOLAR POWER GENERATION SYSTEM SHALL BE ACCORDING TO THE SCOPE OF WORKS

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD
TRANSMISSION DESIGN

Project Title
MANNAR, NADUKUDA, EMBILIPITIYA
GRID SUBSTATIONS AUGMANTATION PROJECT

Funding Agency
ADB

Drawing Title
TYPICAL AC 400V SUPPLY SYSTEM FOR EMBILIPITIYA GSS

		Signature	Date
Drawn	Ranjana		26.06.2021
Designed	Bhasura		
Checked			
Approved			

Scale - NTS
Size - A3
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Rev. Date 26.06.2021
Rev.
Dwg. No. TD/CE/1/201/D/04/03

Released for: Tendering ✓ / Construction

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD

Project Title

MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATION AUGMENTATION PROJECT

Funding Agency

ADB

Drawing Title

EXISTING LAYOUT
EMBILIPITIYA GS

Scale - NTS | Rev. Date

Size - A3

Sheet 1 of 1 | Rev. 0

Dwg. No. MNEGSAP/EMB/03-001

	Signature	Date
Drawn		
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Approved		

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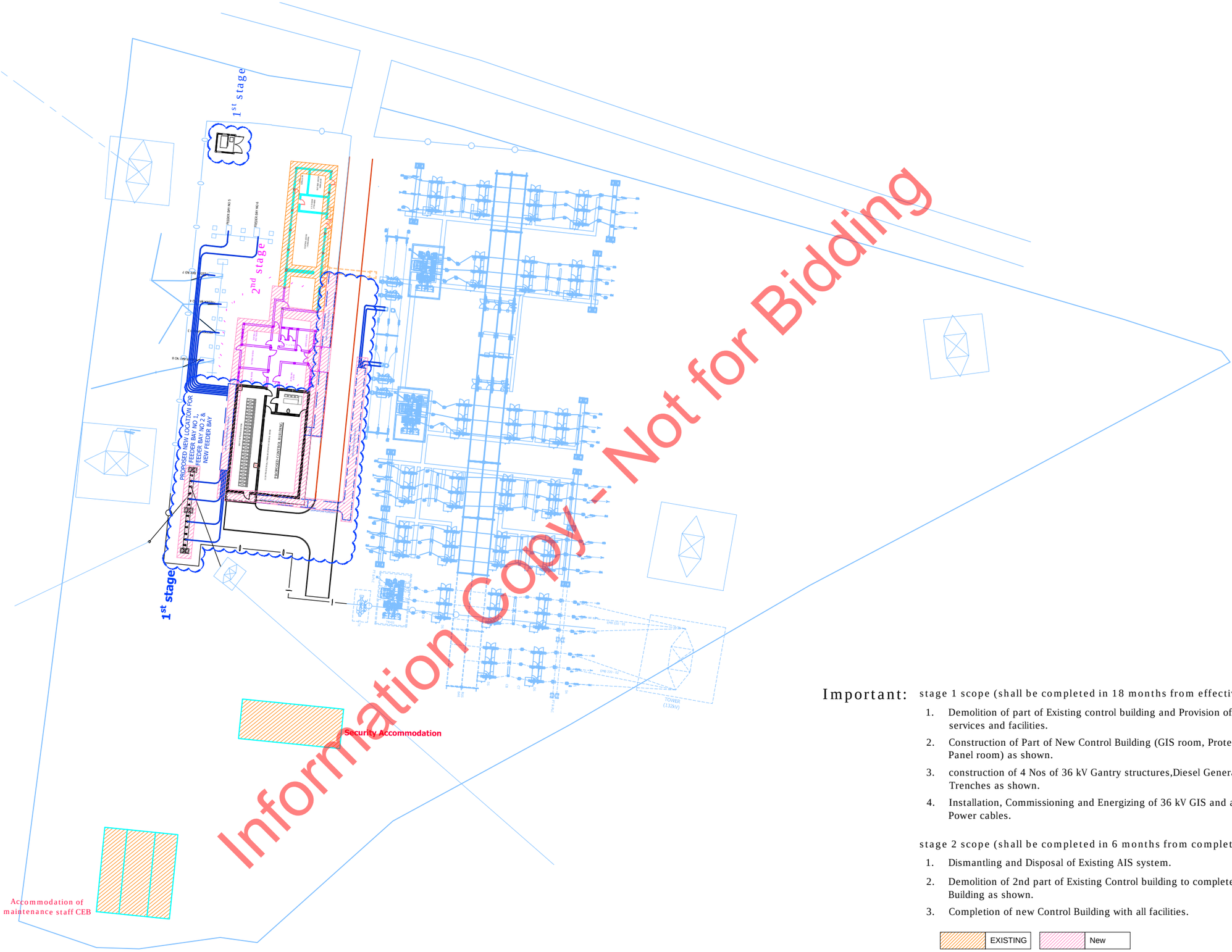

Important: stage 1 scope (shall be completed in 18 months from effective date)

1. Demolition of part of Existing control building and Provision of Temporary services and facilities.
2. Construction of Part of New Control Building (GIS room, Protection and Control Panel room) as shown.
3. construction of 4 Nos of 36 kV Gantry structures,Diesel Generator Room, Cable Trenches as shown.
4. Installation, Commissioning and Energizing of 36 kV GIS and all new 36kV Power cables.

stage 2 scope (shall be completed in 6 months from completion of stage 1)

1. Dismantling and Disposal of Existing AIS system.
2. Demolition of 2nd part of Existing Control building to complete the new control Building as shown.
3. Completion of new Control Building with all facilities.

EXISTING | New

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD

Project Title: MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATION AUGMENTATION PROJECT

Funding Agency: ADB

Drawing Title: NEW CONTROL BUILDING (SINGLE STORY) & 33KV FEEDERS ARRANGEMENT EMBILIPITIYA GS

Scale - NTS | Rev. Date

Size - A3

Sheet 1 of 1 | Rev. 0

Dwg. No. MNEGSAP/EMB/03/002

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Drawn		
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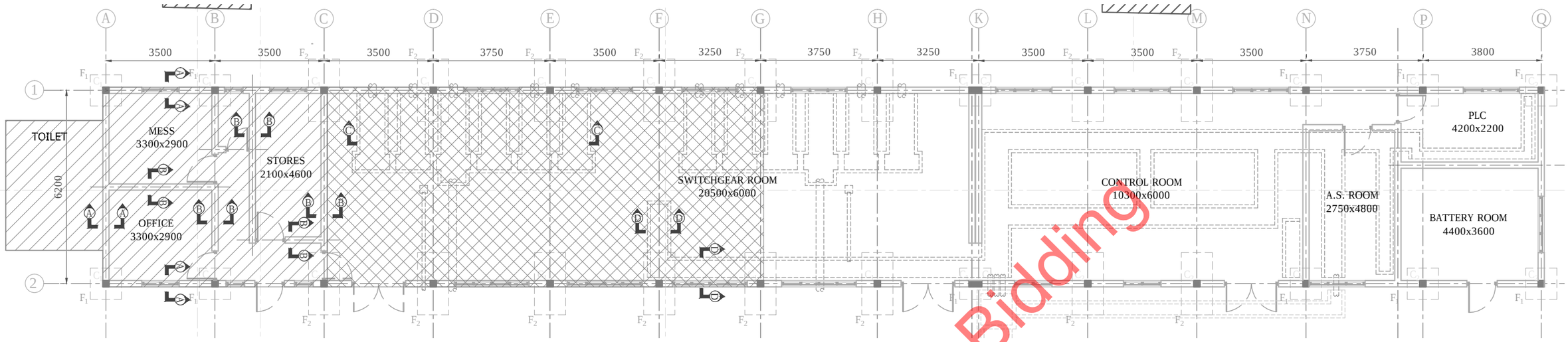
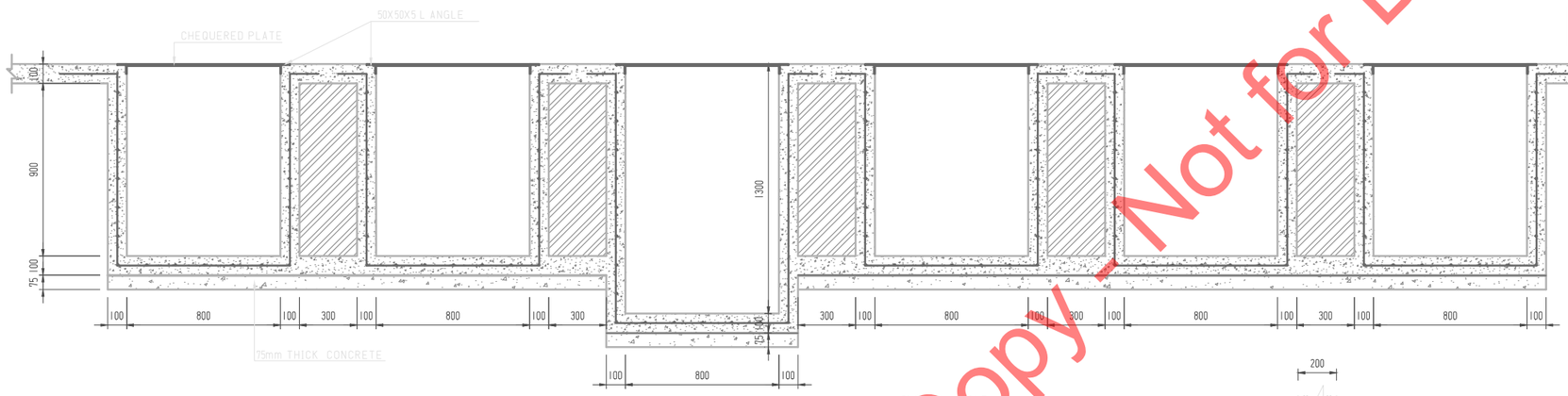
Checked		
Approved		

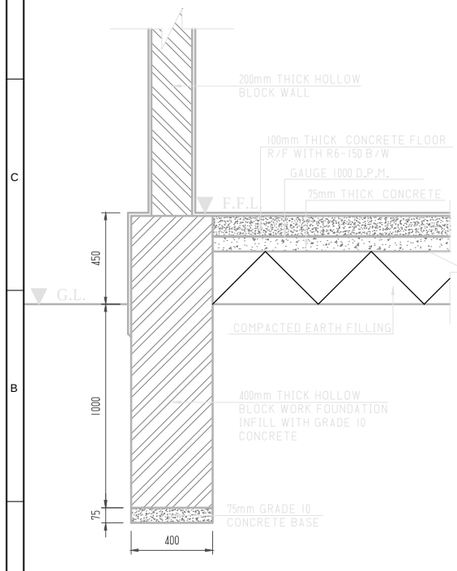
Released for: Tendering ✓ | Construction

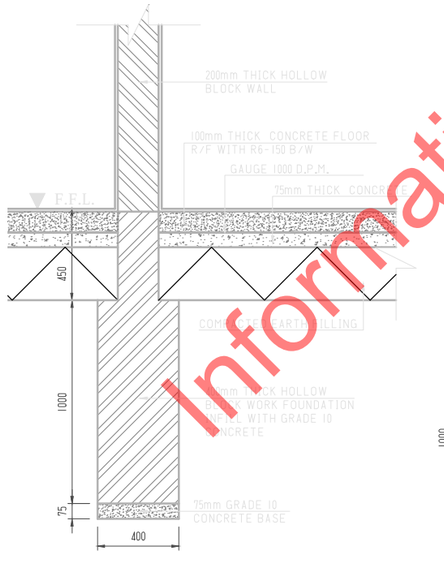


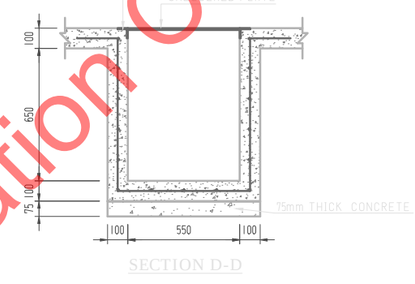
DEMOLISH UNDER THE 1st STAGE

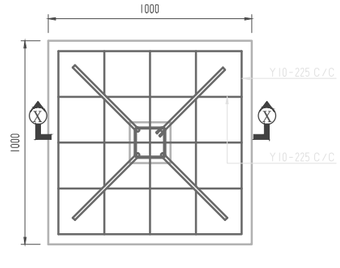
DEMOLISH UNDER THE 2nd STAGE

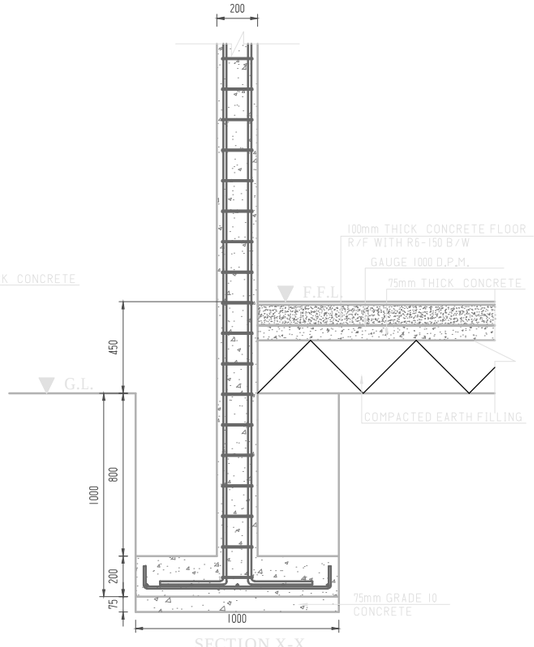


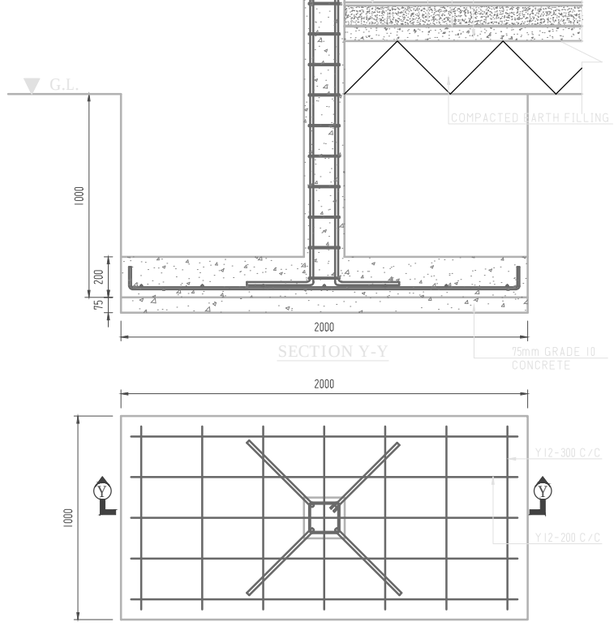












Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD

Project Title: MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATION AUGMENTATION PROJECT

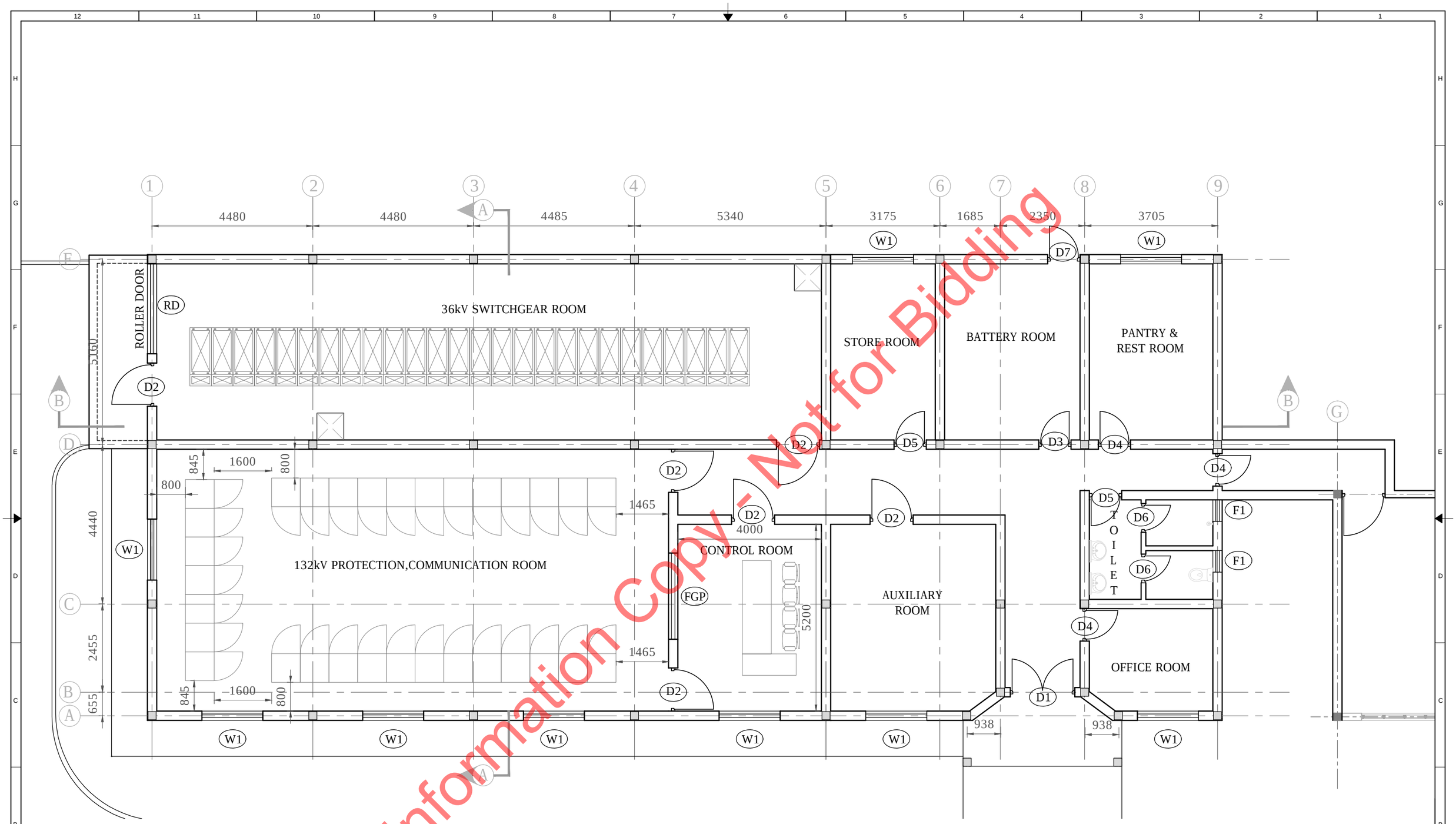
Funding Agency: ADB

Drawing Title: EXISTING CONTROL BUILDING FOUNDATION EMBILIPITIYA GS

Scale - 1:30 | Size - A3 | Sheet 1 of 1 | Dwg. No. MNEGSAP/EMB/03/003 | Rev. Date | Rev. 0

	Signature	Date
Drawn		
Designed		
Checked		
Approved		

Released for: Tendering ✓ / Construction



Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD

Project Title
MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATION AUGMENTATION PROJECT

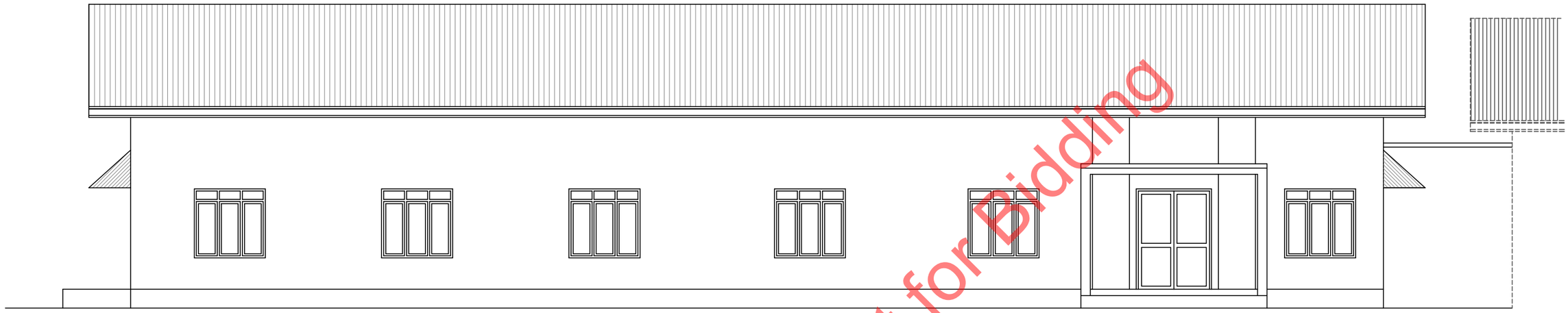
Funding Agency
ADB

Drawing Title
CONTROL BUILDING LAYOUT
EMBILIPITIYA GS

Scale - 1:100					Rev. Date	
Size - A3						
Sheet	1	of	1	Rev.	0	
Dwg. No. MNEGSAP/EMB/03/004						

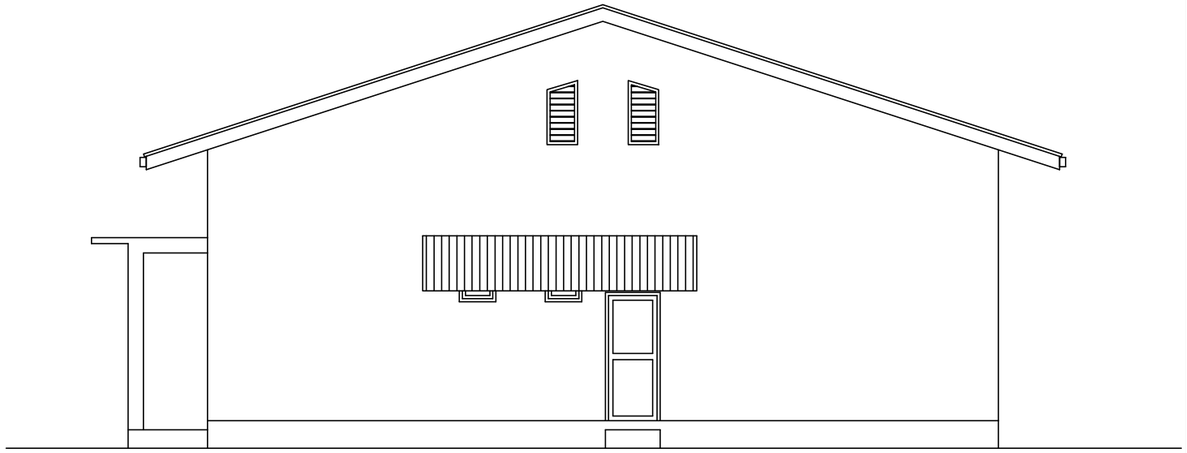
	Signature	Date
Drawn		
Designed		
Checked		
Approved		

Released for: Tendering ✓ / Construction



FRONT ELEVATION

LEFT HAND SIDE ELEVATION



RIGHT HAND SIDE ELEVATION

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD

Project Title: MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATION AUGMENTATION PROJECT

Funding Agency: ADB

Drawing Title: CONTROL BUILDING ELEVATION EMBILIPITIYA GS

Scale - 1:100 | Rev. Date

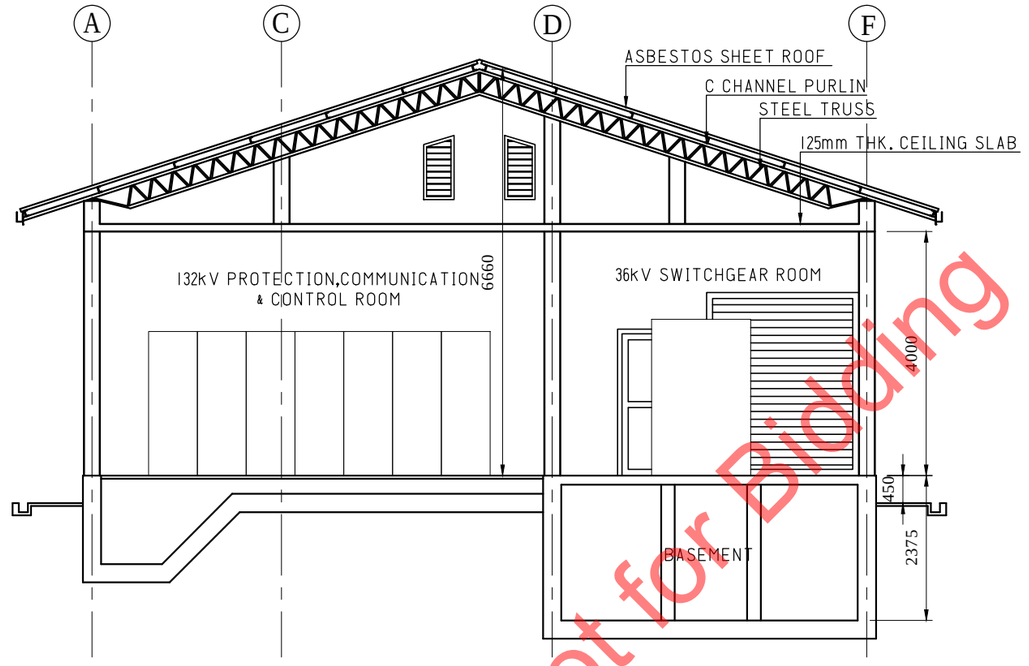
Size - A3

Sheet 1 of 1 | Rev. 0

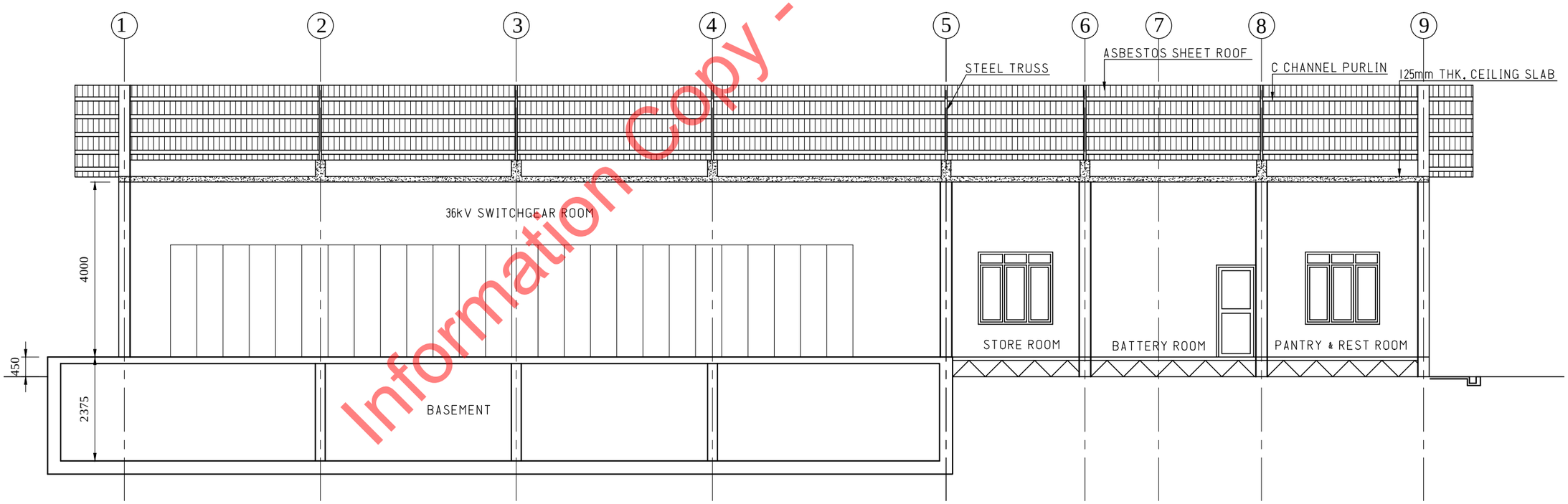
Dwg. No. MNEGSAP/EMB/03/005

	Signature	Date
Drawn		
Designed		
Checked		
Approved		

Released for: Tendering ✓ / Construction



SECTION A-A



SECTION B-B

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD

Project Title: MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATION AUGMENTATION PROJECT

Funding Agency: ADB

Drawing Title: CONTROL BUILDING SECTION EMBILIPITIYA GS

Scale - 1:100 | Rev. Date

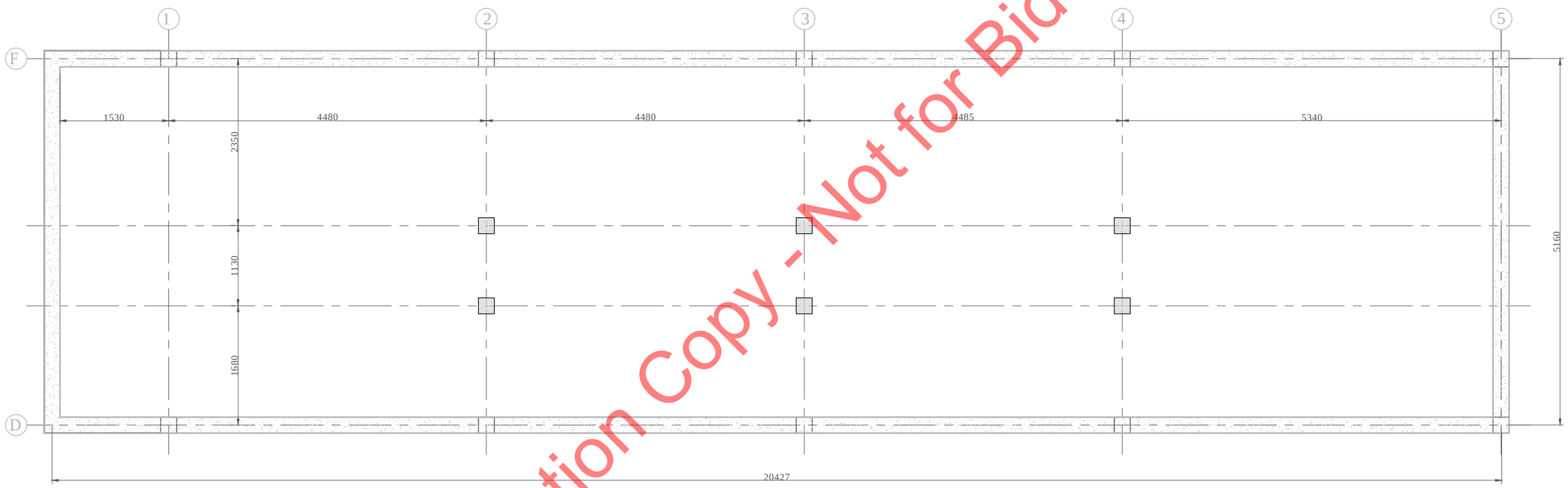
Size - A3

Sheet 1 of 1 | Rev. 0

Dwg. No. MNEGSAP/EMB/03/006

	Signature	Date
Drawn		
Designed		
Checked		
Approved		

Released for: Tendering ✓ / Construction



BASEMENT PLAN

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD

Project Title: MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATION AUGMENTATION PROJECT

Funding Agency: ADB

Drawing Title: CONTROL BUILDING BASEMENT EMBILIPITIYA GS

Scale - NTS | Rev. Date

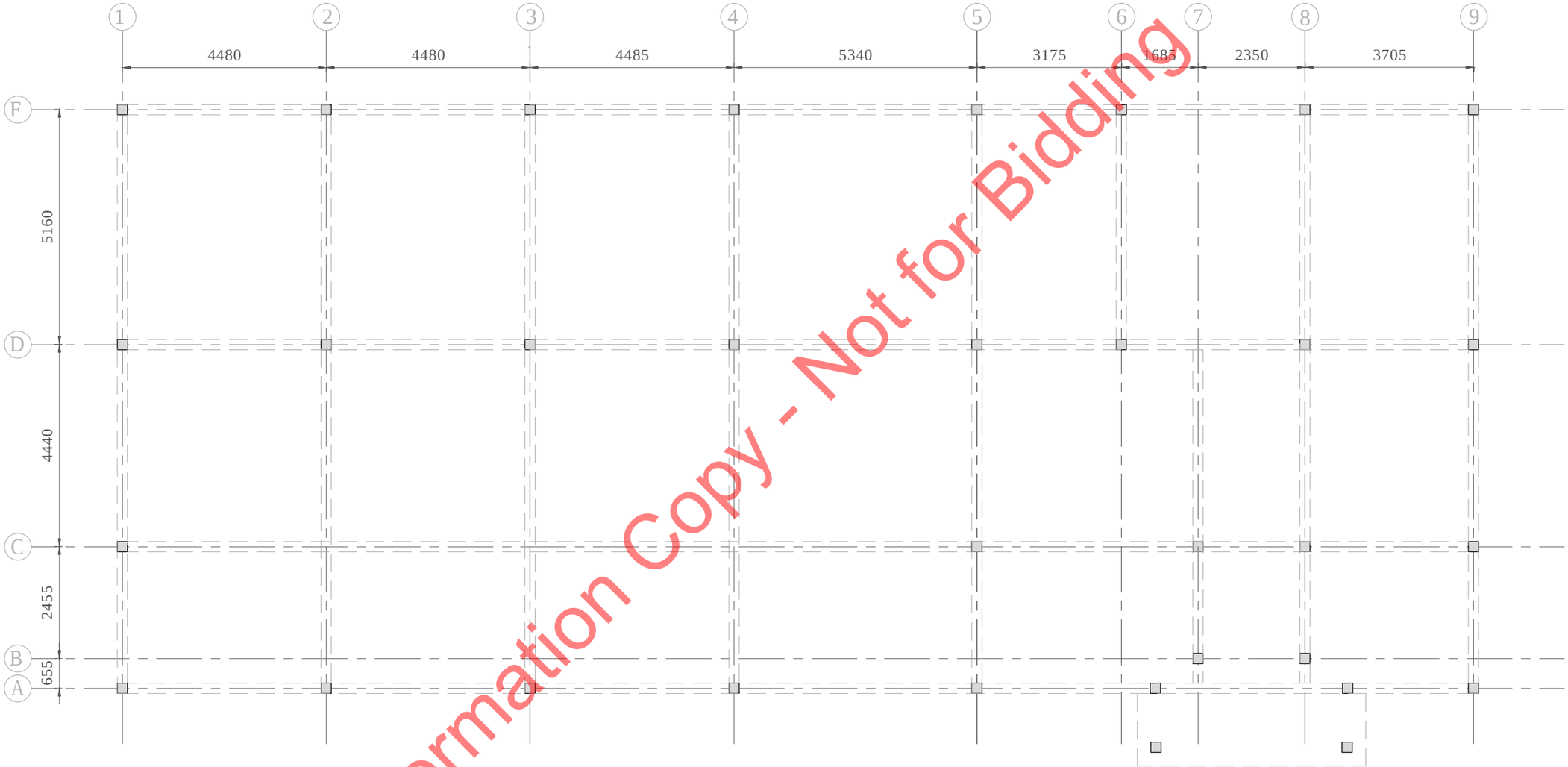
Size - A3

Sheet 1 of 1 | Rev. 0

Dwg. No. MNEGSAP/EMB/03/007

	Signature	Date
Drawn		
Designed		
Checked		
Approved		

Released for: Tendering ✓ | Construction



CONTROL BUILDING CEILING BEAM LAYOUT

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD

Project Title: MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATION AUGMENTATION PROJECT

Funding Agency: ADB

Drawing Title: CONTROL BUILDING CEILING BEAM LAYOUT EMBILIPITIYA GS

Scale - 1:100 | Rev. Date

Size - A3

Sheet 1 of 1 | Rev. 0

Dwg. No. MNEGSAP/EMB/03/008

	Signature	Date
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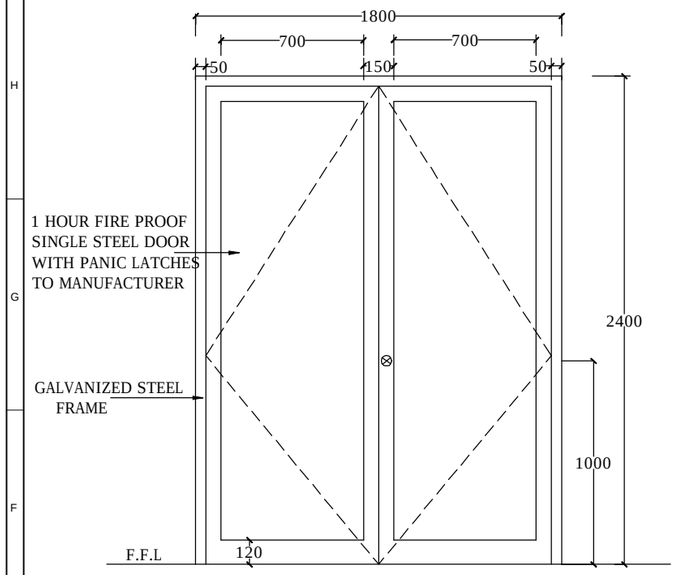
Designed		
Checked		
Approved		

Released for: Tendering ✓ / Construction



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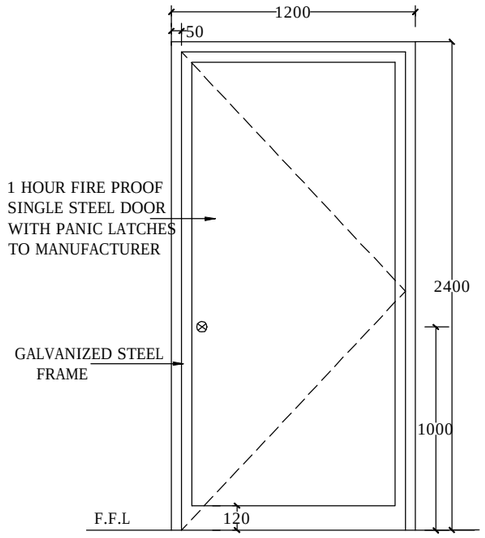

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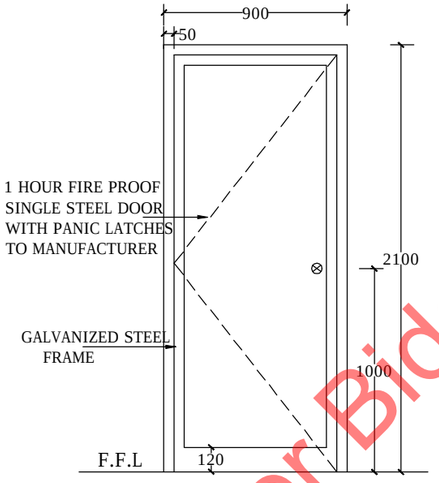

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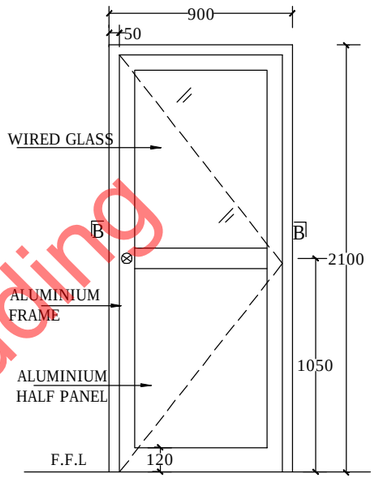

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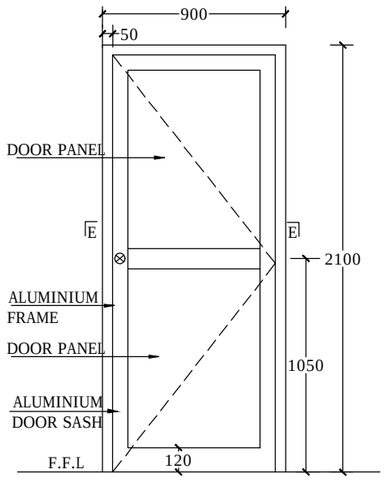

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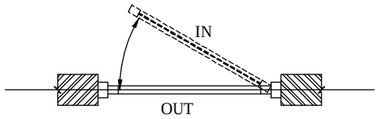
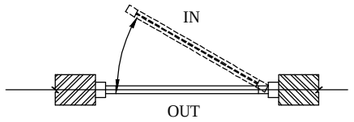


SECTION BB

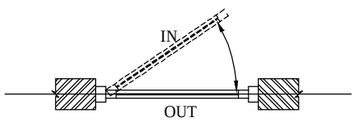


SECTION EE

DETAIL OF D6

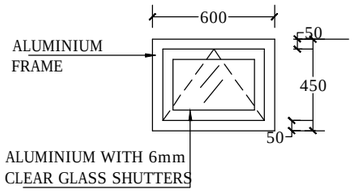
DETAIL OF D7

DETAIL OF W1



SECTION CC

SECTION DD



DETAIL OF F1

SCHEDULE OF DOORS & WINDOWS

TYPE	SIZE	DESCRIPTION	NOS.
D1	1800 X 2400	GALVANIZED STEEL FRAME FIRE PROOF STEEL DOOR WITH PANIC LATCHES DOUBLE DOOR	01
D2	1200 X 2400	GALVANIZED STEEL FRAME FIRE PROOF STEEL DOOR WITH PANIC LATCHES SINGLE DOOR	06
D3	900 X 2100	GALVANIZED STEEL FRAME FIRE PROOF STEEL DOOR WITH PANIC LATCHES SINGLE DOOR	01
RD	2500 X 3600	ROLLER DOOR	01
D4	900 X 2100	ALUMINIUM HALF PANEL WITH WIRED GLAZED DOOR	03
D5	900 X 2100	ALUMINIUM DOOR	02
D6	800 X 2100	ALUMINIUM DOOR	02
D7	900 X 2100	ALUMINIUM DOOR	01
W1	1700 X 1650	ALUMINIUM FRAME GLAZED WINDOW	09
F1	600 X 450	GLAZED FANLIGHT (ALUMINIUM FRAME)	02
FGP	2400 X 1200	FIX GLAZED PANEL (ALUMINIUM FRAME)	01

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD

Project Title: MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATION AUGMENTATION PROJECT

Funding Agency: ADB

Drawing Title: CONTROL BUILDING DOOR & WINDOW SCHEDULE EMBILIPITIYA GS

Scale - 1:30 | Rev. Date

Size - A3

Sheet 1 of 1 | Rev. 0

Dwg. No. MNEGSAP/EMB/03/009

	Signature	Date
Drawn		
Designed		
Checked		
Approved		

Released for: Tendering ✓ | Construction

PROPOSED NEW LOCATION FOR
FEEDER BAY NO 1,
FEEDER BAY NO 2 &
NEW FEEDER BAY

FEEDER BAY NO 8

FEEDER BAY NO 3

FEEDER BAY NO 4

FEEDER BAY NO 7

FEEDER BAY NO 5

FEEDER BAY NO 6

NEW 33kV POWER CABLE TRENCH

ROLLER DOOR

36kV SWITCHGEAR ROOM

132kV PROTECTION,COMMUNICATION & CONTROL ROOM

PROPOSED CONTROL BUILDING

CONCRETE CABLE TRENCH

FGP

STORE ROOM

BATTERY ROOM

PANTRY &
REST ROOM

AUXILIARY
ROOM

TOILET

OFFICE ROOM

CONTROL ROOM
10300x6000

PLC
4200x2200

A.S. ROOM
2750x4800

BATTERY ROOM
4400x3600

1400

NEW CONTROL CABLE TRENCH

CONCRETE ENCASEMENT

NEW POWER CABLE TRENCH

PT & PLC

R Y B R Y B

R Y B

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD

Project Title

MANNAR, NADUKUDA, EMBILIPITIYA GRID
SUBSTATION AUGMENTATION PROJECT

Funding Agency

ADB

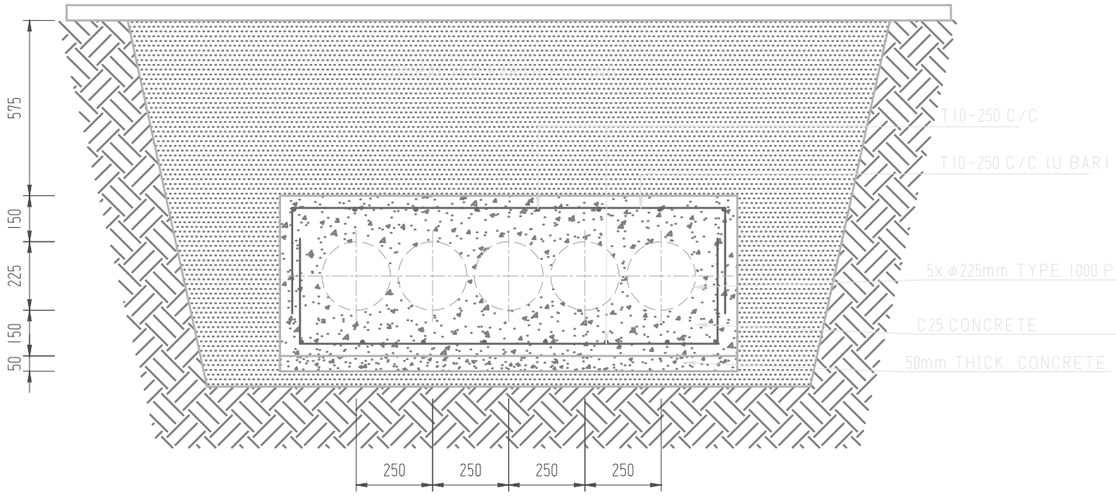
Drawing Title

CABLE ROUTES LAYOUT
EMBILIPITIYA GS

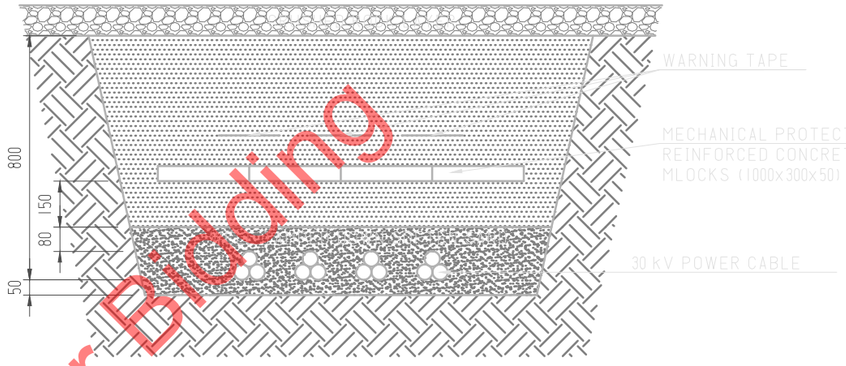
Scale - NTS				Rev. Date	
Size - A3					
Sheet	1	of	1	Rev.	0
Dwg. No. MNEGSAP/EMB/03/010					

	Signature	Date
Drawn		
Designed		
Checked		
Approved		

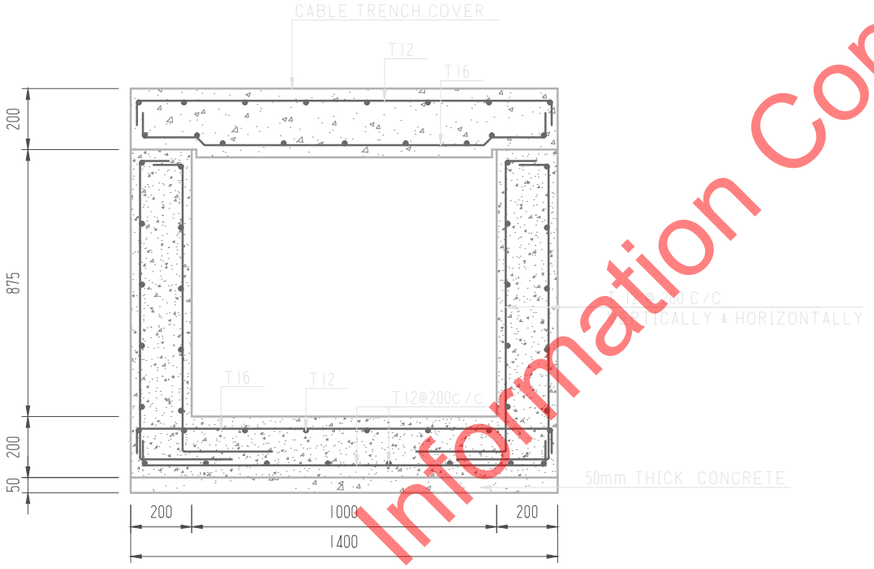
Released for: Tendering ✓ / Construction



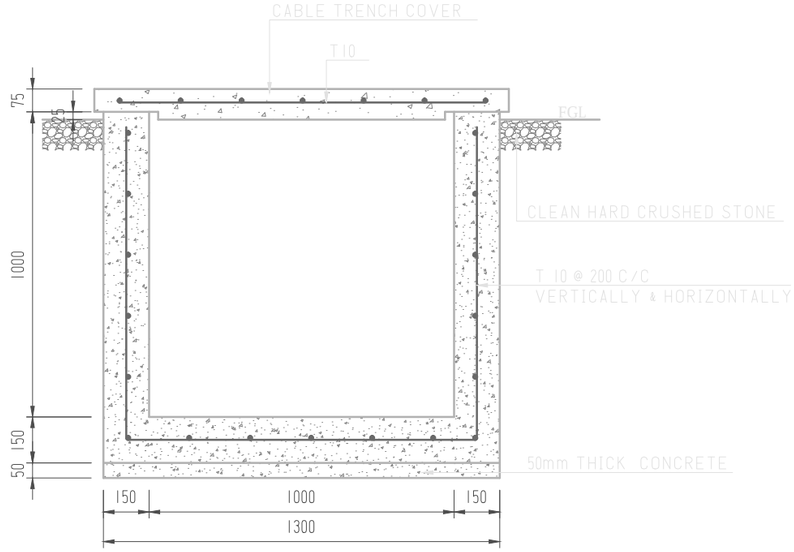
CABLE PASSING UNDER ROAD



CABLE ROUTE (33kV)



CABLE TRENCH SECTION
(ROAD CROSSING)



CABLE TRENCH SECTION

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD

Project Title: MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATION AUGMENTATION PROJECT

Funding Agency: ADB

Drawing Title: TYPICAL CABLE TRENCH/ROUTE SECTION DETAILS

Scale - 1:20 | Rev. Date

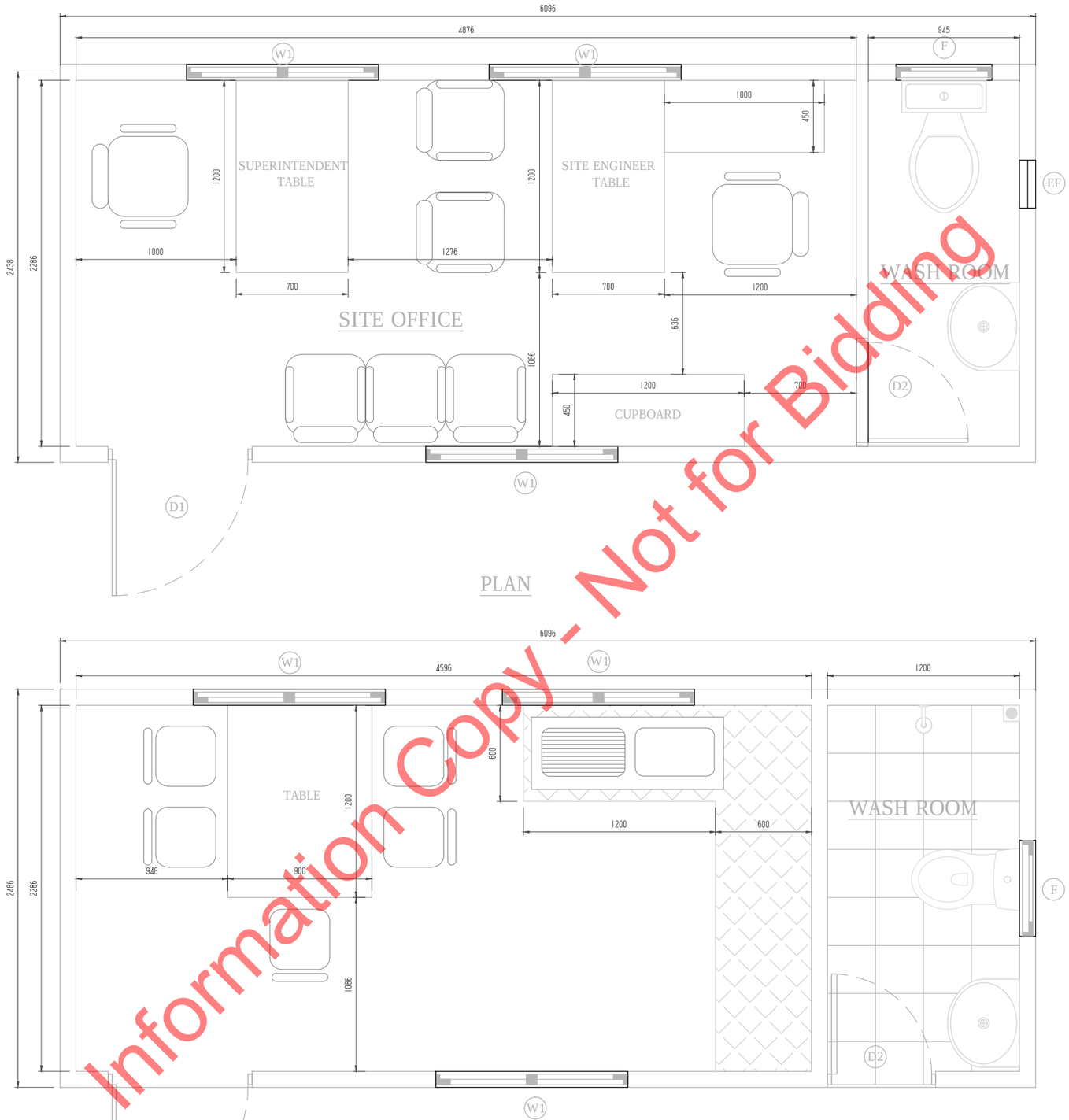
Size - A3

Sheet 1 of 1 | Rev. 0

Dwg. No. MNEGSAP/EMB/03/011

	Signature	Date
Drawn		
Designed		
Checked		
Approved		

Released for: Tendering ✓ | Construction



PLAN

PLAN

Rev. No.	Date	Description	Drawn	Checked	Approved

CEYLON ELECTRICITY BOARD

Project Title: MANNAR, NADUKUDA, EMBILIPITIYA GRID SUBSTATION AUGMENTATION PROJECT

Funding Agency: ADB

Drawing Title: TEMPORARY SITE OFFICES EMBILIPITIYA GS

Scale - 1:30 | Rev. Date

Size - A3

Sheet 1 of 1 | Rev. 0

Dwg. No. MNEGSAP/EMB/03/012

	Signature	Date
Drawn		
Designed		
Checked		
Approved		

Released for: Tendering ✓ / Construction