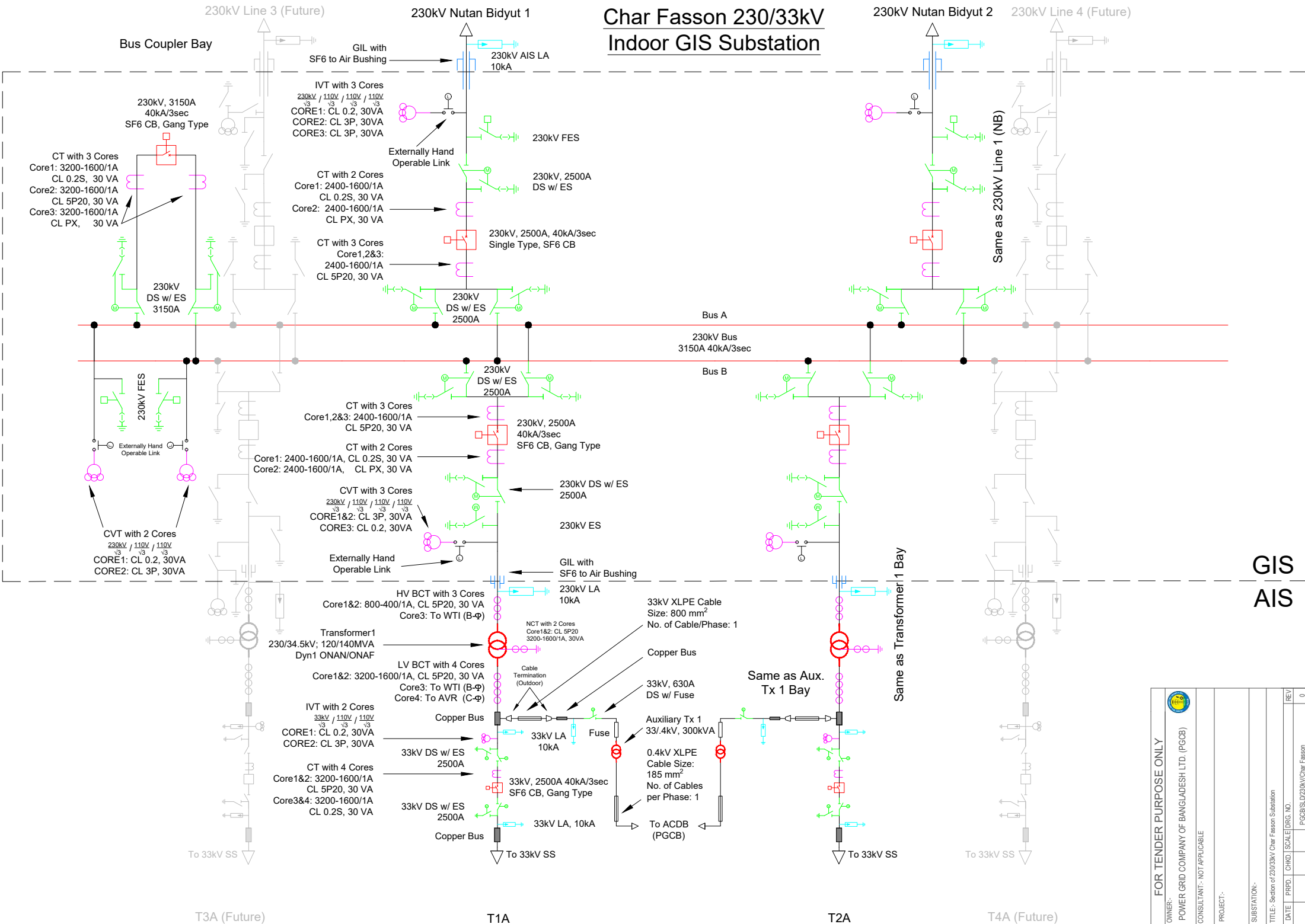


Char Fasson 230/33kV Indoor GIS Substation

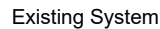


GIS
— — —
AIS

NUTAN BIDYUT 230kV
INDOOR GIS SUBSTATION



SPARE BAY
FOR FUTURE USE



SYMBOL	DESCRIPTION	EQUIPMENT IDENTIFICATION
	230kV, 1600A, 40kA/3sec CIRCUIT-BREAKER (GIS)	Q0
	230kV, 1600A, 40kA/3sec, MOTOR-OPERATED DISCONNECTING SWITCH (GIS)	Q1, Q2, Q6, Q11, Q12, Q22, Q61, Q62, Q91, Q92
	230kV, 40kA/3sec, MOTOR-OPERATED EARTHING SWITCH (GIS)	Q15, Q25, Q51, Q52, Q53, Q54
	230kV, 40kA/3sec, HIGH SPEED EARTHING SWITCH (GIS)	Q52, Q81, Q82
	230kV, 40kA/3sec, HIGH SPEED EARTHING SWITCH (INSULATED) (GIS)	Q51, Q52, Q53, Q54
	230kV CABLE SEALING END	Z2
	230kV OUTDOOR CABLE SEALING END	Z3
	SF6-AIR-BUSHING (GIS)	Z11, Z21
	VOLTAGE TRANSFORMER (GIS)	T5, T6, T15, T25
	216KV, 10kA, CL-3, LIGHTNING ARRESTOR	LA
	CURRENT TRANSFORMER (GIS)	T1, T1.1, T2, T2.1, T3
	230kV EHV CABLE	-
	DEAD TANK CIRCUIT BREAKER WITH CTs (AIS TYPE)	DTCB-1, DTCB-2
	CENTER BREAK DISCONNECTOR WITH ONE EARTH SWITCH (AIS TYPE)	DS-1, DS-2

SYSTEM PARAMETERS		
SL.NO.	DESCRIPTION OF PARAMETERS	SYSTEM RATING
01	NOMINAL SYSTEM VOLTAGE (kV)	230 KV
02	HIGHEST SYSTEM VOLTAGE (kV)	245 KV
03	BASIC IMPULSE WITHSTAND VOLTAGE (kV)	1050 KVp
04	POWER FREQUENCY WITHSTAND VOLTAGE DRY AND WET (kV rms)	460/530 kVrms
05	SYSTEM FAULT LEVEL (kA)	40 for 3Sec.
06	SYSTEM NEUTRAL GROUNDING	EFFECTIVELY EARTHED
07	SYSTEM FREQUENCY (Hz)	50
08	BUS CONFIGURATION	ONE & HALF BREAKER
09	NO. OF PHASES	3
10	NOMINAL CREEPAGE DISTANCE	31mm/kV

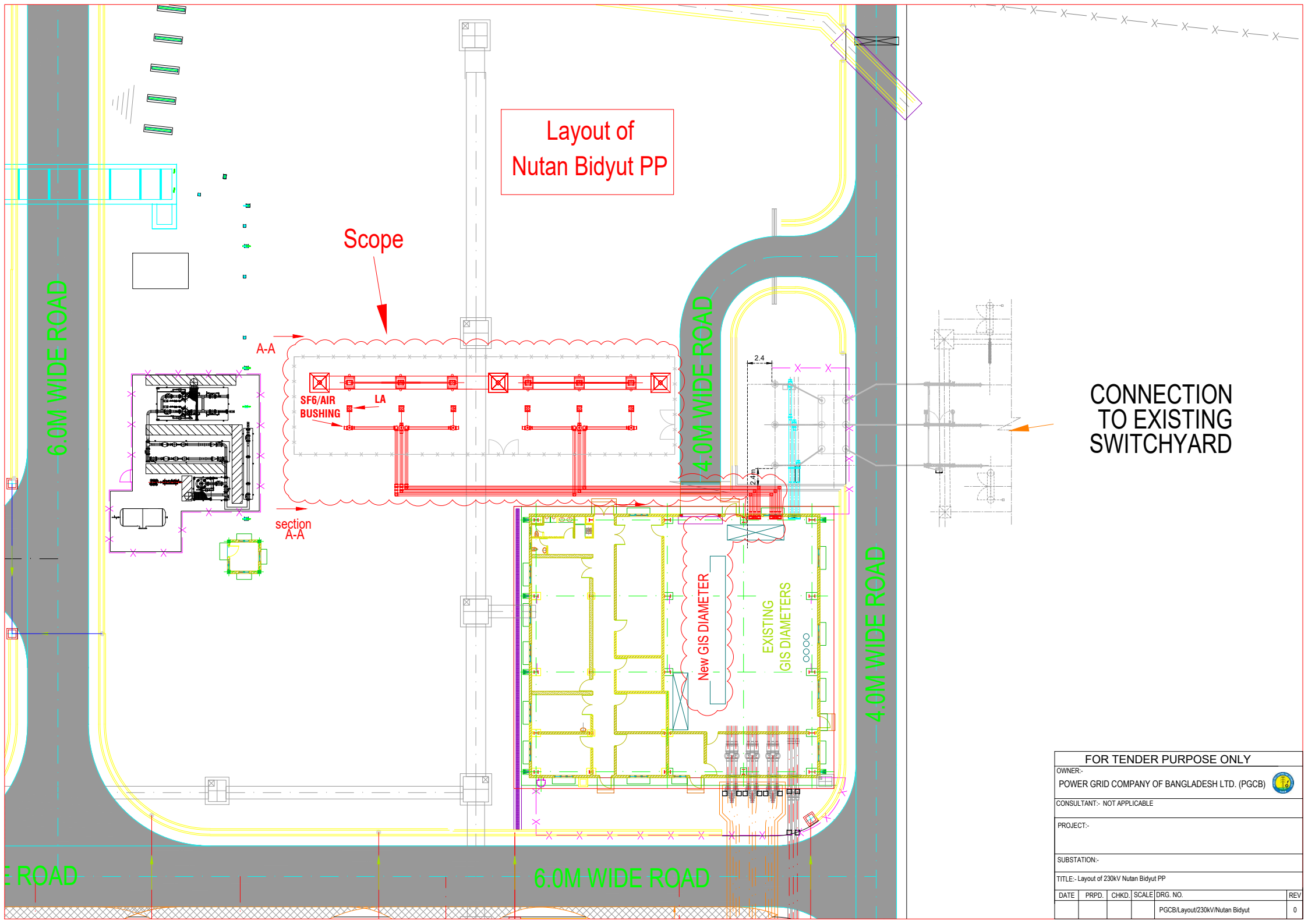
AIS

OWNER:- POWER GRID COMPANY OF BANGLADESH (PGCB)					
CONSULTANT:- NOT APPLICABLE					
PROJECT:					
SUBSTATION:					
TITLE: Single Line Diagram of Nutan Bidyut 230kV Substation					
DATE	PRPD.	CMD.	SCALE	DWG.NO.	REV
				PGCB/SLD/230kV/Nutan Bidyut	0

ALL DIMENSIONS ARE IN METERS (m)



FOR TENDER PURPOSE ONLY					1
OWNER:- POWER GRID COMPANY OF BANGLADESH LTD. (PGCB)					
CONSULTANT:- NOT APPLICABLE					
PROJECT:-					
SUBSTATION:-					
TITLE:- Layout of 230/33KV Char Fason Substation					
DATE	PRPD	CHMD	SCALE	DRG. NO.	REV
				PGCB/Layout/230kv/Char Fason	0



Layout of
Nutan Bidyut PP

Scope

A-A

SF6/AIR
BUSHING

LA

section
A-A

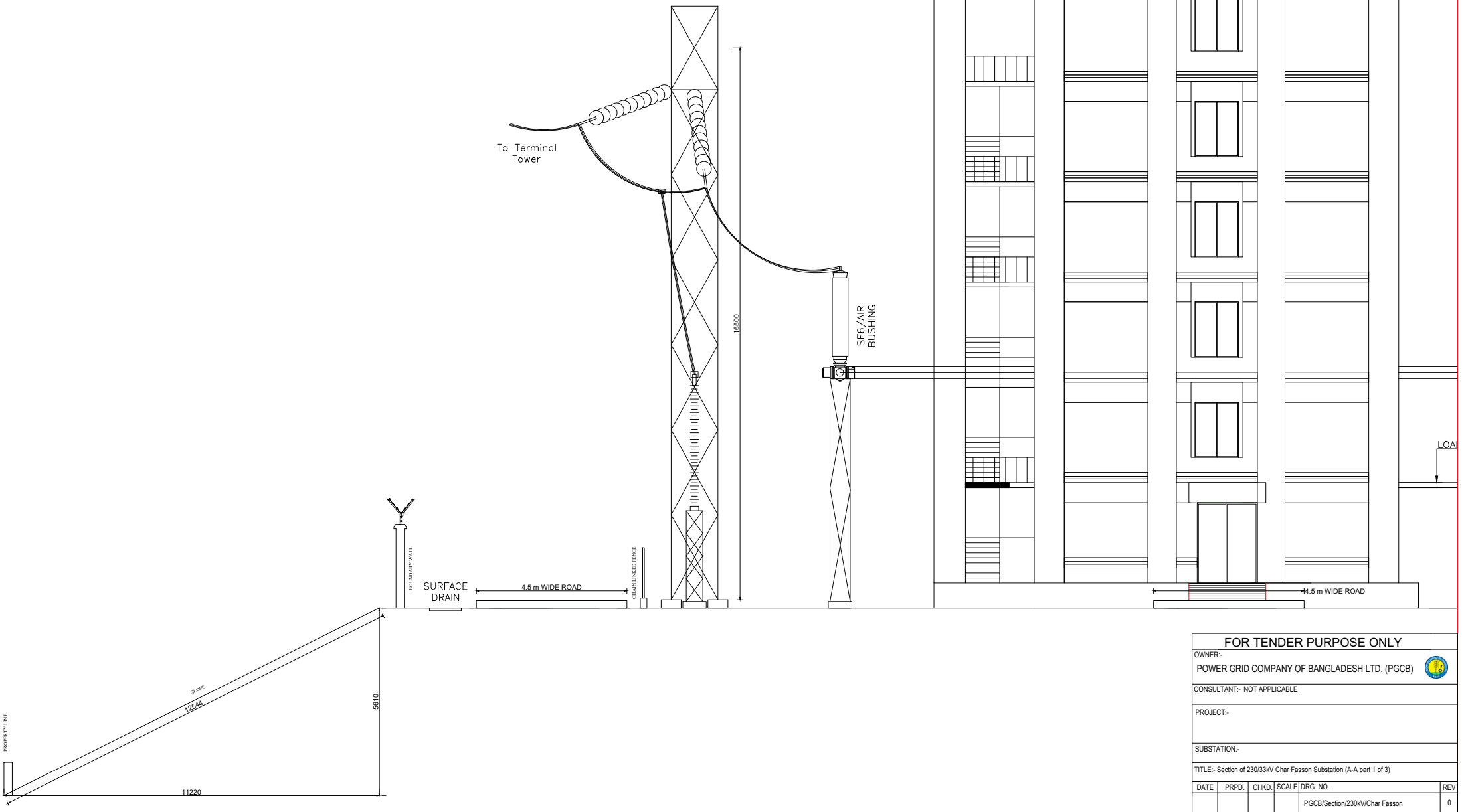
New GIS DIAMETER

EXISTING
GIS DIAMETERS

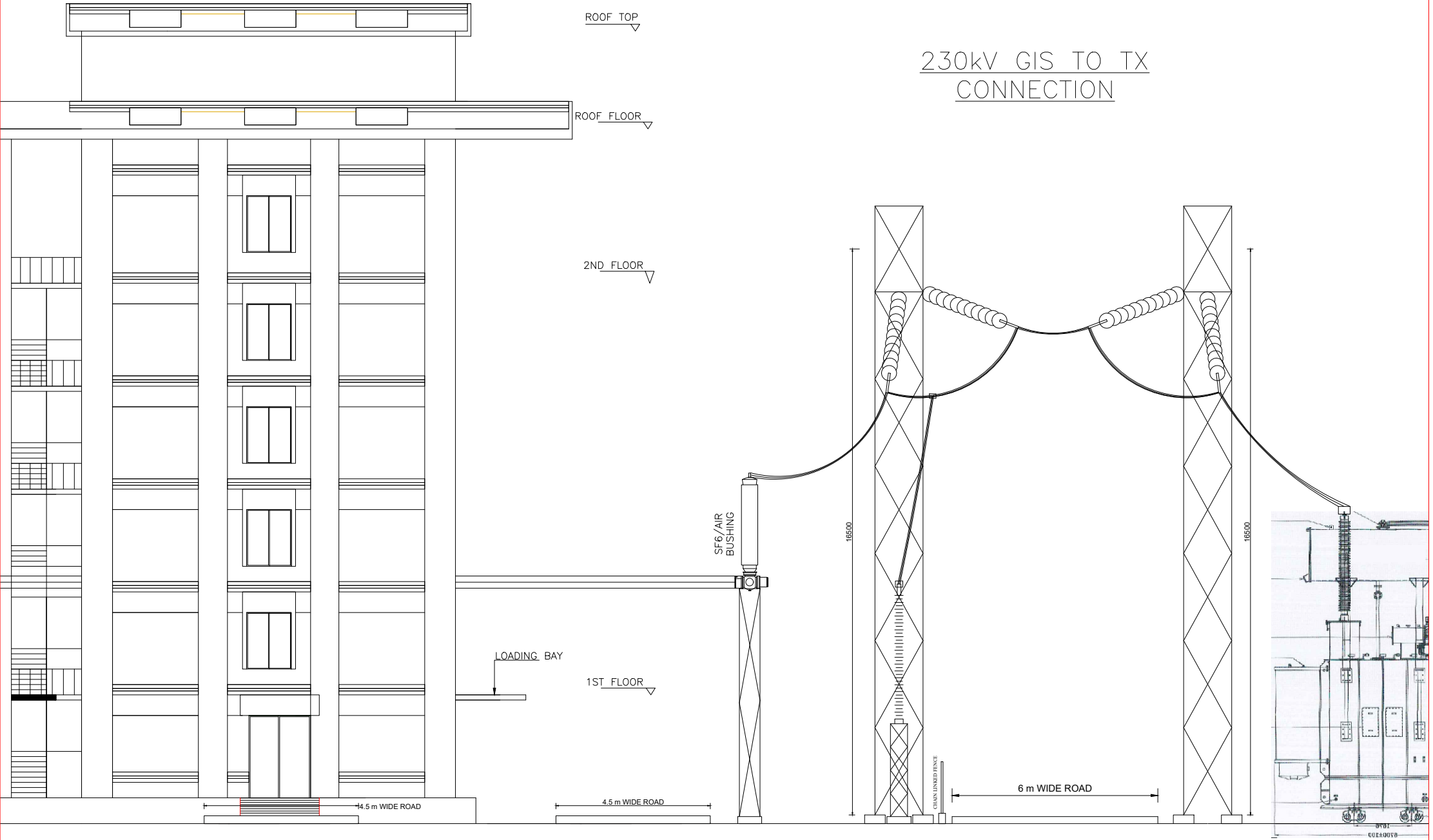
CONNECTION
TO EXISTING
SWITCHYARD

FOR TENDER PURPOSE ONLY					
OWNER:- POWER GRID COMPANY OF BANGLADESH LTD. (PGCB)					
CONSULTANT:- NOT APPLICABLE					
PROJECT:-					
SUBSTATION:-					
TITLE:- Layout of 230kV Nutan Bidyut PP					
DATE	PRPD.	CHKD.	SCALE	DRG. NO.	REV
				PGCB/Layout/230kV/Nutan Bidyut	0

230kV LINE TO
GIS CONNECTION



FOR TENDER PURPOSE ONLY					
OWNER:-					
POWER GRID COMPANY OF BANGLADESH LTD. (PGCB)					
CONSULTANT:- NOT APPLICABLE					
PROJECT:-					
SUBSTATION:-					
TITLE:- Section of 230/33kV Char Fasson Substation (A-A part 1 of 3)					
DATE	PRPD.	CHKD.	SCALE	DRG. NO.	REV
				PGCB/Section/230kV/Char Fasson	0



FOR TENDER PURPOSE ONLY									
OWNER:									
POWER GRID COMPANY OF BANGLADESH LTD. (PGCB)									
CONSULTANT- NOT APPLICABLE									
PROJECT-									
SUBSTATION-									
TITLE- Section of 230kV/Char Fason Substation (A.A part 2 of 3)									
DATE	PRD	CHKD	SCALE	DRG NO	REV				
				PGCB/Section/230V/Char Fason	0				

FOR TENDER PURPOSE ONLY

OWNER:-
POWER GRID COMPANY OF BANGLADESH LTD. (PGCB)



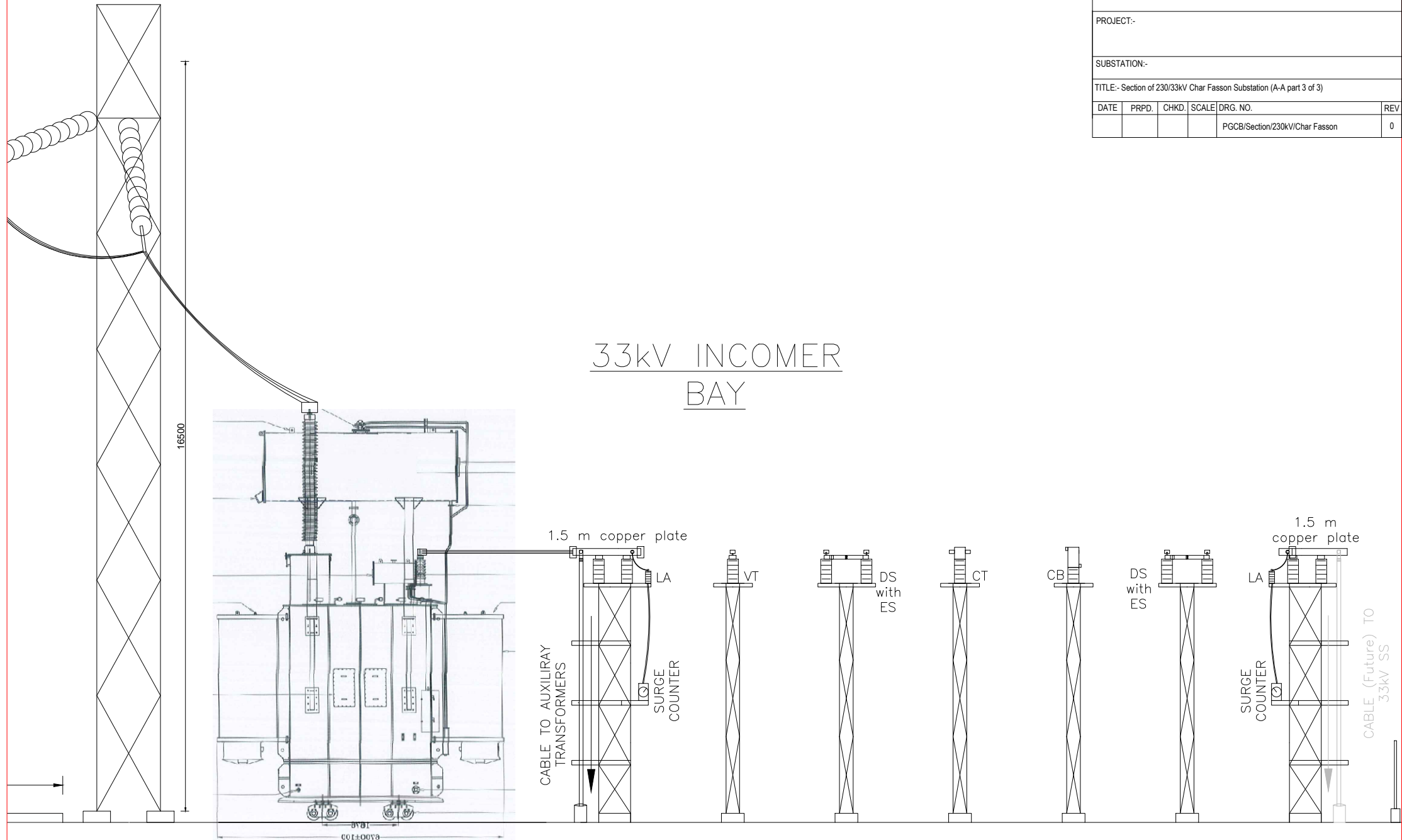
CONSULTANT:- NOT APPLICABLE

PROJECT:-

SUBSTATION:-

TITLE:- Section of 230/33kV Char Fasson Substation (A-A part 3 of 3)

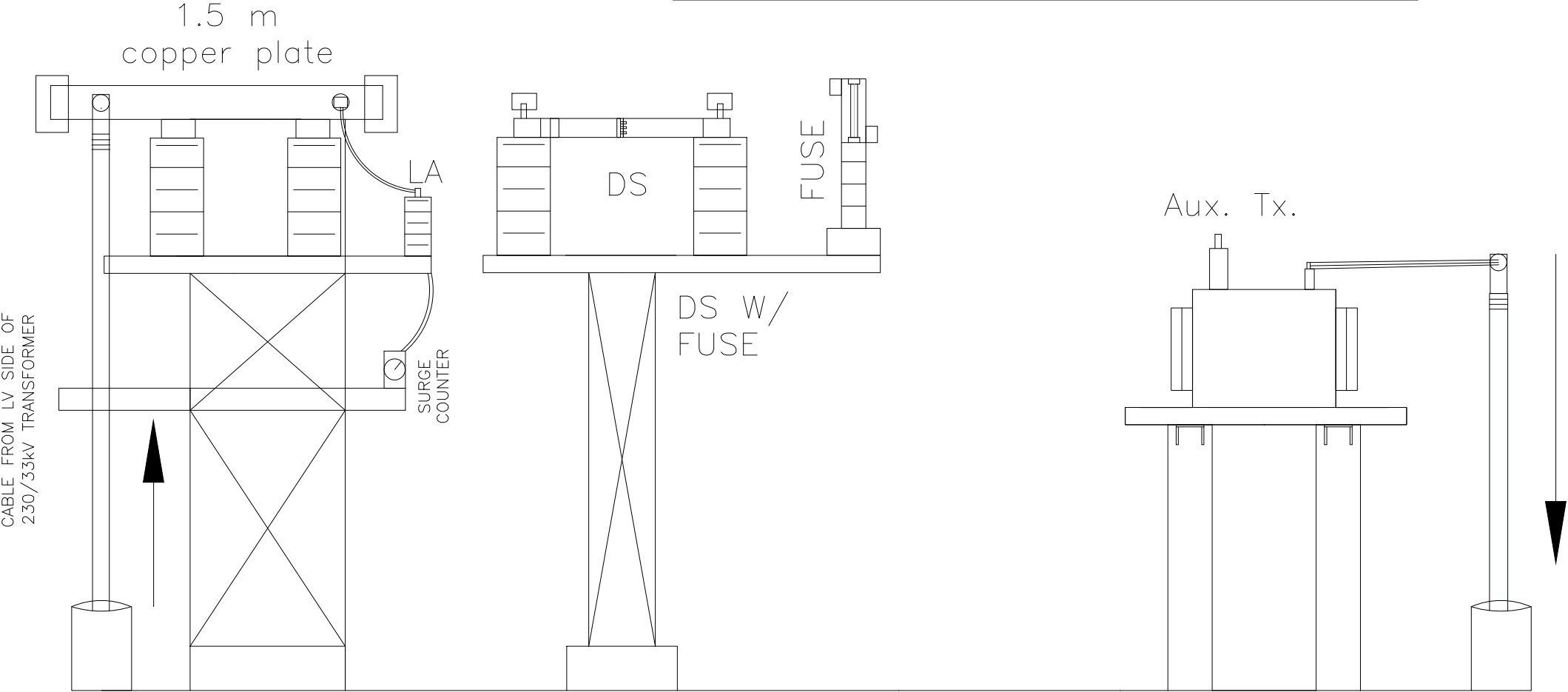
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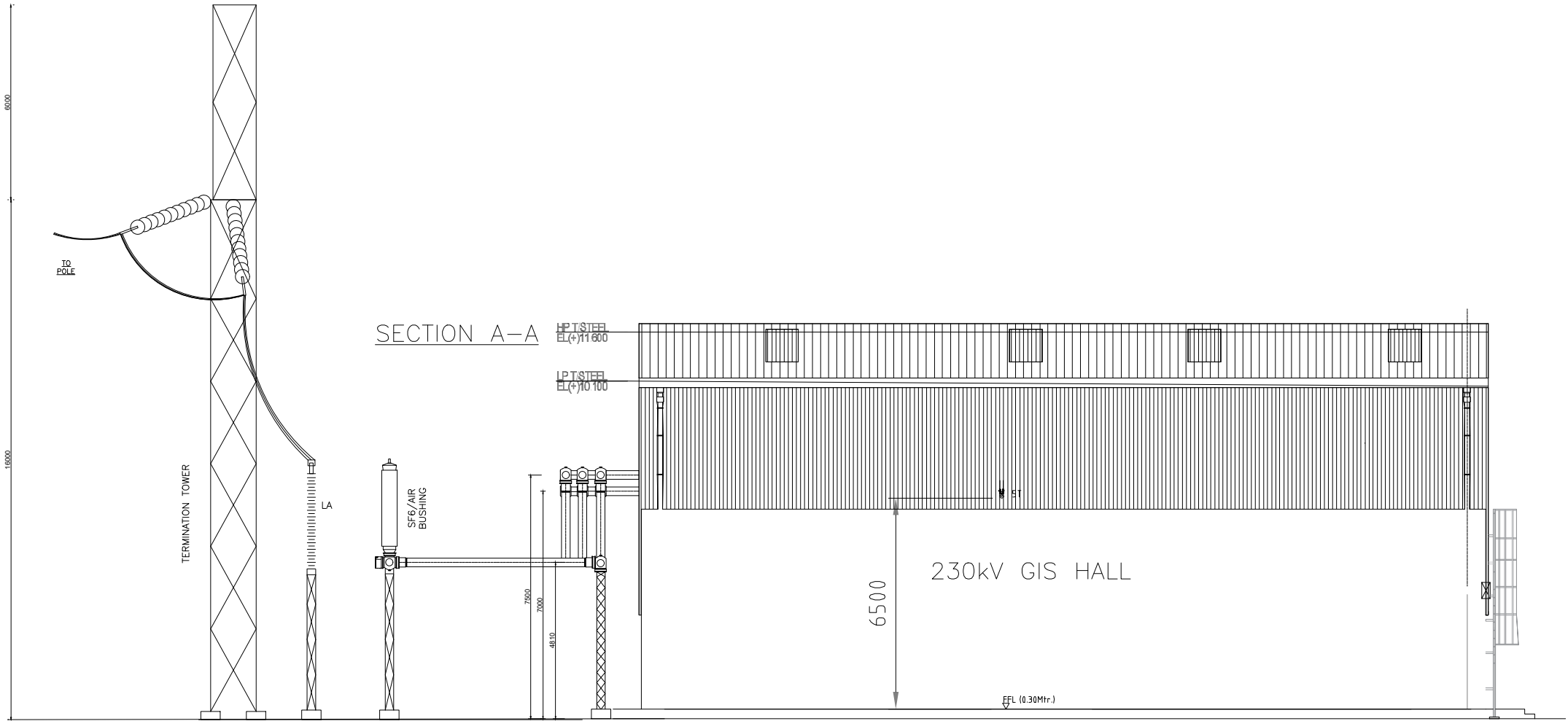




DATE	PRPD.	CHKD.	SCALE	DRG. NO.	REV
				PGCB/Section/230kV/Char Fasson	0

AUXILIARY TRANSFORMER BAY





FOR TENDER PURPOSE ONLY

OWNER:-

POWER GRID COMPANY OF BANGLADESH LTD. (PGCB)



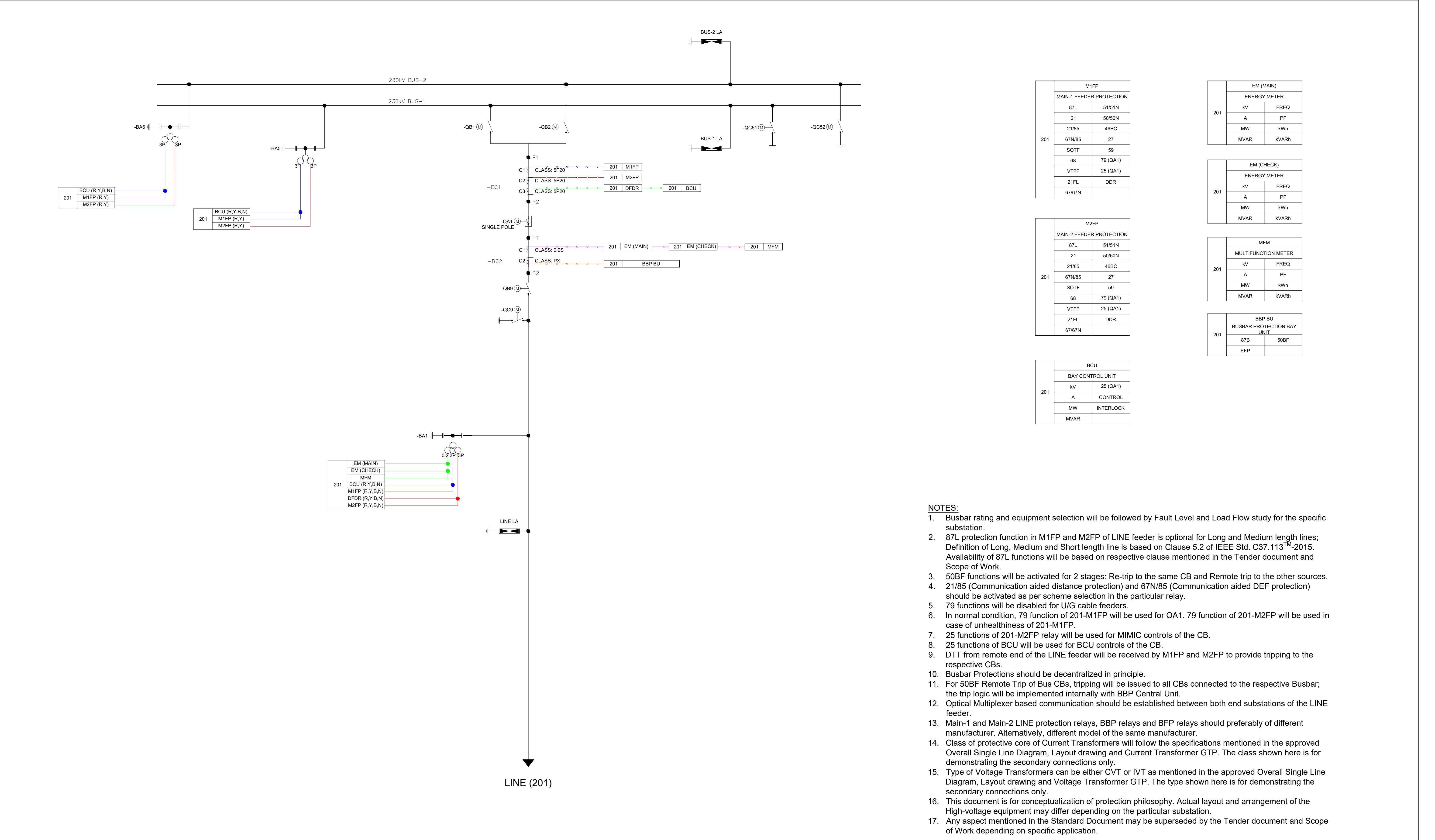
CONSULTANT:- NOT APPLICABLE

PROJECT:-

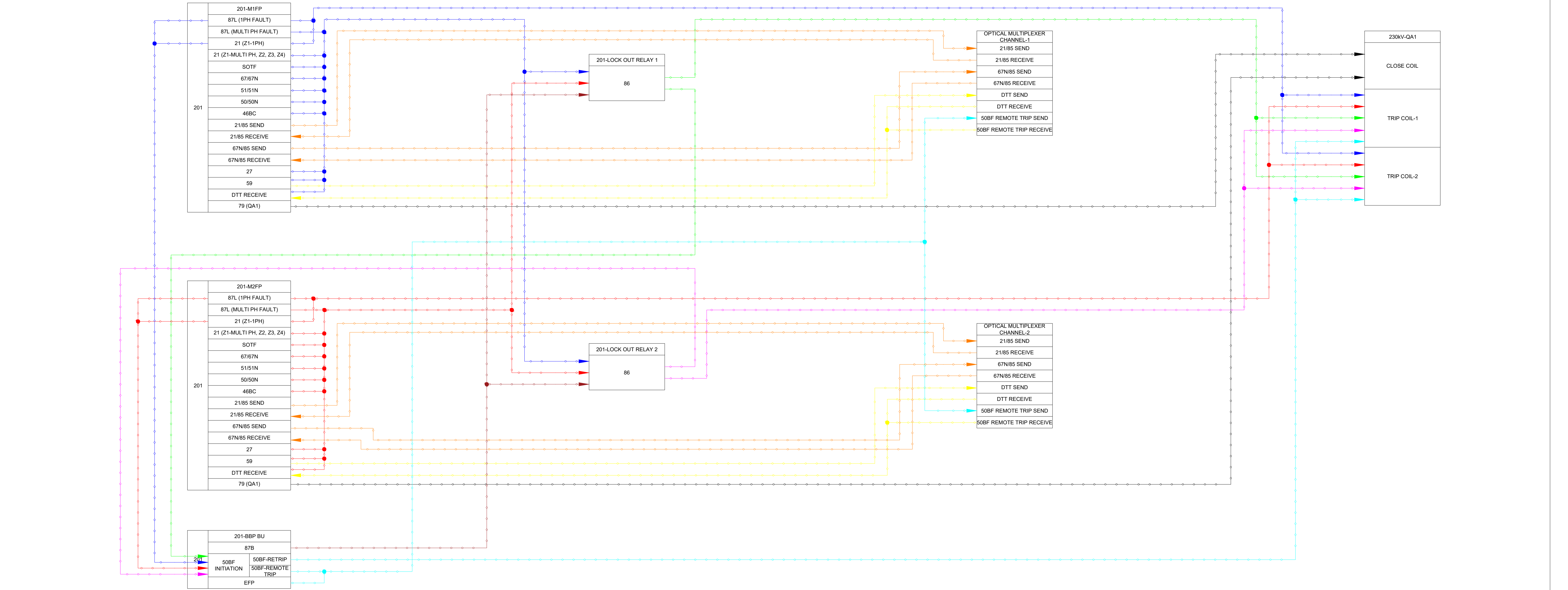
SUBSTATION:-

TITLE:- Section of 230kV Nutan Bidyut PP (B-B)

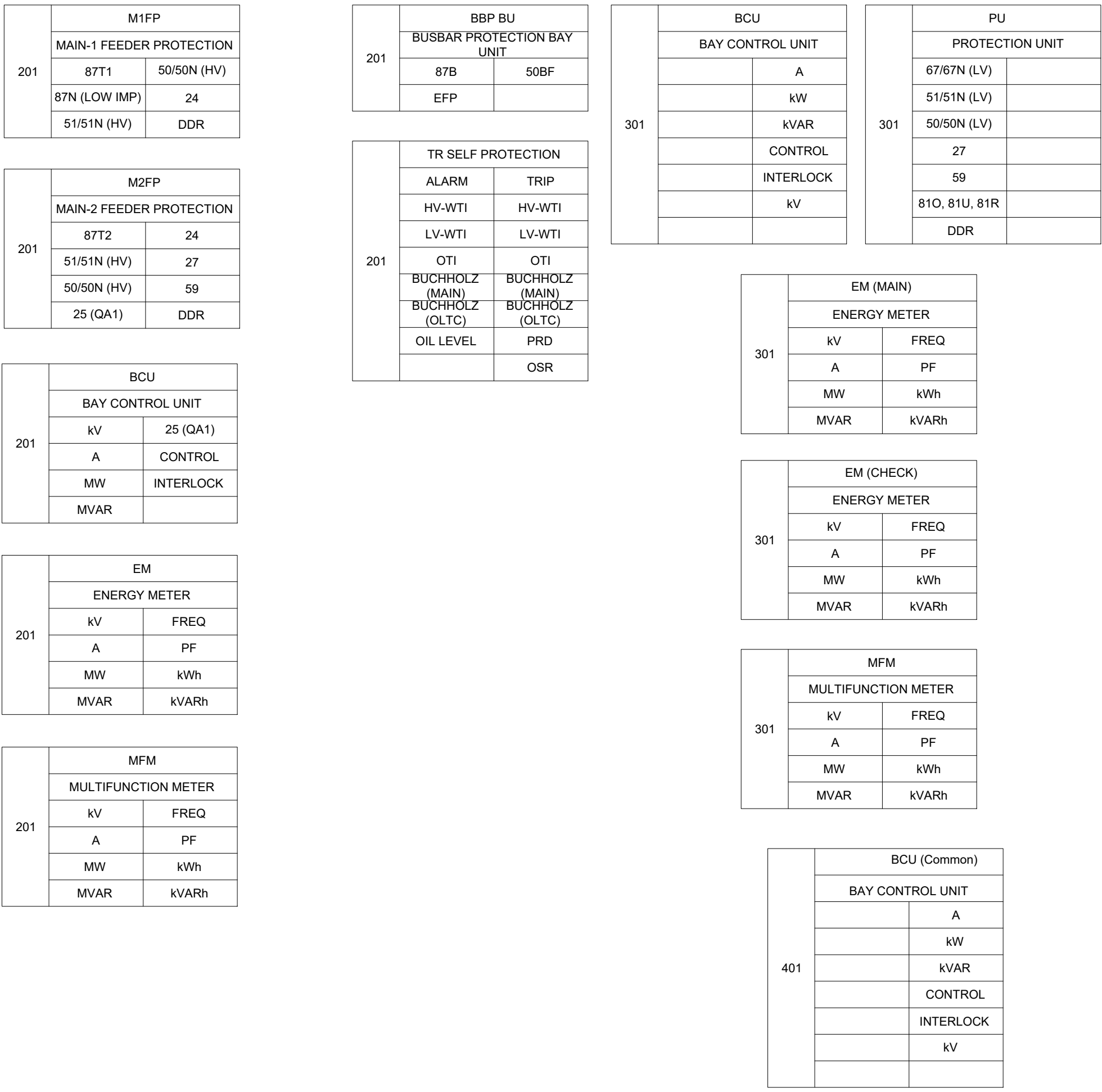
DATE	PRPD.	CHKD.	SCALE	DRG. NO.	REV
				PGCB/Section/230kV/Nutan Bidyut	0



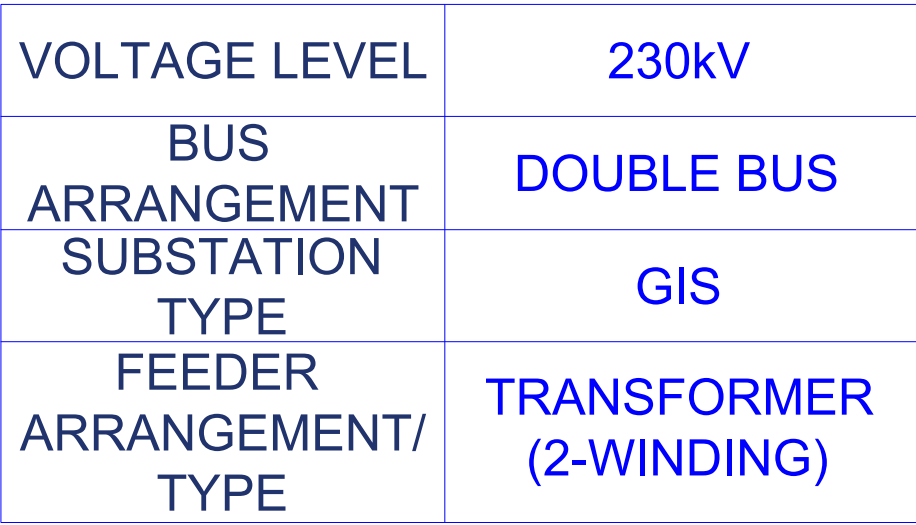
- NOTES:**
- Busbar rating and equipment selection will be followed by Fault Level and Load Flow study for the specific substation.
 - 87L protection function in M1FP and M2FP of LINE feeder is optional for Long and Medium length lines; Definition of Long, Medium and Short length line is based on Clause 5.2 of IEEE Std. C37.113TM-2015. Availability of 87L functions will be based on respective clause mentioned in the Tender document and Scope of Work.
 - 50BF functions will be activated for 2 stages: Re-trip to the same CB and Remote trip to the other sources.
 - 21/85 (Communication aided distance protection) and 67N/85 (Communication aided DEF protection) should be activated as per scheme selection in the particular relay.
 - 79 functions will be disabled for U/G cable feeders.
 - In normal condition, 79 function of 201-M1FP will be used for QA1. 79 function of 201-M2FP will be used in case of unhealthiness of 201-M1FP.
 - 25 functions of 201-M2FP relay will be used for MIMIC controls of the CB.
 - 25 functions of BCU will be used for BCU controls of the CB.
 - DTT from remote end of the LINE feeder will be received by M1FP and M2FP to provide tripping to the respective CBs.
 - Busbar Protections should be decentralized in principle.
 - For 50BF Remote Trip of Bus CBs, tripping will be issued to all CBs connected to the respective Busbar; the trip logic will be implemented internally with BBP Central Unit.
 - Optical Multiplexer based communication should be established between both end substations of the LINE feeder.
 - Main-1 and Main-2 LINE protection relays, BBP relays and BFP relays should preferably of different manufacturer. Alternatively, different model of the same manufacturer.
 - Class of protective core of Current Transformers will follow the specifications mentioned in the approved Overall Single Line Diagram, Layout drawing and Current Transformer GTP. The class shown here is for demonstrating the secondary connections only.
 - Type of Voltage Transformers can be either CVT or IVT as mentioned in the approved Overall Single Line Diagram, Layout drawing and Voltage Transformer GTP. The type shown here is for demonstrating the secondary connections only.
 - This document is for conceptualization of protection philosophy. Actual layout and arrangement of the High-voltage equipment may differ depending on the particular substation.
 - Any aspect mentioned in the Standard Document may be superseded by the Tender document and Scope of Work depending on specific application.

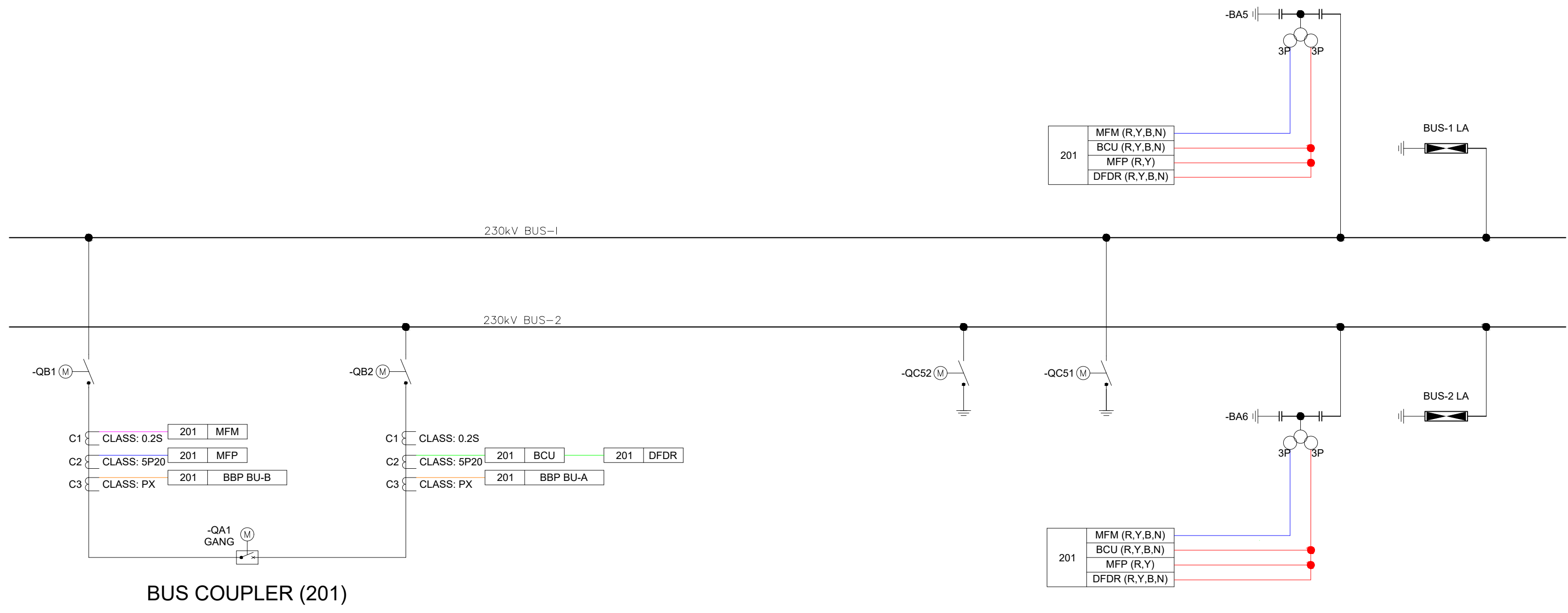


VOLTAGE LEVEL	230kV
BUS ARRANGEMENT	DOUBLE BUS
SUBSTATION TYPE	GIS
FEEDER ARRANGEMENT/TYPE	LINE



1. Busbar rating and equipment selection will be followed by Fault Level and Load Flow study for the specific substation.
2. 508F functions will be activated for 2 stages: Re-trip to the same CB and Remote trip to the other sources.
3. 25 function of 101-M2FPF relays will be used for MMIC controls of the respective CBS.
4. 25 functions of BCU will be used for BCU controls of the respective CBS.
5. Busbar Protections should be decentralized in principle.
6. For 508F Remote Trip of Bus CBS, tripping will be issued to all CBS connected to the respective Busbar; the trip logic will be implemented internally with BBP Central Unit.
7. Main-1 and Main-2 Transformer protection relays, BBP relays and BFP relays should preferably of different manufacturer. Alternatively, different model of the same manufacturer.
8. Class of protective core of Current Transformers will follow the specifications mentioned in the approved Overall Single Line Diagram, Layout drawing and Central Transformer GTP. The class shown here is for demonstrating the secondary connections only.
9. Type of Voltage Transformer can be any of the type CB or IVT as mentioned in the approved Overall Single Line Diagram, Layout drawing and Voltage Transformer GTP. The type shown here is for demonstrating the secondary connections only.
10. This document is for conceptualization of protection philosophy. Actual layout and arrangement of the High-voltage equipment may differ depending on the particular substation.
11. Any aspect mentioned in the Standard Document may be superseded by the Tender document and Scope of Work depending on specific application.





201	MFP	
	MAIN FEEDER PROTECTION	
	51S1N	DDR
201	50/50N	25 (QA1)

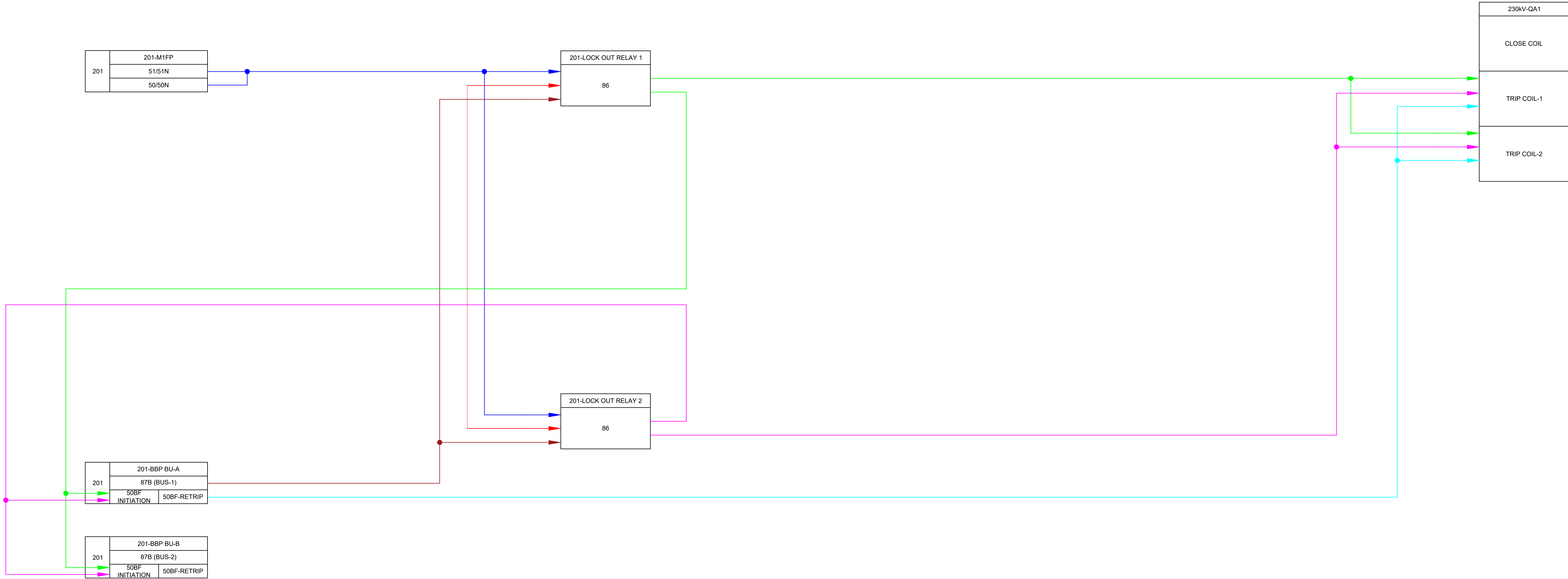
201	BCU	
	BAY CONTROL UNIT	
	KV	25 (QA1)
201	A	CONTROL
	MW	INTERLOCK
	MVAR	

201	MFM	
	MULTIFUNCTION METER	
	KV	FREQ
201	A	PF
	MW	KWH
	MVAR	KVARH

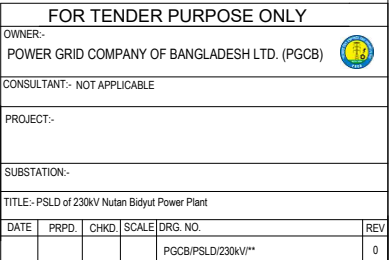
201	BBP BU-A	
	BUSBAR PROTECTION BAY UNIT-A	
	87B (BUS-1)	50BF

201	BBP BU-B	
	BUSBAR PROTECTION BAY UNIT-B	
	87B (BUS-2)	50BF

- NOTES:
- Busbar rating and equipment selection will be followed by Fault Level and Load Flow study for the specific substation.
 - 50BF functions will be activated for 1 stage; Re-trip to the same CB.
 - 25 functions of 201-MFP relay will be used for MIMIC controls of the CB.
 - 25 functions of BCU will be used for BCU controls of the CB.
 - Busbar Protections should be decentralized in principle.
 - For 50BF Remote Trip of Bus Coupler CB, tripping will be issued to all CBs connected to both Busbars; the trip logic will be implemented internally with BBP Central Unit.
 - BBP BU-B will be used for CT measurement for the respective Busbar. Tripping will be issued from BBP BU-A for both Bus Zone Trip.
 - Main-1 and Main-2 FEEDER protection relays should preferably of different manufacturer. Alternatively, different model of the same manufacturer.
 - Class of protective core of Current Transformers will follow the specifications mentioned in the approved Overall Single Line Diagram, Layout drawing and Current Transformer GTP. The class shown here is for demonstrating the secondary connections only.
 - Type of Voltage Transformers can be either CVT or IVT as mentioned in the approved Overall Single Line Diagram, Layout drawing and Voltage Transformer GTP. The type shown here is for demonstrating the secondary connections only.
 - This document is for conceptualization of protection philosophy. Actual layout and arrangement of the High-voltage equipment may differ depending on the particular substation.
 - Any aspect mentioned in the Standard Document may be superseded by the Tender document and Scope of Work depending on specific application.



VOLTAGE LEVEL	230kV
BUS ARRANGEMENT	DOUBLE BUS
SUBSTATION TYPE	GIS
FEEDER ARRANGEMENT/TYPE	BUS COUPLER

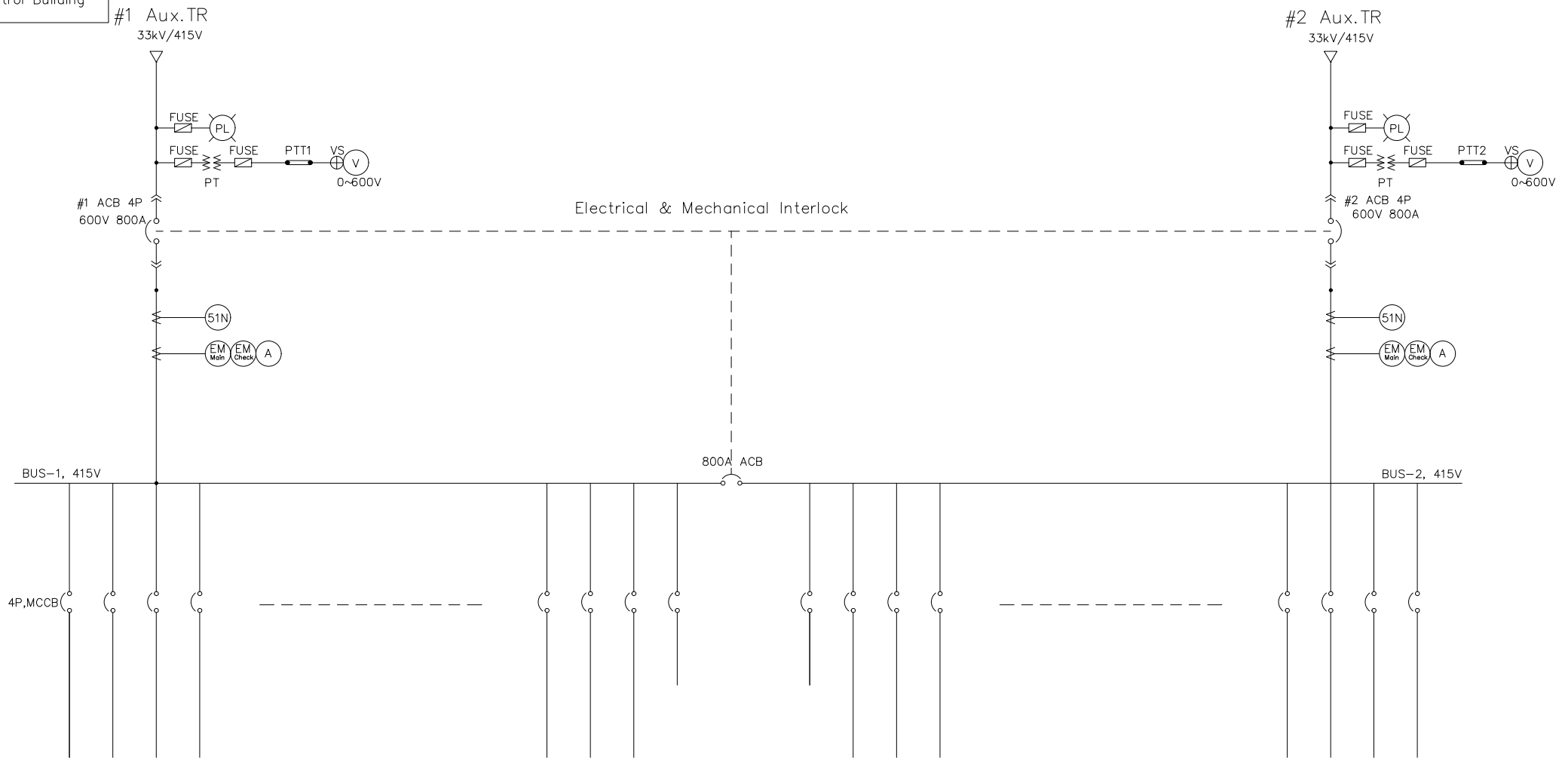


- NOTES:-
1. RELAY AND METERING OF TRANSFORMER AND DOWNSTREAM SWITCHGEAR SHALL BE SHOWN SEPARATELY.
 2. CT SIZING CALCULATION SHALL BE REFERRED FOR COMMENTS IF ANY.
 3. 870A RELAY OF GTG-1&2 IS PART OF PURCHASER SCOPE AS MENTIONED IN THE SPECIFICATION.
 4. 27 WILL BE PART OF MAIN BAY BCU FOR ALARM PURPOSE AND SHALL HAVE TWO STAGES AS STAGE-1 & 2.
 5. BUS PT SELECTION LOGIC SHALL BE DEVELOPED AT GIS PANEL FOR GENERATOR SYNCHRONIZATION.
 6. STAR FORMATION FOR DIFFERENTIAL PROTECTION CT'S SHALL BE TOWARDS PROTECTED EQUIPMENT ONLY.
 7. POLARITY MARKING SHALL BE DONE ACCORDINGLY.
 8. SEGREGATED BUSBAR DIFFERENTIAL PROTECTION SHALL BE PROVIDED THROUGH NEW CENTRALIZED LOW IMPEDANCE BUSBAR DIFFERENTIAL PROTECTION FOR BHOLA-II GIS.
 9. DPDFR IS A SINGLE SELF STANDING PANEL.

SYSTEM PARAMETERS		
SLNO	DESCRIPTION OF PARAMETERS	SYSTEM RATING
01	NOMINAL SYSTEM VOLTAGE (kV)	230 kV
02	HIGHEST SYSTEM VOLTAGE (kV)	245 kV
03	BASIC IMPULSE WITHSTAND VOLTAGE (kV)	1050 Kip
04	POWER FREQUENCY WITHSTAND VOLTAGE DRY AND WET (kV rms)	460/530 kVrms
05	SYSTEM FAULT LEVEL (kA)	40 for 3Sec.
06	SYSTEM NEUTRAL GROUNDING	EFFECTIVELY EARTHED
07	SYSTEM FREQUENCY (Hz)	50
08	BUS CONFIGURATION	ONE & HALF BREAKER
09	NO. OF PHASES	3
10	NOMINAL CREEPAGE DISTANCE	31mm/kV

CT details Summary for 230kV GIS for BHOLA										
Project Name	230KV GIS BHOLA-I GIS			Rated Voltage	230KV	Rated Frequency	50Hz	Rated short circuit current (kA for 3 sec)	Rated continuous current (kA for 1 hr)	Application
CT DETAILS SUMMARY FOR 230KV GIS FOR BHOLA										
CT Desc	CT Quantity	CT	CORE NO.	RATIO	PROT. CLASS	BURDEN (VA)	KNEE POINT VOLTAGE (mV)	INTERNAL RESISTANCE (mΩ)	MAGNETIZING CURRENT @ 100mV (mA)	PROTECTION
230KV GTG-1 BAY D01.A	1	T1	1	1000-800-400/1A	PX	<13.8-4	<10-5	<10	<40	TSB (TDA)
			2	1000-800-400/1A	PX	>1000-800-400V	<12-4	<10-5-120	7U7B (TDA)	
			3	1000-800-400/1A	CL0.25/F85	5VA	<13.8-4	<10-5	TSB (TDA)	
			4	1800/1A	PX	<13.8-4	<10-5	<10	TSB (TDA)	
			5	1800/1A	PX	<13.8-4	<10-5	<10	TSB (TDA)	
230KV Tn BAY D01.B	1	T1.1	1	1000-800-400/1A	PX	<13.8-4	<10-5	<10	<40	TSB (TDA)
			2	1000-800-400/1A	PX	>1000-800-400V	<12-4	<10-5-120	7U7B (TDA)	
			3	1000-800-400/1A	CL0.25/F85	5VA	<13.8-4	<10-5	TSB (TDA)	
			4	1800/1A	PX	<13.8-4	<10-5	<10	TSB (TDA)	
			5	1800/1A	PX	<13.8-4	<10-5	<10	TSB (TDA)	
230KV Tn BAY D01.C	1	T1.1.1	1	1000-800-400/1A	PX	<13.8-4	<10-5	<10	<40	TSB (TDA)
			2	1000-800-400/1A	PX	>1000-800-400V	<12-4	<10-5-120	7U7B (TDA)	
			3	1000-800-400/1A	CL0.25/F85	5VA	<13.8-4	<10-5	TSB (TDA)	
			4	1800/1A	PX	<13.8-4	<10-5	<10	TSB (TDA)	
			5	1800/1A	PX	<13.8-4	<10-5	<10	TSB (TDA)	
230KV GTG-2 BAY D01.C	1	T2	1	1000-800-400/1A	PX	<13.8-4	<10-5	<10	<40	TSB (TDA)
			2	1000-800-400/1A	PX	>1000-800-400V	<12-4	<10-5-120	7U7B (TDA)	
			3	1000-800-400/1A	CL0.25/F85	5VA	<13.8-4	<10-5	TSB (TDA)	
			4	1800/1A	PX	<13.8-4	<10-5	<10	TSB (TDA)	
			5	1800/1A	PX	<13.8-4	<10-5	<10	TSB (TDA)	
230KV SPARE BAY D01.C	1	T2	1	1000-800-400/1A	PX	<13.8-4	<10-5	<10	<40	TSB (TDA)
			2	1000-800-400/1A	PX	>1000-800-400V	<12-4	<10-5-120	7U7B (TDA)	
			3	1000-800-400/1A	CL0.25/F85	5VA	<13.8-4	<10-5	TSB (TDA)	
			4	1800/1A	PX	<13.8-4	<10-5	<10	TSB (TDA)	
			5	1800/1A	PX	<13.8-4	<10-5	<10	TSB (TDA)	
230KV Tn BAY D01.D	1	T2.1	1	1000-800-400/1A	PX	<13.8-4	<10-5	<10	<40	TSB (TDA)
			2	1000-800-400/1A	PX	>1000-800-400V	<12-4	<10-5-120	7U7B (TDA)	
			3	1000-800-400/1A	CL0.25/F85	5VA	<13.8-4	<10-5	TSB (TDA)	
			4	1800/1A	PX	<13.8-4	<10-5	<10	TSB (TDA)	
			5	1800/1A	PX	<13.8-4	<10-5	<10	TSB (TDA)	
230KV Tn BAY D01.E	1	T2.1.1	1	1000-800-400/1A	PX	<13.8-4	<10-5	<10	<40	TSB (TDA)
			2	1000-800-400/1A	PX	>1000-800-400V	<12-4	<10-5-120	7U7B (TDA)	
			3	1000-800-400/1A	CL0.25/F85	5VA	<13.8-4	<10-5	TSB (TDA)	
			4	1800/1A	PX	<13.8-4	<10-5	<10	TSB (TDA)	
			5	1800/1A	PX	<13.8-4	<10-5	<10	TSB (TDA)	
230KV GTG-3 BAY D01.A	1	T1	1	1000-800-400/1A	PX	<13.8-4	<10-5	<10	<40	TSB (TDA)
			2	1000-800-400/1A	PX	>1000-800-400V	<12-4	<10-5-120	7U7B (TDA)	
			3	1000-800-400/1A	CL0.25/F85	5VA	<13.8-4	<10-5	TSB (TDA)	
			4	1800/1A	PX	<13.8-4	<10-5	<10	TSB (TDA)	
			5	1800/1A	PX	<13.8-4	<10-5	<10	TSB (TDA)	

Main Control Building

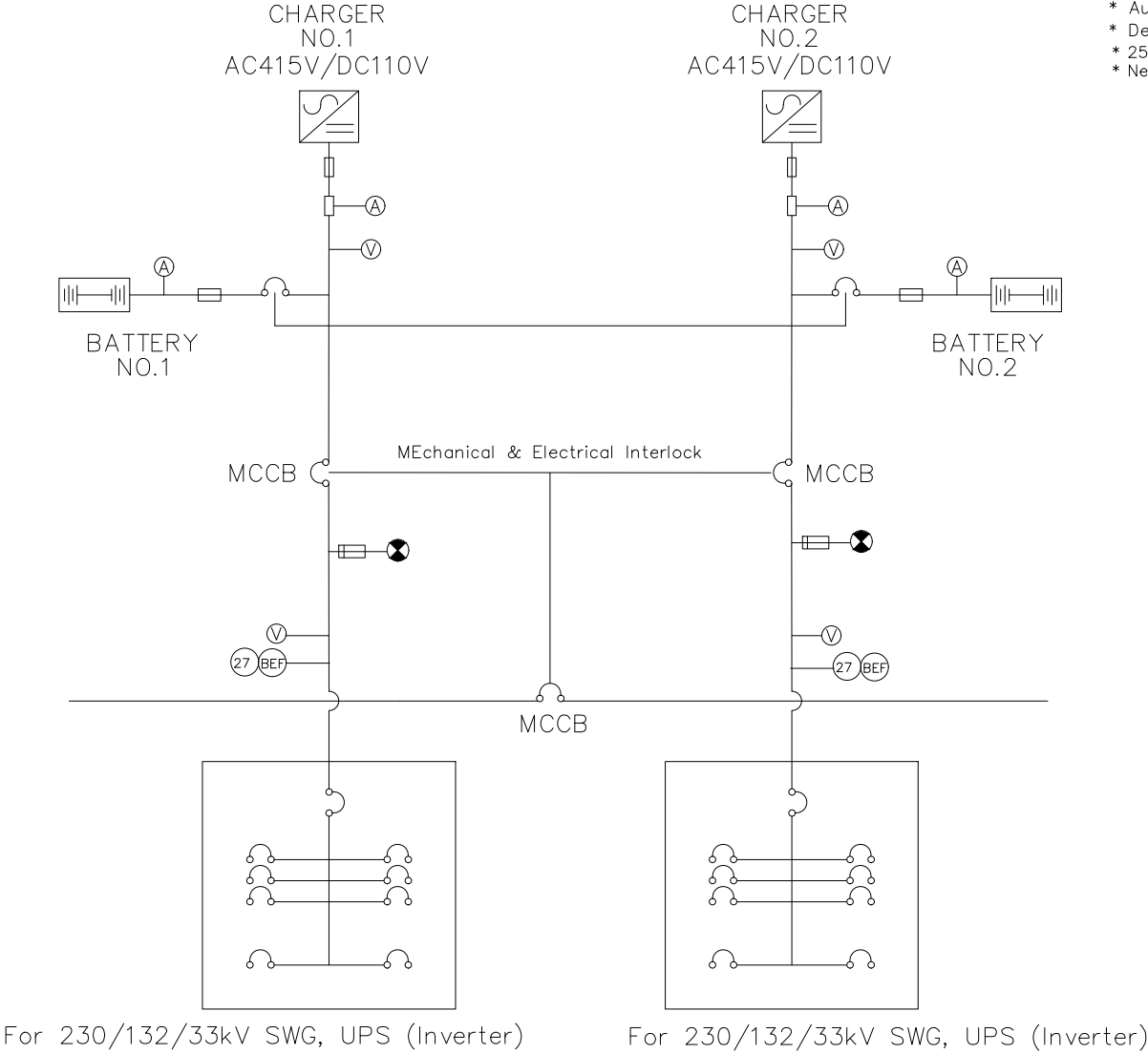


FOR TENDER PURPOSE ONLY

OWNER:- POWER GRID COMPANY OF BANGLADESH(PGCBL)				
CONSULTANT:- NOT APPLICABLE				
PROJECT:-				
SUBSTATION:-				
TITLE: 110kV Scheme DRAWING				
REV	DATE	BY	CHKD	APPD
1				

- * Auto changeover facility shall be provided for AC1, AC2 & Coupler
- * Detail Rating & specification shall be finalized during execution stage as per tender requirement
- * 25% overall spare MCB shall be provided for future extension in addition to present requirement.
- * Necessary status shall be integrated to SAS.

Main Control Building



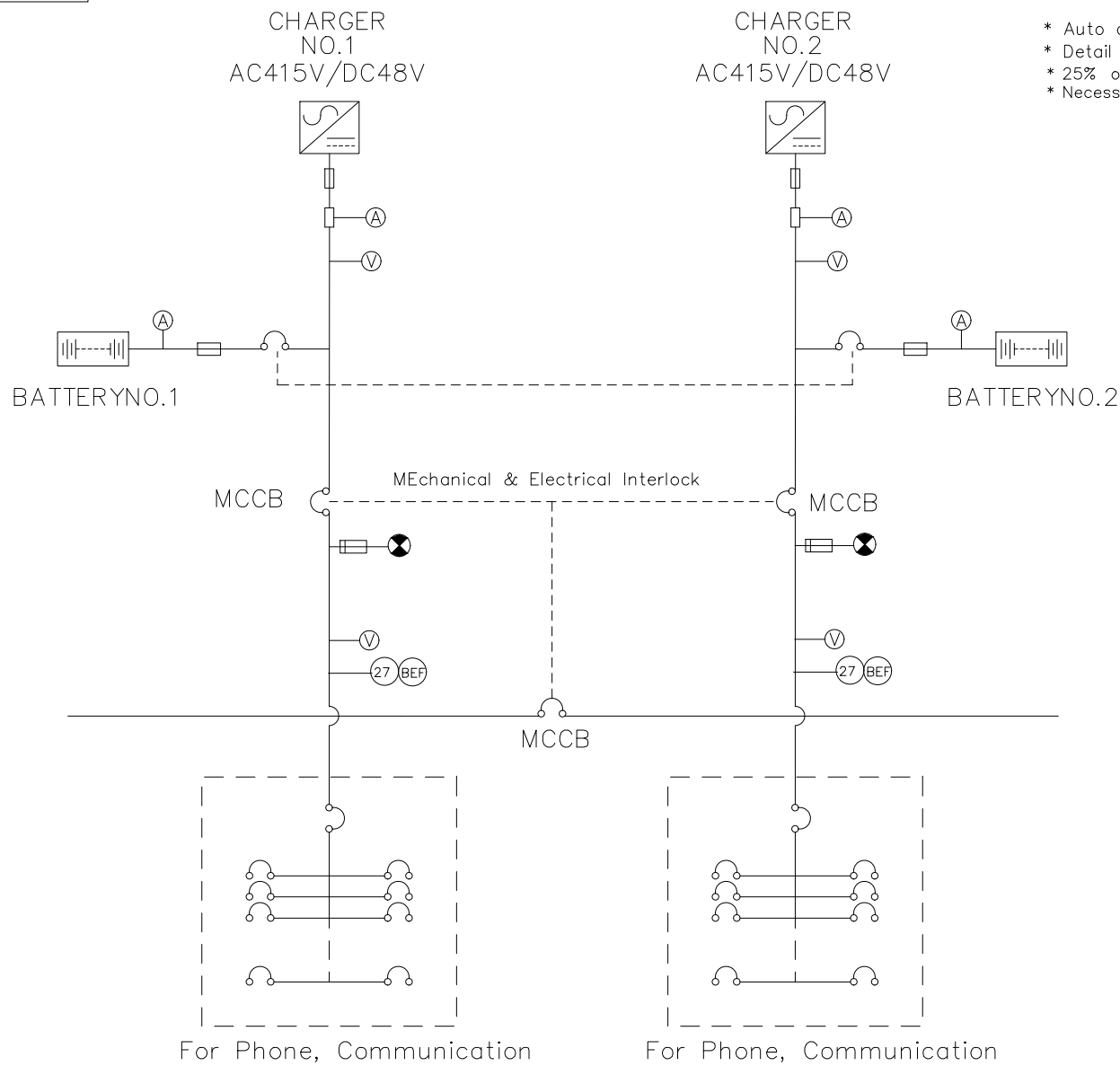
- * Auto changeover facility shall be provided for AC1, AC2 & Coupler
- * Detail Rating & specification shall be finalized during execution stage
- * 25% overall spare MCB shall be provided for future extension in addition to present requirement.
- * Necessary status shall be integrated to SAS.

LEGEND

- 27 U/V PROTECTION
- BEF BATTERY E/F PROTECTION
- DC INCOMER ON/OFF INDICATION

FOR TENDER PURPOSE ONLY

OWNER:-					
POWER GRID COMPANY OF BANGLADESH(PGCB)					
CONSULTANT:- NOT APPLICABLE					
PROJECT:					
SUBSTATION:					
TITLE: 110V DC DISTRIBUTION SCHEME					
DATE	PRPD.	CHKD.	SCALE	DRG.NO.	REV
				PGCB/110V DCDB/**	0



- * Auto changeover facility shall be provided for AC1, AC2 & Coupler
- * Detail Rating & specification shall be finalized during execution stage
- * 25% overall spare MCB shall be provided for future extension in addition to present requirement
- * Necessary status shall be integrated to SAS.

LEGEND

- (27) U/V PROTECTION
- (BEF) BATTERY E/F PROTECTION
- DC INCOMER ON/OFF INDICATION

FOR TENDER PURPOSE ONLY

OWNER:-

POWER GRID COMPANY OF BANGLADESH(PGCB)



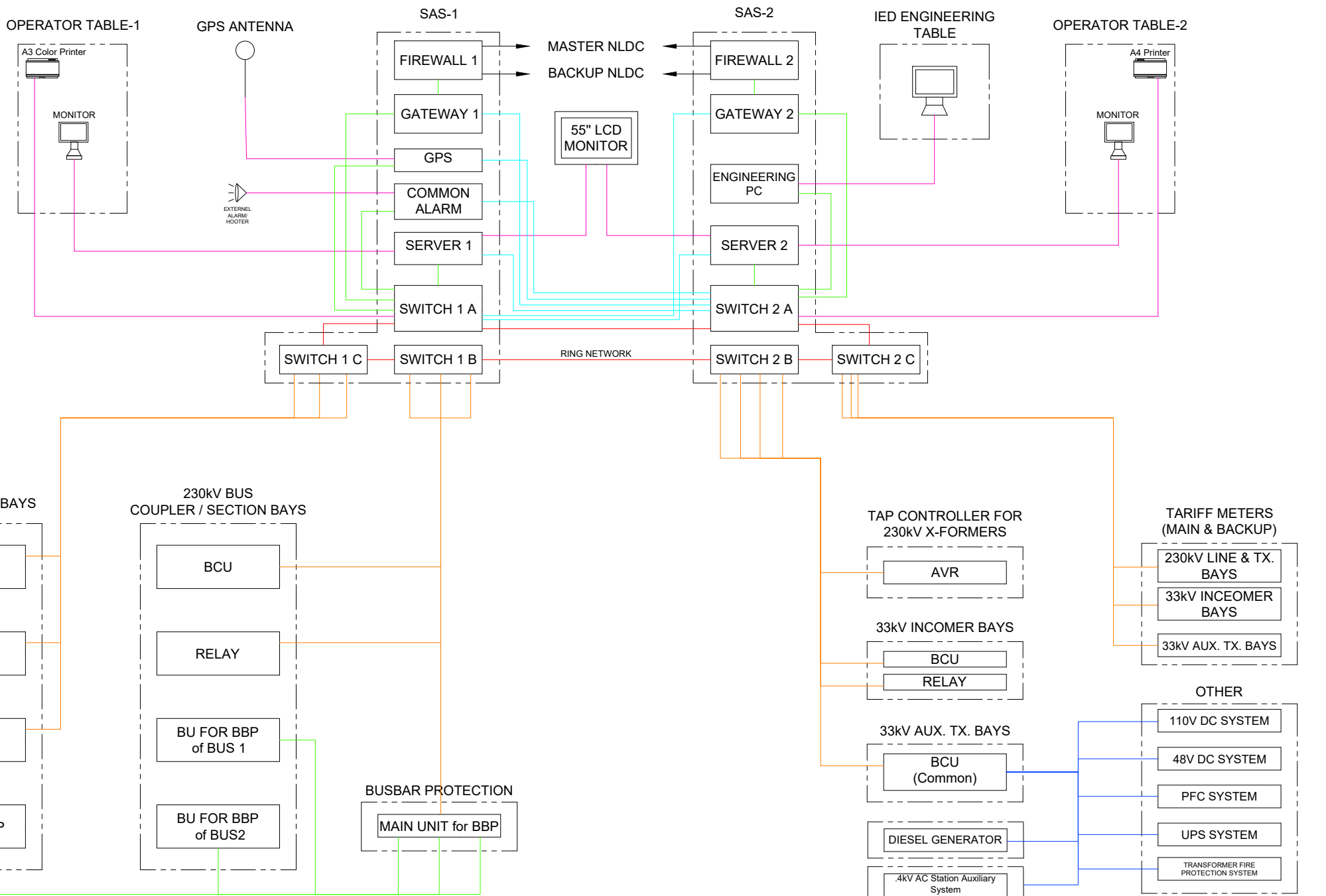
CONSULTANT:- NOT APPLICABLE

PROJECT:

SUBSTATION:

TITLE: 48V DC DISTRIBUTION SCHEME

DATE	PRPD.	CHKD.	SCALE	DRG.NO.	REV
				PGCB/48V DCDB/**	0



NOTE:

- SAS-1 & SAS-2 protocol shall be RSTP and receive data from BCU/Relay through IEC61850
- SAS SERVER & ENGINEERING PC shall be panel mounted.
- Gateway shall get data from SAS/BCU/Relay through IEC61850 protocol.
- 33kV Incomer for EHV transformer shall be remote controlled from Grid control room.
- Gateway shall be in HOT & Standby mode. Tariff meters shall be IEC 61850 compliant.
- Provision for integrating future bays (2 line bays, 2 EHV Tx. bays, 2 incomer bays) shall be kept.
- Servers & PCs shall have monitors, mouse, keyboard & other necessary accessories.

- No. of Ethernet Switches, IEDs shown is typical only. Actual no. shall be as per final design requirement.
- PR-MCR cable connection shall be Armoured.
- 33kV Incomer for EHV transformer and atleast four (4) no. of 33kV outgoing feeders shall be remote controlled from NLDC.
- This is a general drawing only. For more details about what shall be connected to SAS, please see volume 2 & 3.

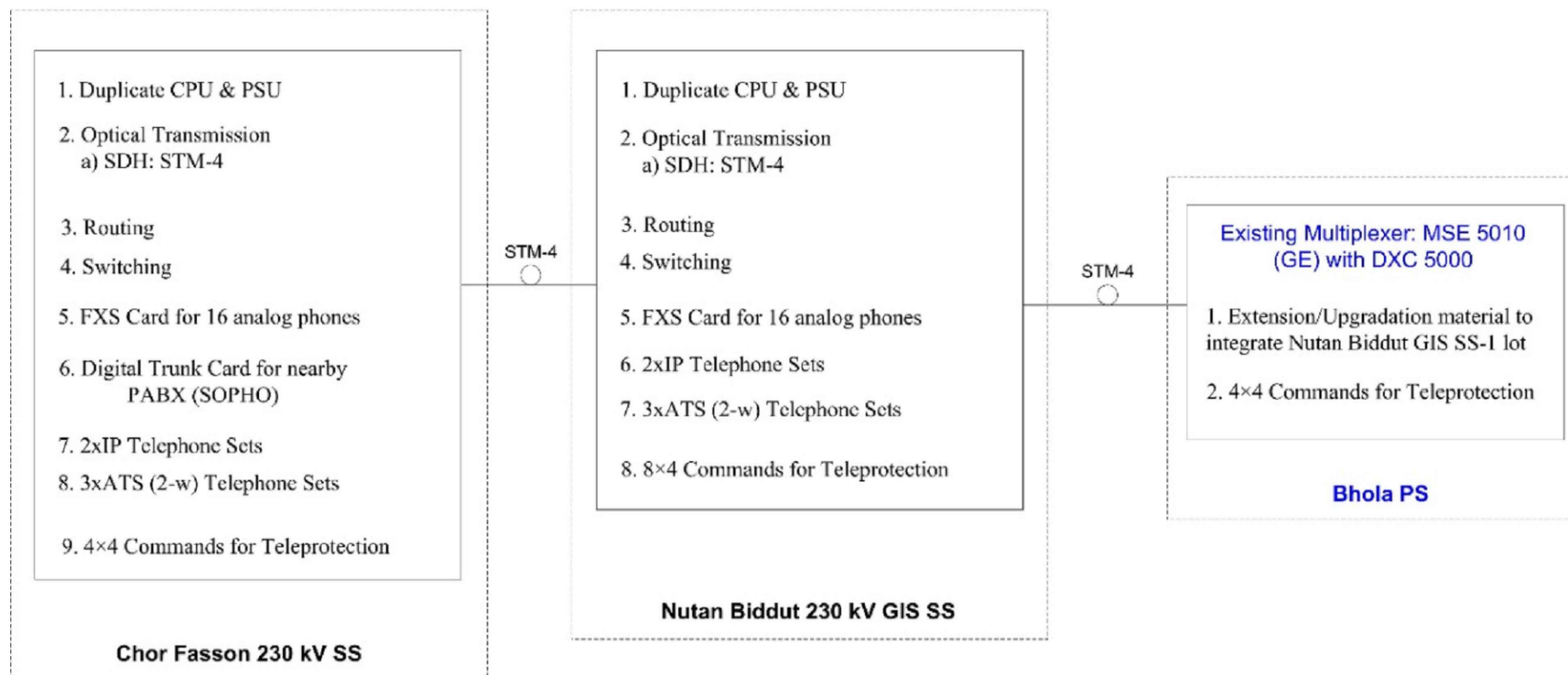


POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB)
SSD & QC

TITLE: Substation Automation System Architecture (Applicable for 230kV SS)

DRAWING NO: SUBSTATION AUTOMATION SYSTEM

Telecommunication Scheme for Chor Fasson 230 kV SS



FOR TENDER PURPOSE ONLY					
OWNER:- POWER GRID COMPANY OF BANGLADESH LTD. (PGCB) 					
CONSULTANT:- NOT APPLICABLE					
PROJECT:-					
SUBSTATION:-					
TITLE:- Section of 230/33kV Char Fasson Substation					
DATE	PRPD.	CHKD.	SCALE	DRG. NO.	REV
				PGCB/Section/230kV/Char Fasson	0

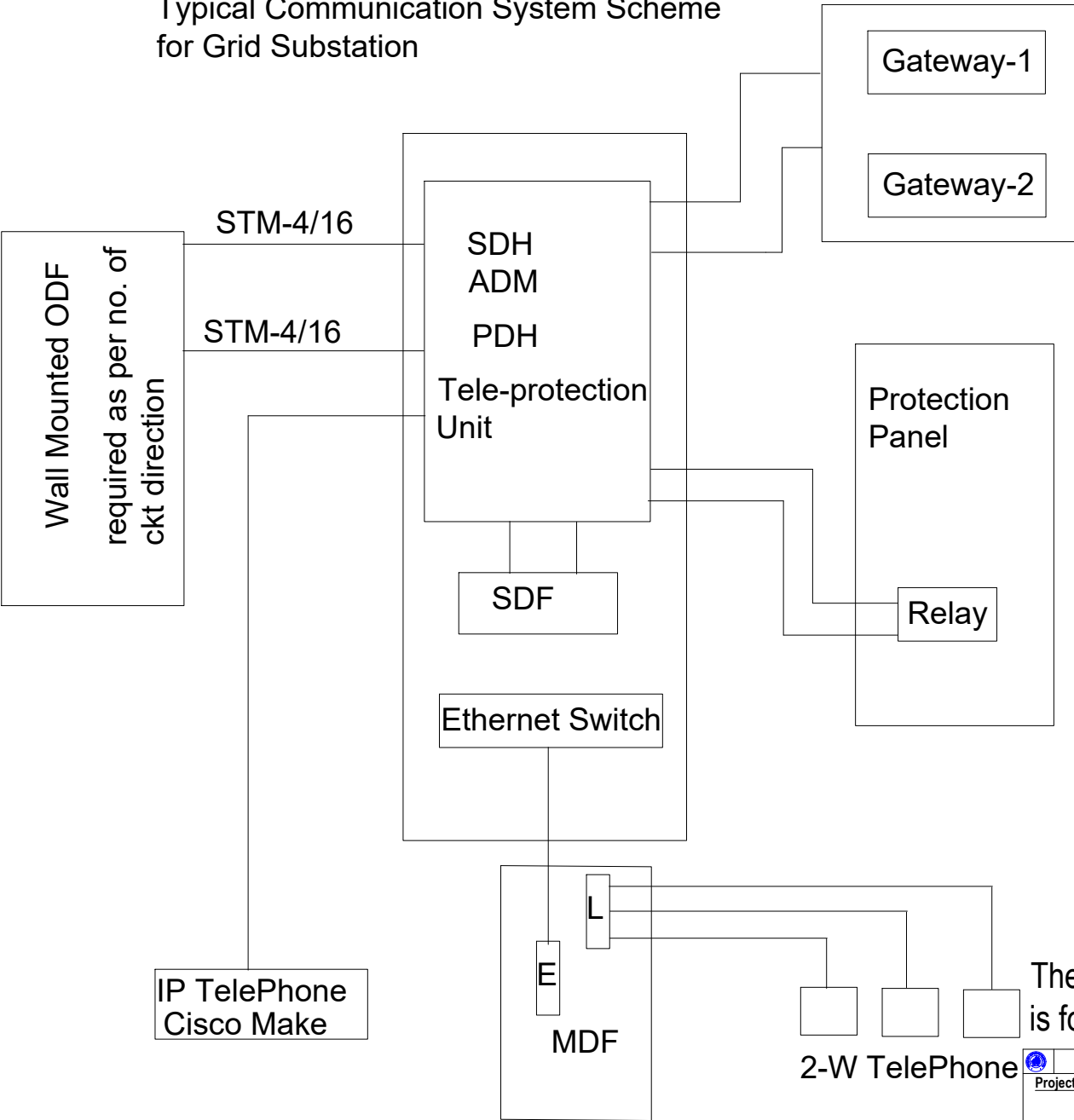
[N.B.: 1. All new multiplexers shall be integrated with existing Network Management Systems (NMS) of PGCB.
2. IP Phones shall be supplied with DC-DC (48V) converter & integrated with existing CISCO Unified Call Manager (CUCM) of PGCB.
3. Cyber Security should be ensured.]

LEGEND

Scope of this Project- BLACK
Existing Facility- BLUE

[For Tender Purpose Only]

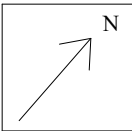
Typical Communication System Scheme
for Grid Substation



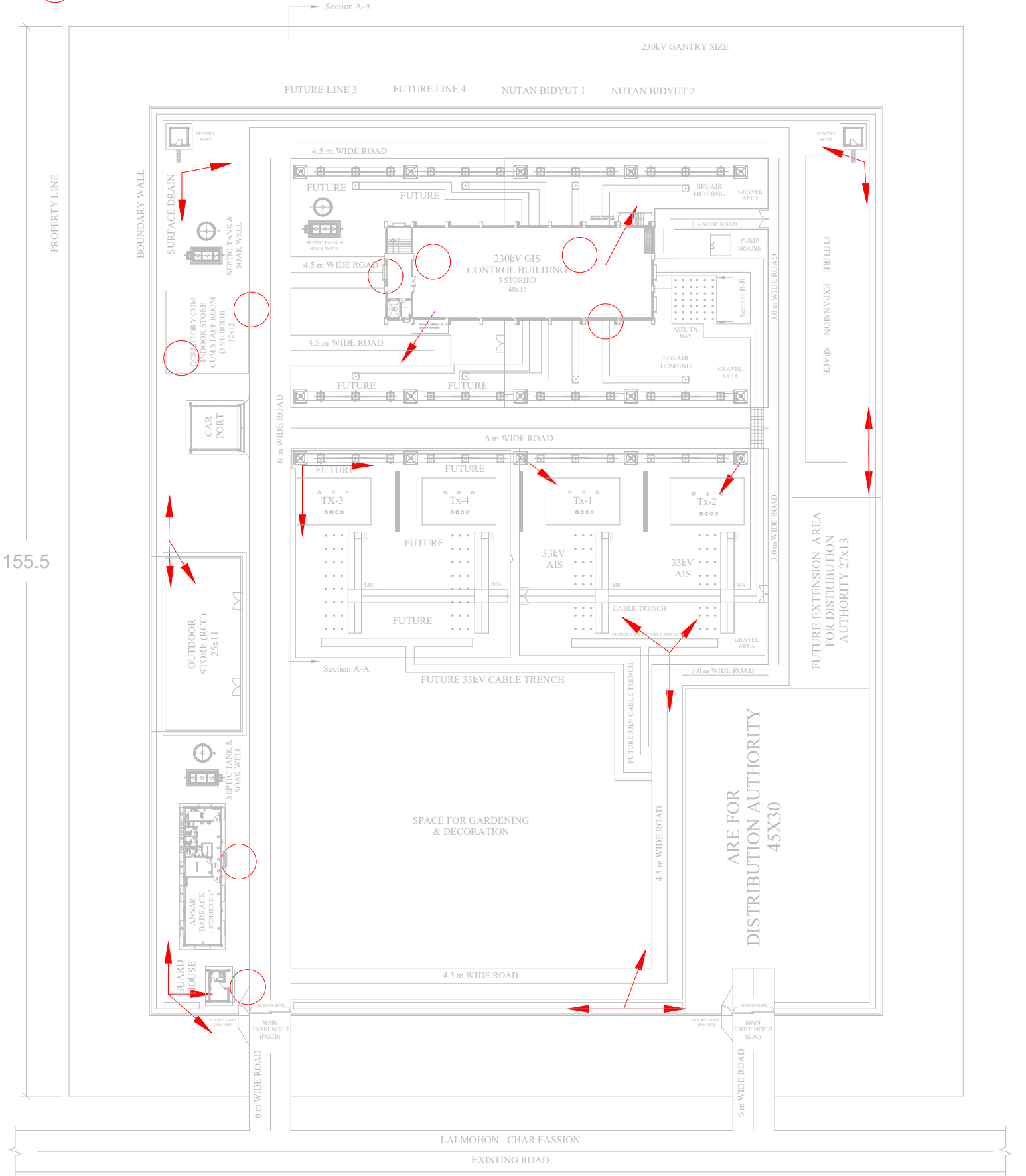
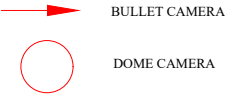
The drawing is Preliminary &
is for Bidding Purpose Only

 Power Grid Company of Bangladesh Limited	
Project	
Drawing Title	Communication Scheme Diagram
Drawing No.	PGCB/Comm/**
Drawn:	Checked:
Approved:	
Department: Substation Design & Quality Control	

CAMER LAYOUT OF CHAR FASSION 230/33kV SUBSTAION



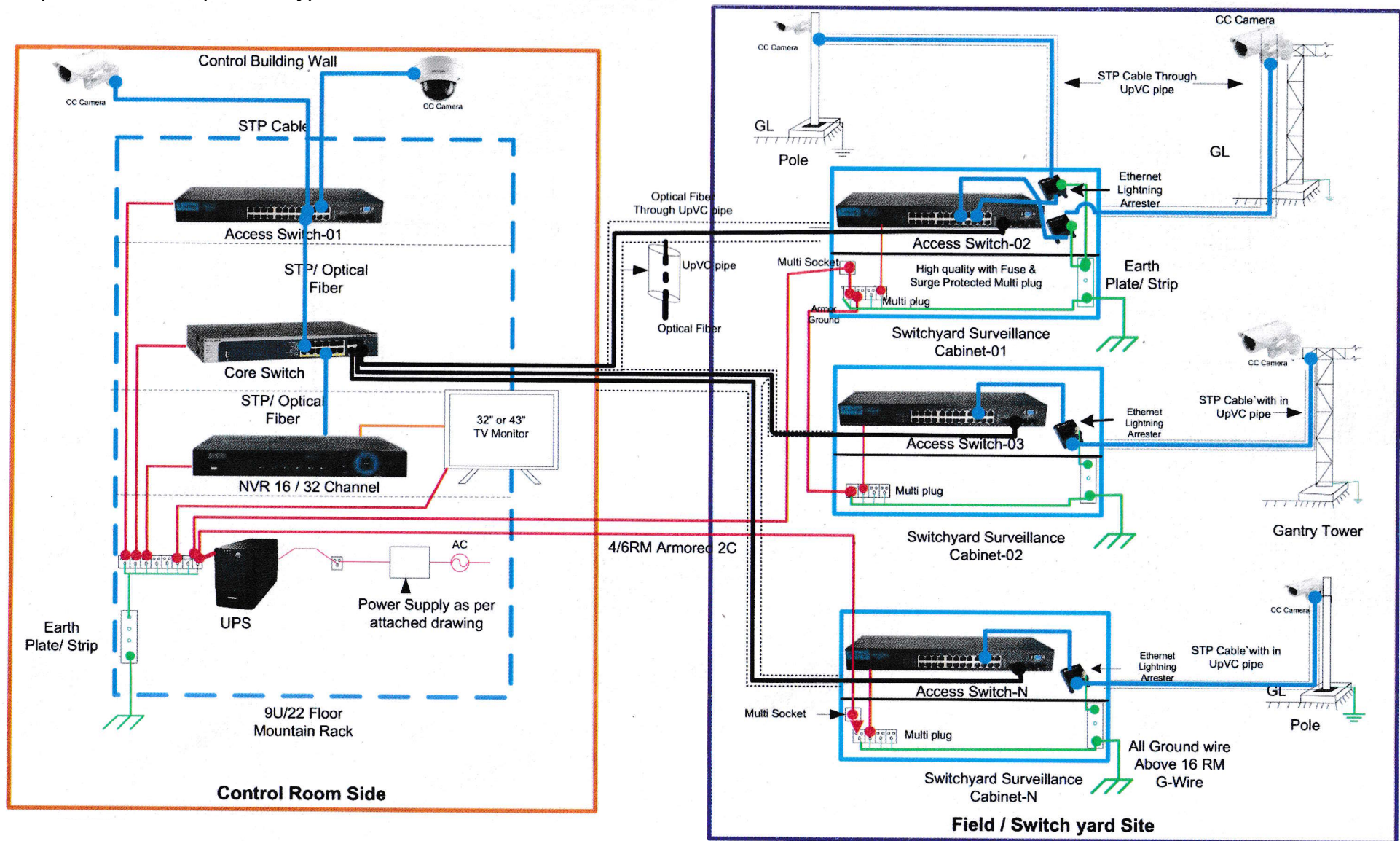
LEGENDS:

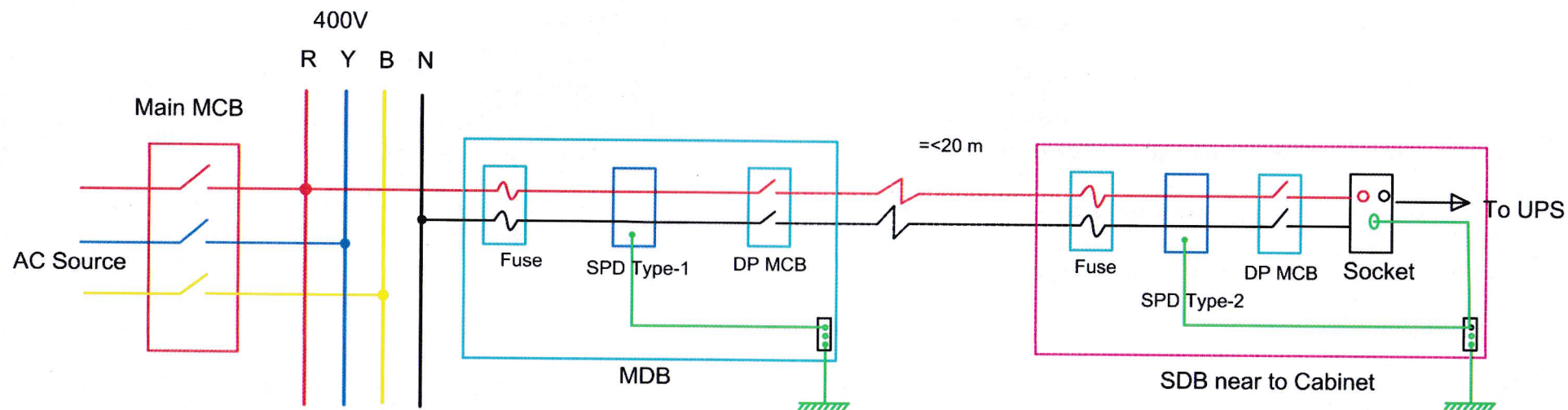


FOR TENDER PURPOSE ONLY					
OWNER:					
POWER GRID COMPANY OF BANGLADESH LTD. (PGCB)					
CONSULTANT:- NOT APPLICABLE					
PROJECT:-					
SUBSTATION:-					
TITLE:- Layout of 230/33kV Char Fasson Substation					
DATE	PRPD	CHWD	SCALE	DRG. NO.	REV
				PCGBLayout230kV/Char Fasson Camers	0

Fig: Layout of IP Camera Surveillance system in a Grid Substation

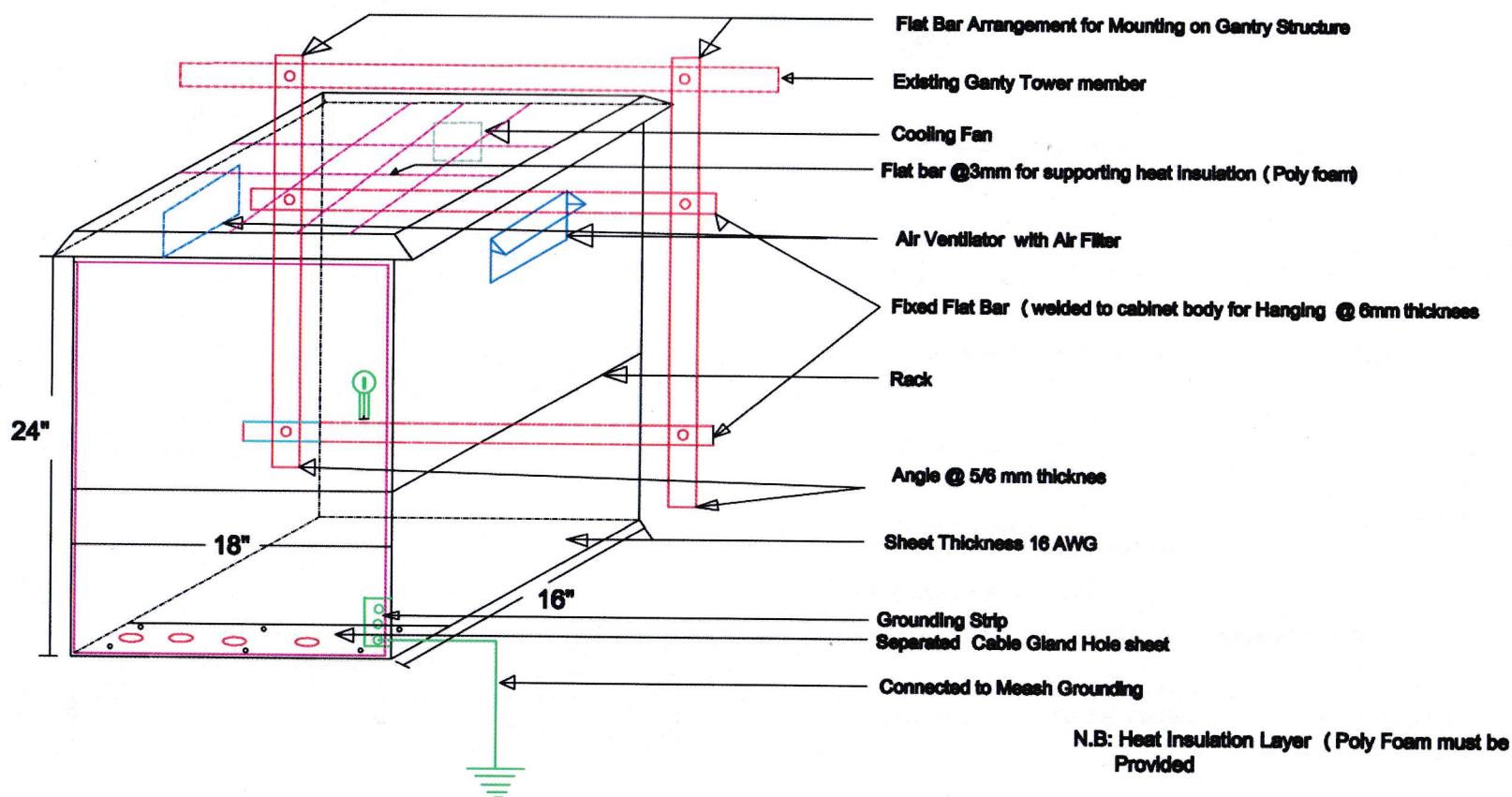
(For Tender Purpose Only)





POWER GRID COMPANY OF
BANGLADESH (PGCB)

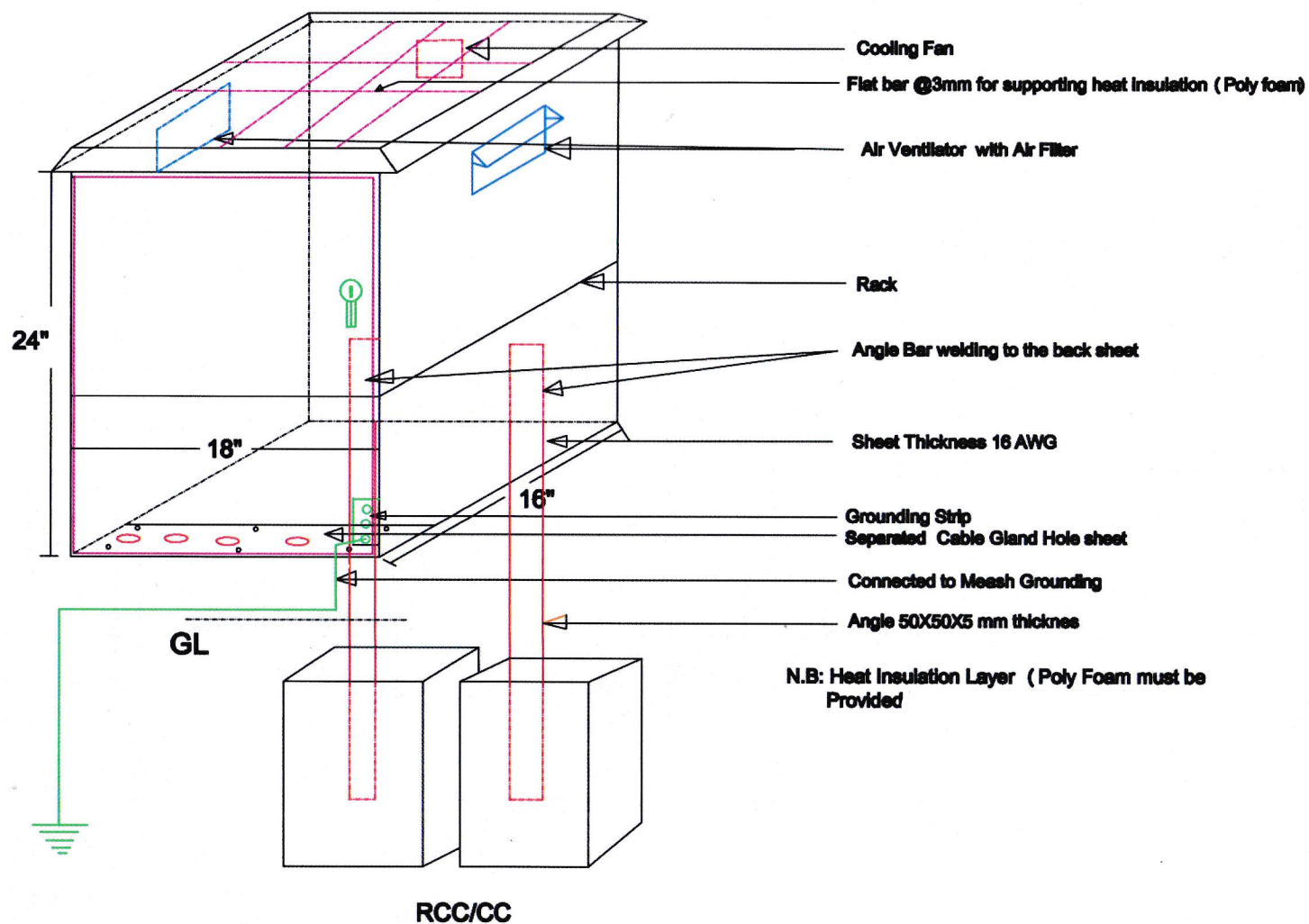
TITLE :
LAYOUT OF POWER SOURCE INPUT TO SERVEILLANCE SYSTEM
(For Tender Purpose Only)



POWER GRID COMPANY OF
BANGLADESH (PGCB)

TITLE : Switchyard Surveillance Cabinet (Hanging type)

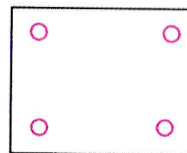
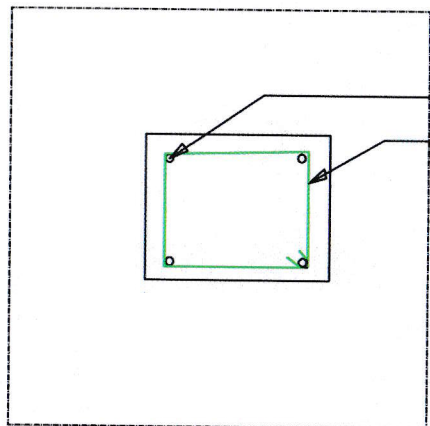
(For Tender Purpose Only)



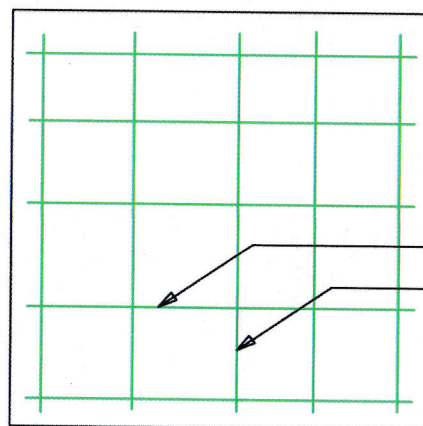
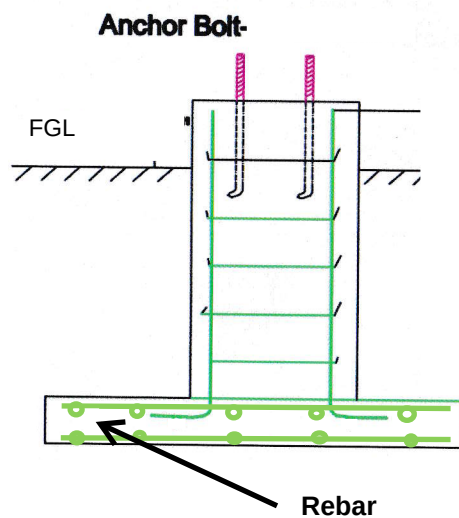
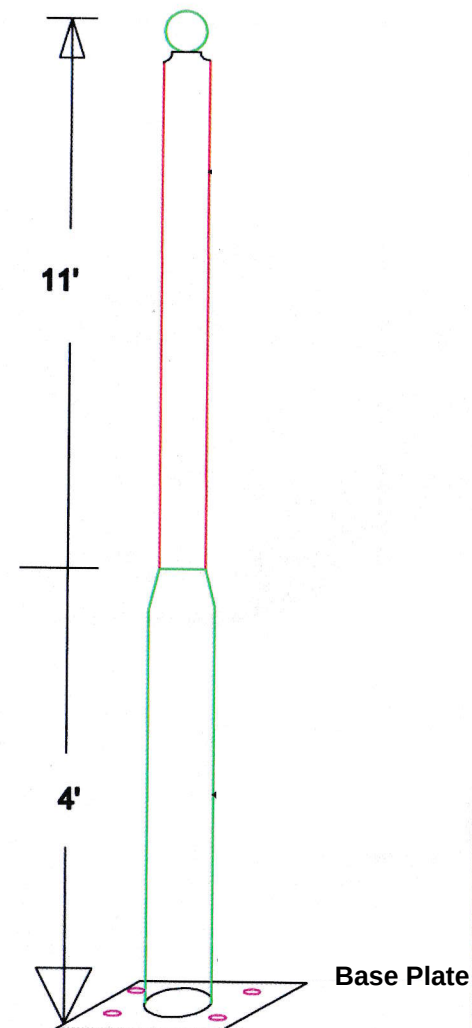
POWER GRID COMPANY OF
BANGLADESH (PGCB)

TITLE : Switchyard Surveillance Cabinet (Fixed Type)

(For Tender Purpose Only)



Anchor Bolt Arrangement

Rebar
(Top & Bottom Layer)

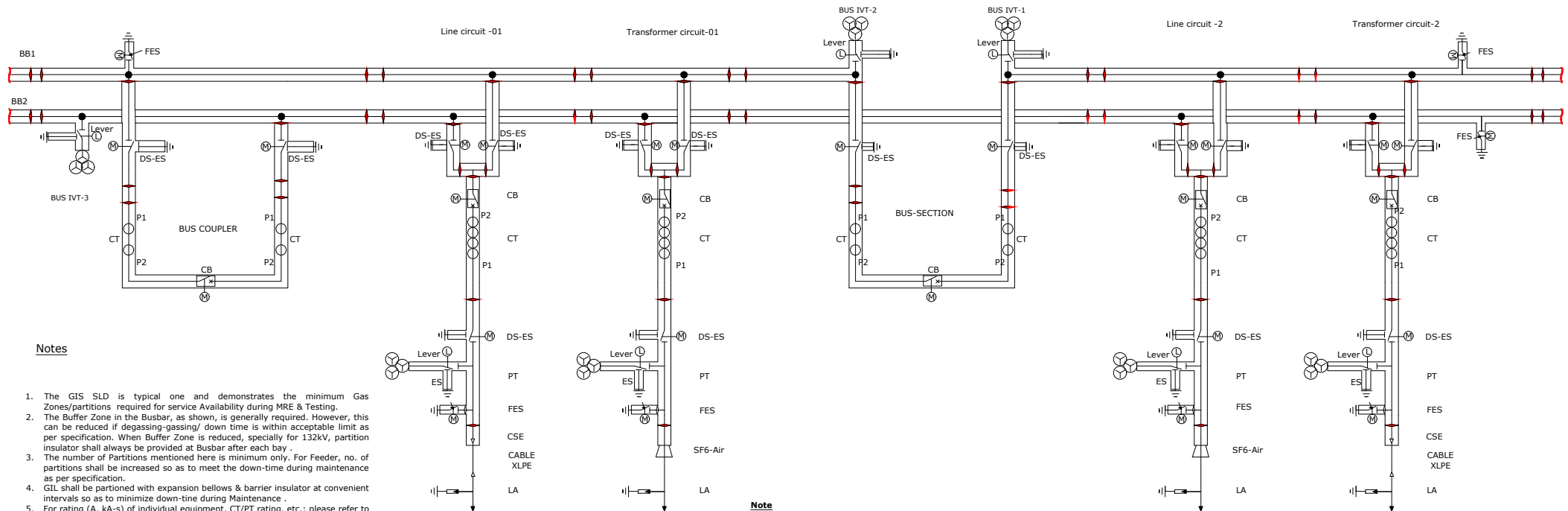
POWER GRID COMPANY OF
BANGLADESH (PGCB)

TITLE : Foundation Details of Pole Mounted IP Camera

(For Tender Purpose Only)

GIS SLD for MRE & Testing Scheme For Double Busbar

(For Char Fasson 230kV GIS)



Notes

1. The GIS SLD is typical one and demonstrates the minimum Gas Zones/partitions required for service Availability during MRE & Testing.
2. The Buffer Zone in the Busbar, as shown, is generally required. However, this can be reduced if degassing-gassing/ down time is within acceptable limit as per specification. When Buffer Zone is reduced, specially for 132kV, partition insulator shall always be provided at Busbar after each bay .
3. The number of Partitions mentioned here is minimum only. For Feeder, no. of partitions shall be increased so as to meet the down-time during maintenance as per specification.
4. GIL shall be partitioned with expansion bellows & barrier insulator at convenient intervals so as to minimize down-time during Maintenance .
5. For rating (A, kA-s) of individual equipment, CT/PT rating, etc.; please refer to Substation SLD/Technical Datasheet/Schedule of Requirement.
6. The number of Feeders are typical only. Actual no. of Feeders are as per substation SLD.
7. The Location/Sequence of Bus-coupler & Bus-section are typical only and shall be finalized during Detail Engineering at Execution stage prior to Employers' approval.
8. The sequence of Bays are typical only and shall be finalized during Detail Engineering at Execution stage prior to Employers' approval.
9. The Bus-section at BB1 is for shown as typical only; BS shall be per Substation SLD.
10. -
11. The Feeder termination mentioned as CSE/SF6-Air Bushing are indicative only, actual termination (SF6-Air, Direct transformer Connection etc.) are as per Substation SLD/Schedule of Requirement . When CSE is required, the Earthing of GIS & cable must be kept separate.
12. All Busbar DS are DS-ES arrangement i.e., DS Integrated with ES [Substation SLD & Scope shall prevail].
13. Bus VT & Feeder VT isolation is with externally hand Operated Lever; Earthing facility is without Motor for 132kV & with motor operation at 230kV & 400kV; Note that, in such cases, interlock shall be provided so that VT cannot be isolated unless FES is operated, i.e., Earthing is ensured both at Bus & Feeder. When VT isolation is provided, VT with reduced Insulation [phase-earth] is acceptable. Bust Substation SLD will prevail.

Note

1. Isolating Switch shall have view-port to see it's status.
2. All DS/DS-ES shall have view port to see its' status.
3. HV test Voltage injection facility shall be provided for Cable connected feeder.
4. HV test Voltage injection facility shall be provided for Bus-Coupler & Bus-section Bay independently.
5. VT shall be connected to test voltage part during HV test

Note

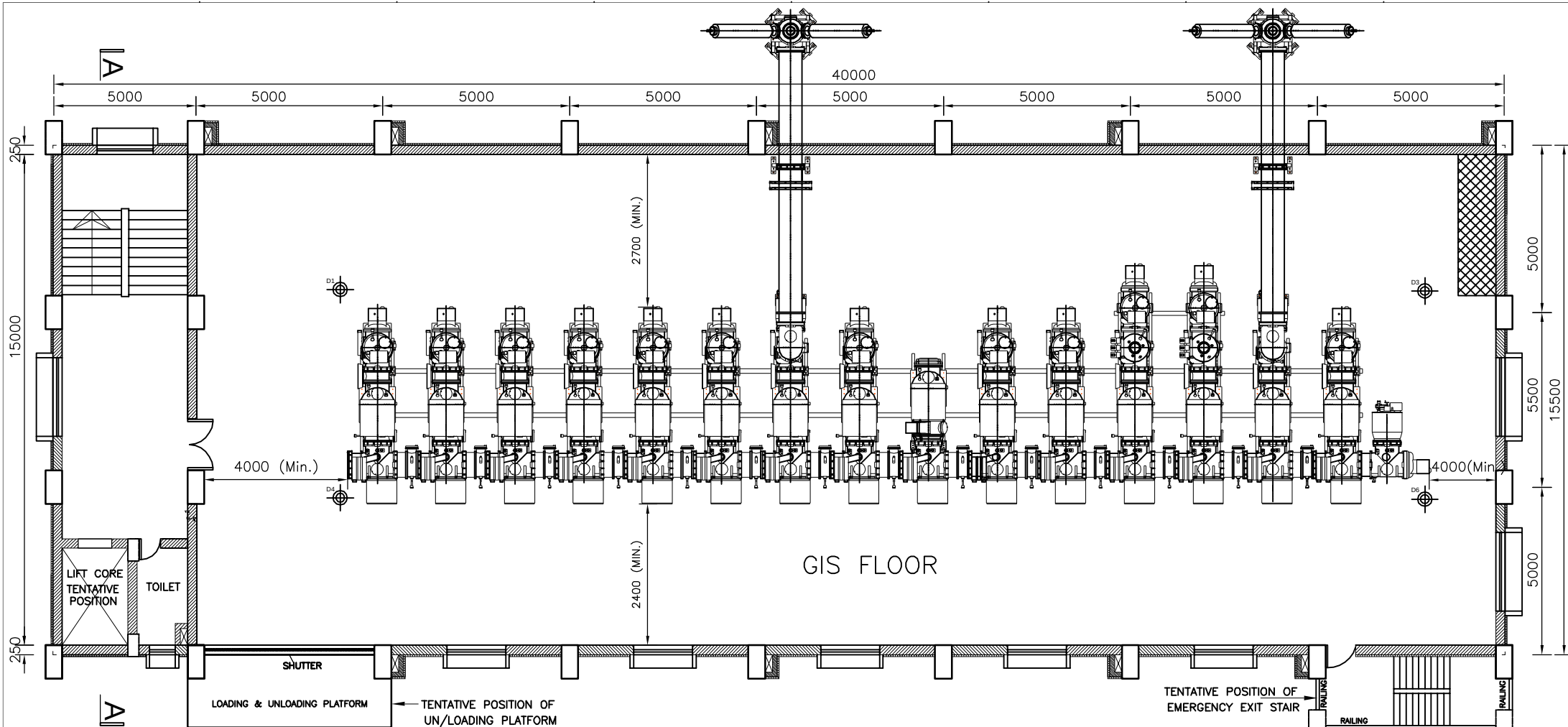
1. Gas Diagram shall be submitted with all required information like Weight of Bays with /without gas; No of compartments; no. of accessories like valve; gauge, PRD etc
2. Rated operating, Design , test & bursting pressure of gas compartment shall be indicated
3. PD sensors shall be provided & indicated
4. Each Compartment will have its own gassing-Degassing Valve; gauge;PRD; Absorption material etc.
5. Partitions shown means gas tight partition insulators
6. Setting of rated, Alarm, Lock-out, re-sting pressure shall be provided;
7. Total Copper Loss for GIS shall be calculated & provided; temperature rise at different parts shall be calculated, tested & provided;Method of Fault Identification within the GIS shall be provided

Note

1. MRE of bay CB & Busbar DS is possible with one busbar at service & all other bays are at service
2. MRE of bay Bus-Coupler / Bus-Section CB & Busbar DS is possible with one busbar at service & all other bays are at service

The Drawing is tentative & is for Tender Purpose Only.
Details shall be finalized during Execution.

Rev.	Date	
Project: Applicable for ALL GIS Project with Double Busbar Scheme[New or Extension]		
Drawing Title: GIS Gas Zone SLD- MRE and Testing		
Applicable Busbar Scheme		Double Busbar Scheme
Approved		
Checked		
Designed		Date
Drawing No.-	PGCB/MRE/**	

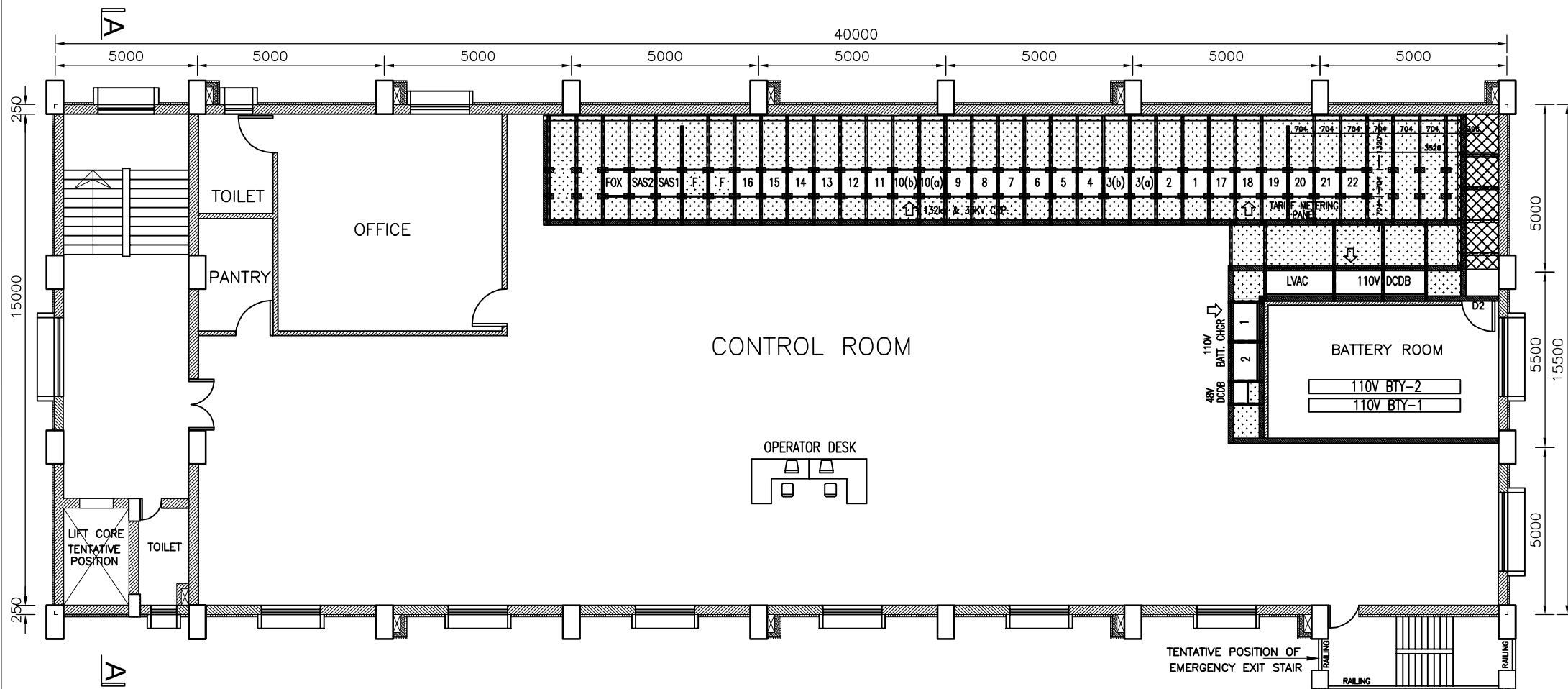


Note:

- 1) Floor area and height of the building provided here are minimum required size. If larger size is required due to bidder's GIS specifications, number of bays (including future); the bidder may increase size of the building within the quoted price. No additional payment shall be made in this regard.
- 2) If transformers are positioned near the GIS building, due to fire safety reasons no window shall be provided on the transformer side of the building. But, if transformers are positioned sufficiently far from the GIS building, then windows shall be provided on the transformer side of the building.
- 3) Position and size of GIS equipments, cable ducts, cable shaft, loading & unloading platform, columns, doors, windows, emergency exit stair, lift core etc. will be finalized during detail design.

Tender Drawing

EMPLOYER		POWER GRID COMPANY OF BANGLADESH LTD.
PROJECT:		
CONTRACT NO:		
Prepared		TITLE: 230 KV GIS BUILDING - 1ST FLOOR PLAN (TENTATIVE POSITION OF GIS EQUIPMENTS)
Checked		Scale: NTS
Approved		DOCUMENT ID: Page 02



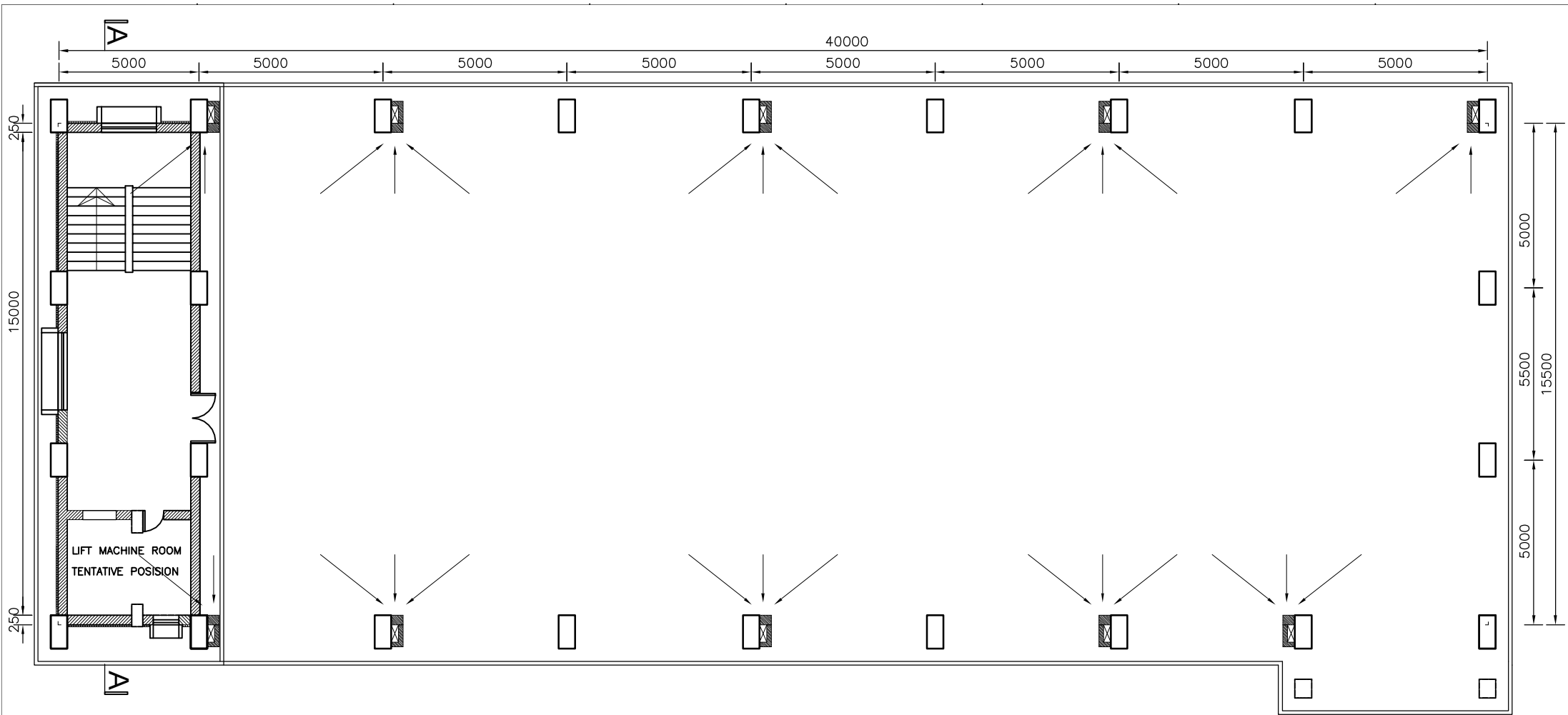
2ND FLOOR PLAN (1ST FLOOR+11000 MIN.)

Note:

1) Layout of the control room floor will be finalized during detail design.

Tender Drawing

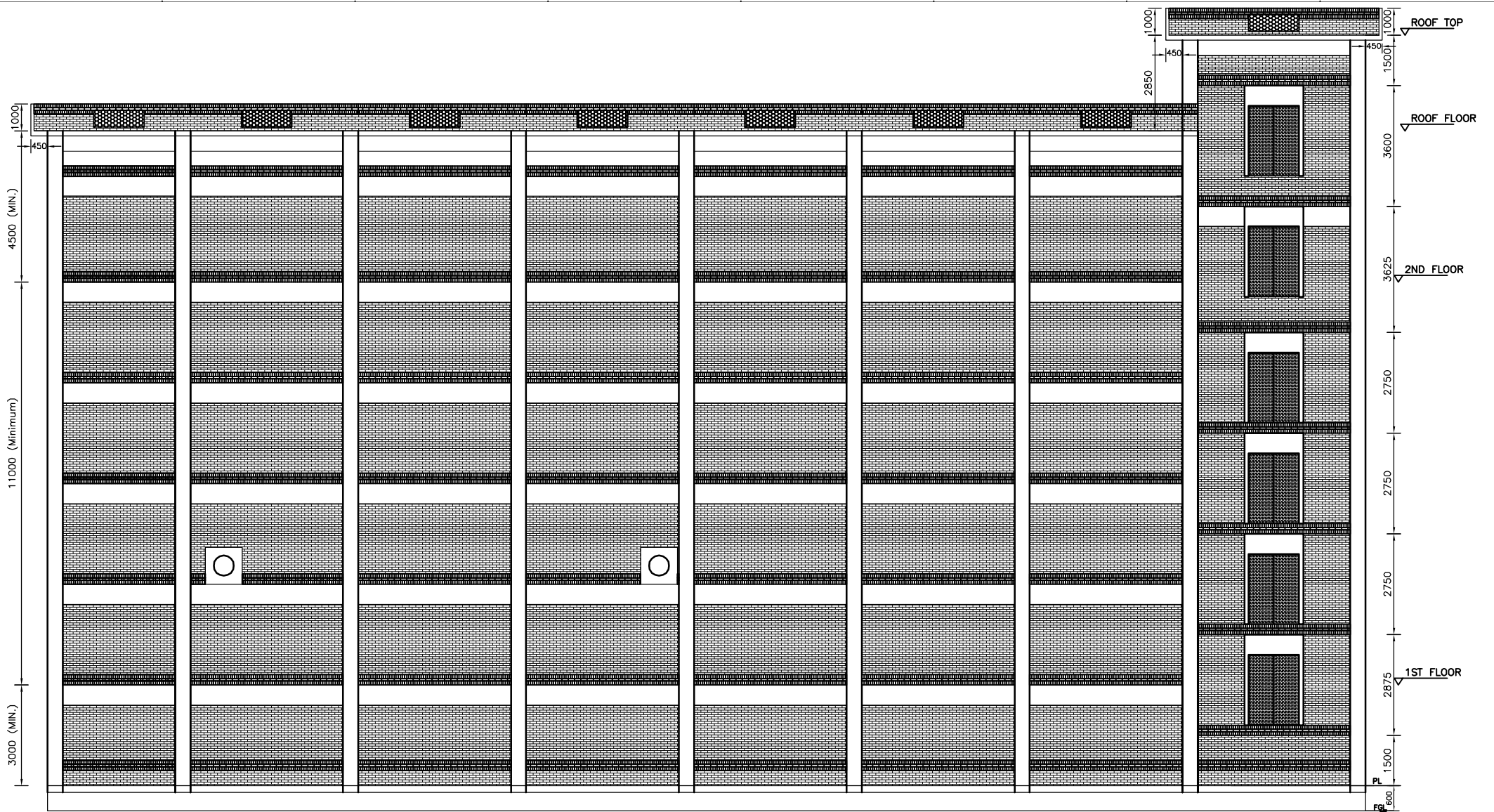
EMPLOYER		POWER GRID COMPANY OF BANGLADESH LTD.	
PROJECT:			
CONTRACT NO:			
Prepared		TITLE: 230 KV GIS BUILDING - 2ND FLOOR PLAN (TENTATIVE POSITION OF PANELS)	Paper size
Checked			Scale
Approved			NTS
		DOCUMENT ID:	Page 03



ROOF PLAN (2ND FLOOR+4500 MIN.)

Tender Drawing

EMPLOYER		 POWER GRID COMPANY OF BANGLADESH LTD.	
PROJECT:			
CONTRACT NO:			
Prepared		TITLE: 230 KV GIS BUILDING - ROOF FLOOR PLAN	Paper size
Checked			Scale NTS
Approved		DOCUMENT ID:	Page 04



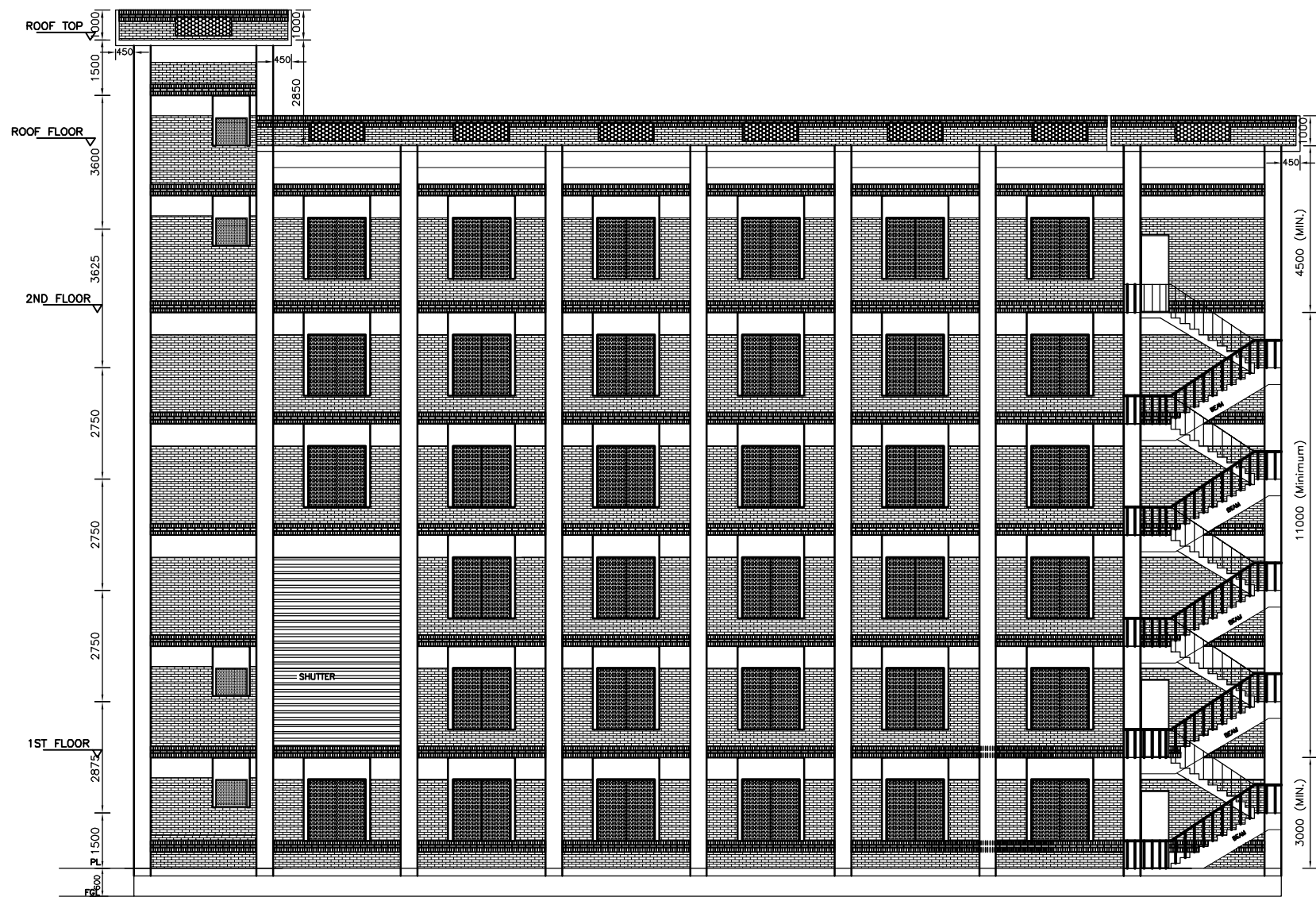
BACK ELEVATION

Note:

- 1) Floor area and height of the building provided here are minimum required size. If larger size is required due to bidder's GIS specifications, number of bays (including future); the bidder may increase size of the building within the quoted price. No additional payment shall be made in this regard.
- 2) If transformers are positioned near the GIS building, due to fire safety reasons no window shall be provided on the transformer side of the building. But, if transformers are positioned sufficiently far from the GIS building, then windows shall be provided on the transformer side of the building.
- 3) Position and size of GIS equipments, cable ducts, cable shaft, loading & unloading platform, columns, doors, windows, emergency exit stair, lift core etc. will be finalized during detail design.

Tender Drawing

EMPLOYER		POWER GRID COMPANY OF BANGLADESH LTD.	
PROJECT:			
CONTRACT NO:			
Prepared		TITLE: 230 KV GIS BUILDING - FRONT ELEVATION	Paper size
Checked			Scale NTS
Approved		DOCUMENT ID:	Page 05



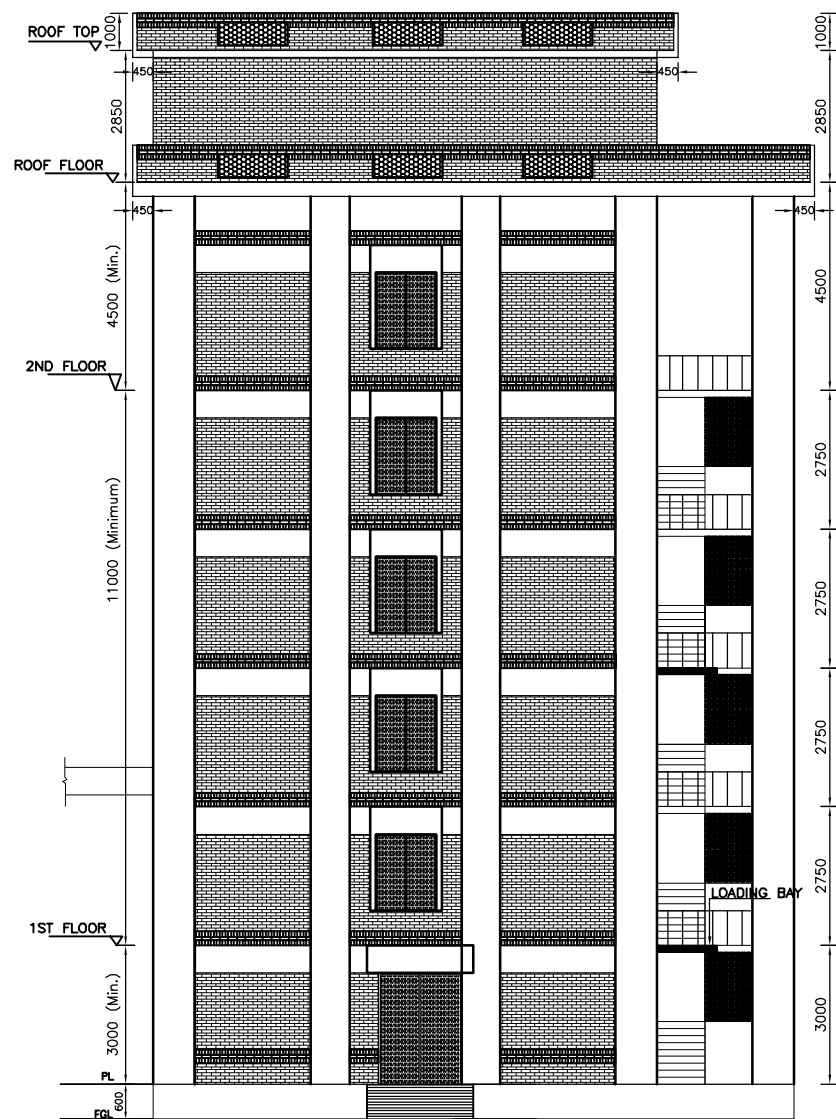
FRONT ELEVATION

Tender Drawing

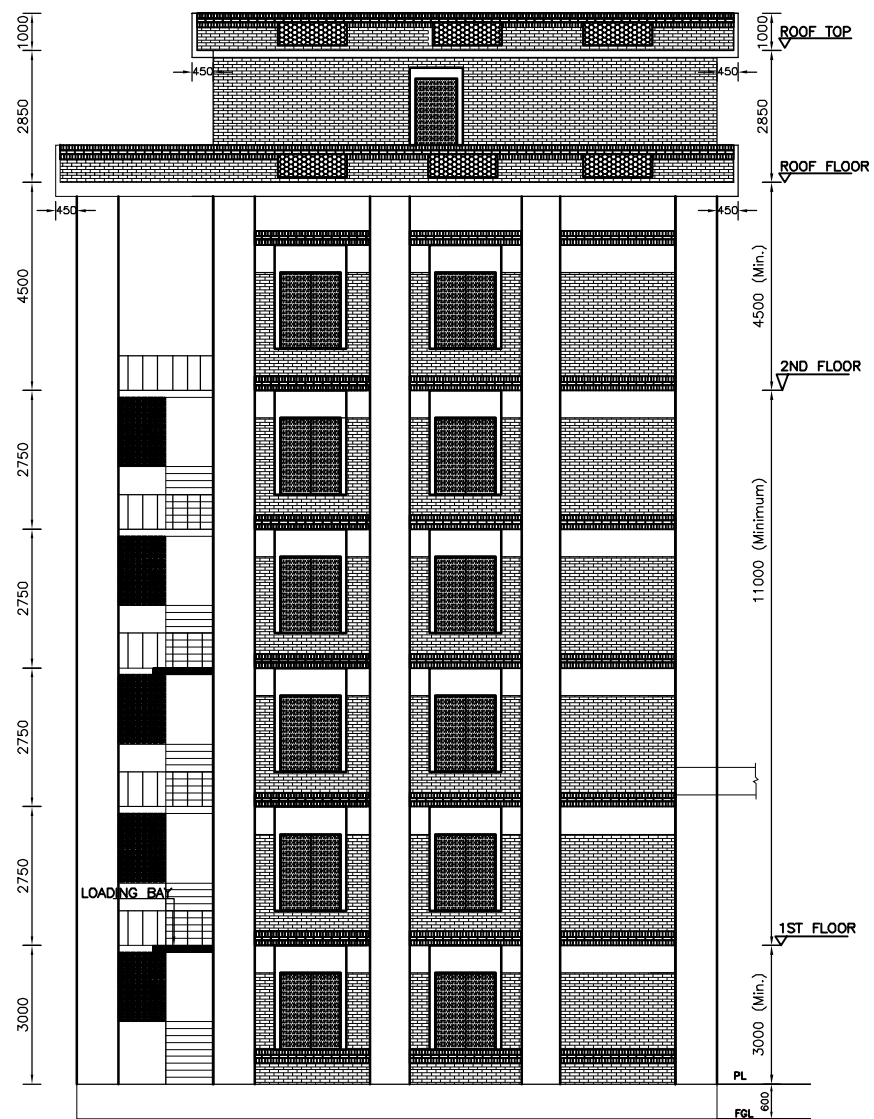
Note:

- 1) Floor area and height of the building provided here are minimum required size. If larger size is required due to bidder's GIS specifications, number of bays (including future); the bidder may increase size of the building within the quoted price. No additional payment shall be made in this regard.
- 2) If transformers are positioned near the GIS building, due to fire safety reasons no window shall be provided on the transformer side of the building. But, if transformers are positioned sufficiently far from the GIS building, then windows shall be provided on the transformer side of the building.
- 3) Position and size of GIS equipments, cable ducts, cable shaft, loading & unloading platform, columns, doors, windows, emergency exit stair, lift core etc. will be finalized during detail design.

EMPLOYER		POWER GRID COMPANY OF BANGLADESH LTD.	
PROJECT:			
CONTRACT NO:			
Prepared		TITLE: 230 KV GIS BUILDING - BACK ELEVATION	Paper size
Checked			Scale NTS
Approved		DOCUMENT ID:	Page 06



RIGHT ELEVATION



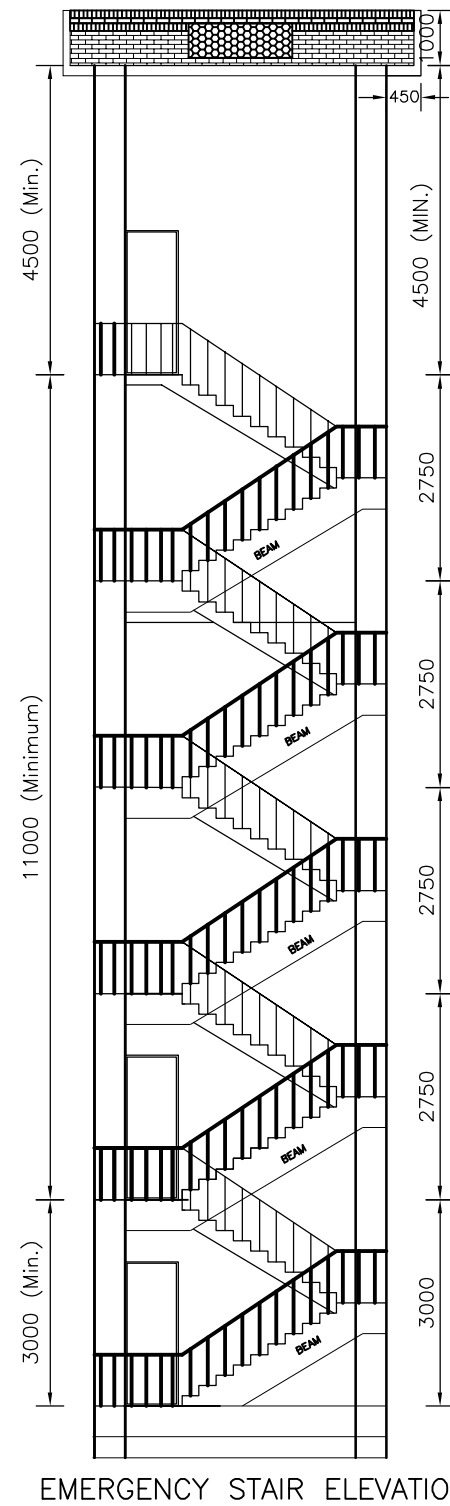
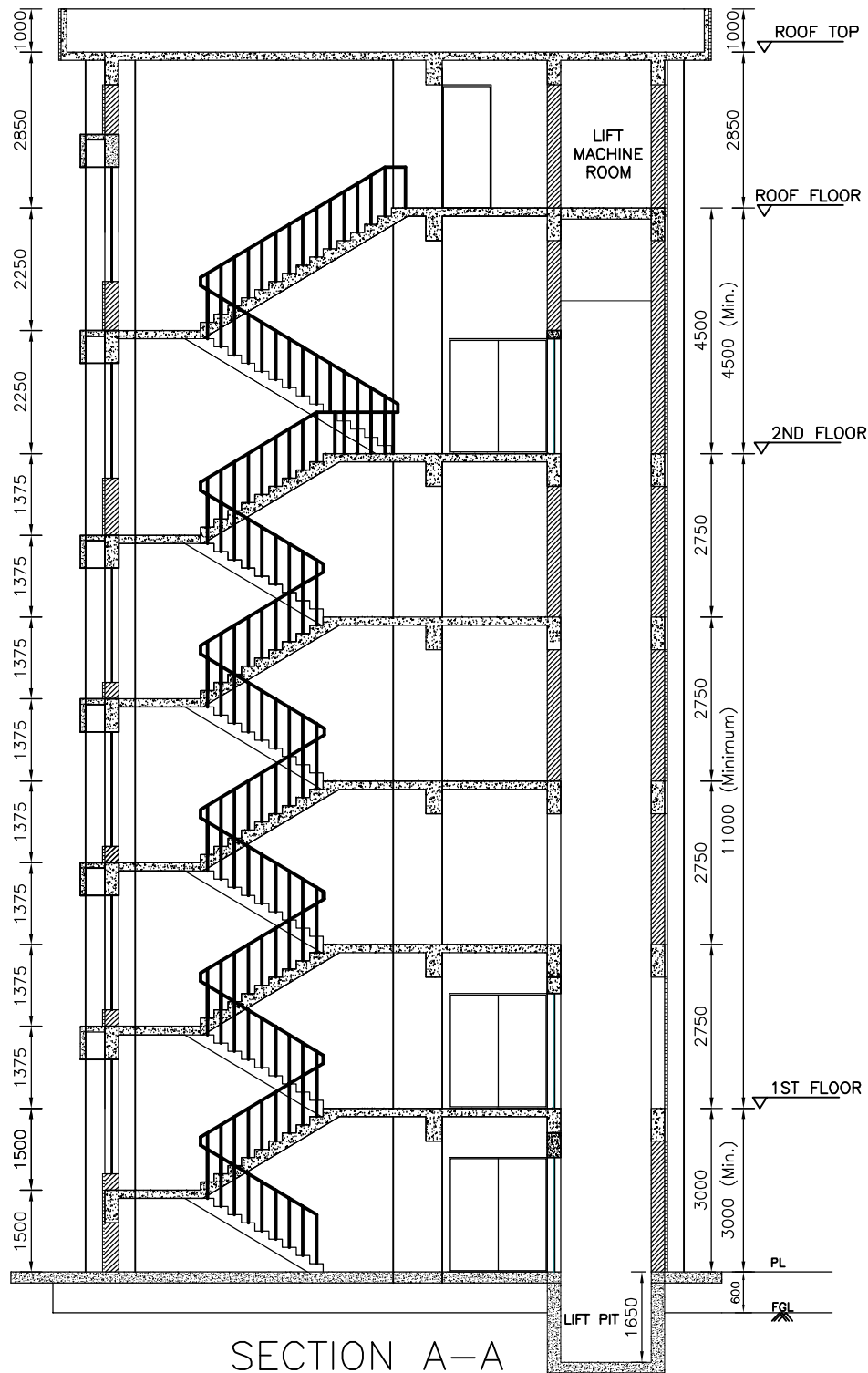
LEFT ELEVATION

Note:

- 1) Floor area and height of the building provided here are minimum required size. If larger size is required due to bidder's GIS specifications, number of bays (including future); the bidder may increase size of the building within the quoted price. No additional payment shall be made in this regard.
- 2) If transformers are positioned near the GIS building, due to fire safety reasons no window shall be provided on the transformer side of the building. But, if transformers are positioned sufficiently far from the GIS building, then windows shall be provided on the transformer side of the building.
- 3) Position and size of GIS equipments, cable ducts, cable shaft, loading & unloading platform, columns, doors, windows, emergency exit stair, lift core etc. will be finalized during detail design.

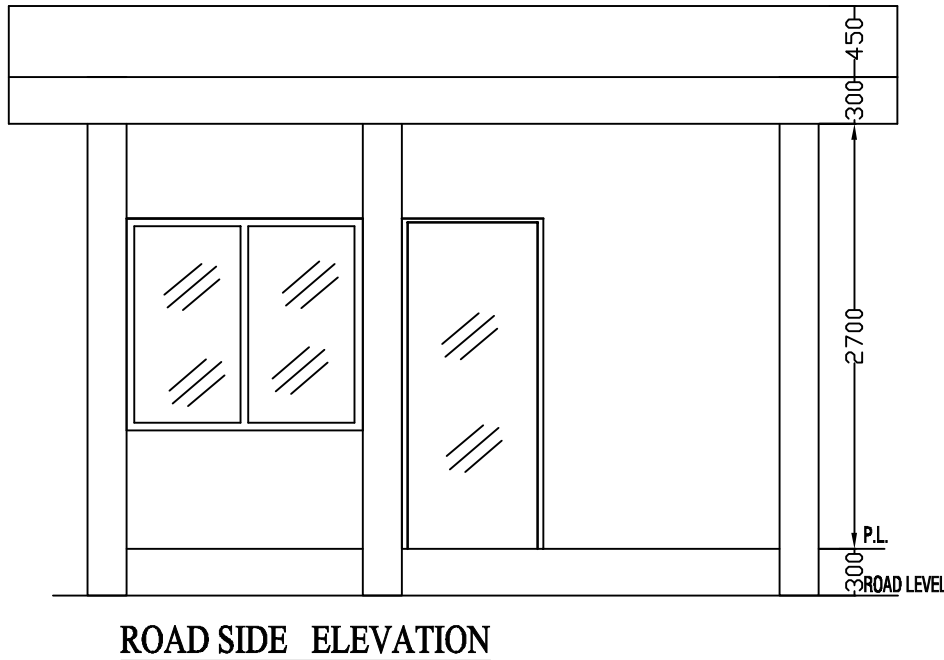
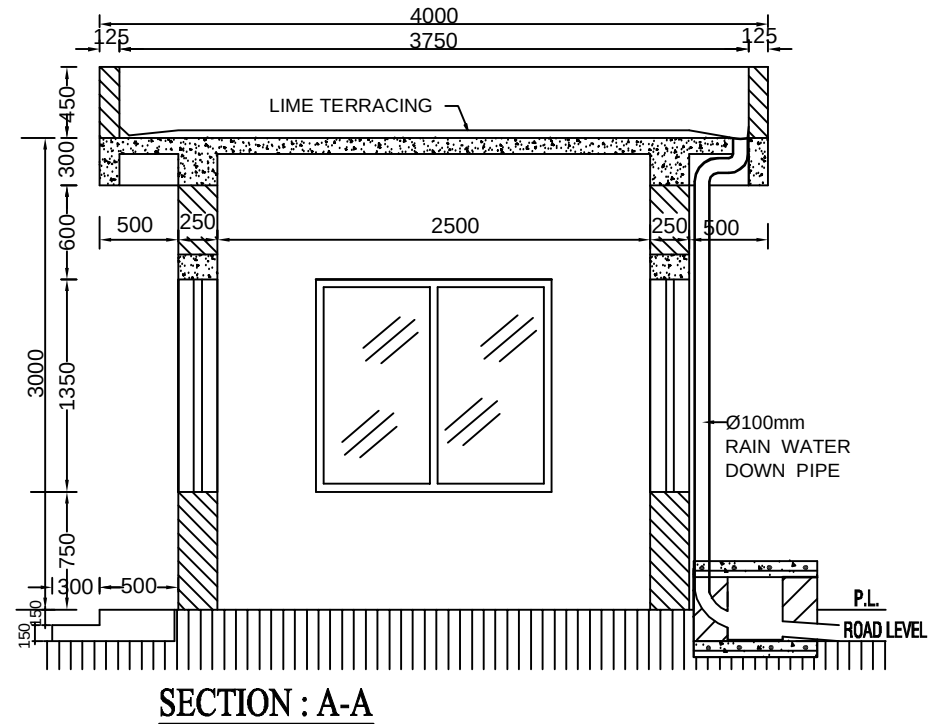
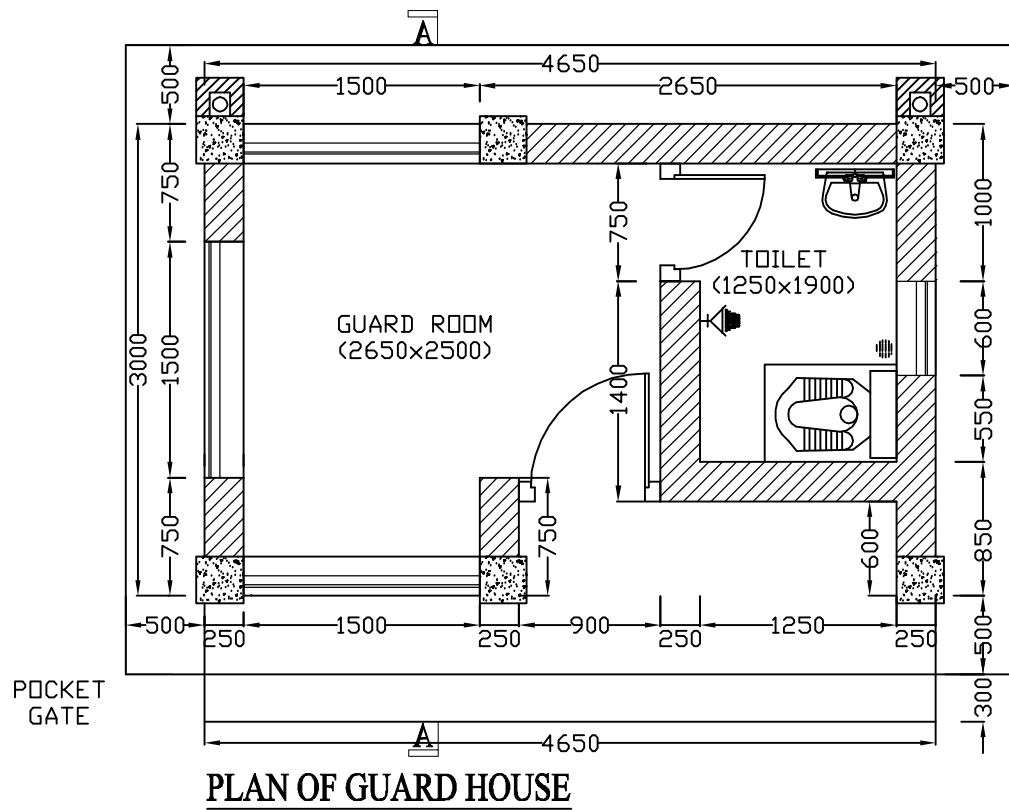
Tender Drawing

EMPLOYER		POWER GRID COMPANY OF BANGLADESH LTD.	
PROJECT:			
CONTRACT NO:			
Prepared		TITLE: 230 KV GIS BUILDING - RIGHT & LEFT ELEVATION	Paper size
Checked			NTS
Approved		DOCUMENT ID:	Page 07



Tender Drawing

EMPLOYER		POWER GRID COMPANY OF BANGLADESH LTD.	
PROJECT:			
CONTRACT NO:			
Prepared		TITLE: 230 KV GIS BUILDING - SECTION (A-A) & EMERGENCY STAIR	Paper size
Checked			Scale NTS
Approved		DOCUMENT ID:	Page 08

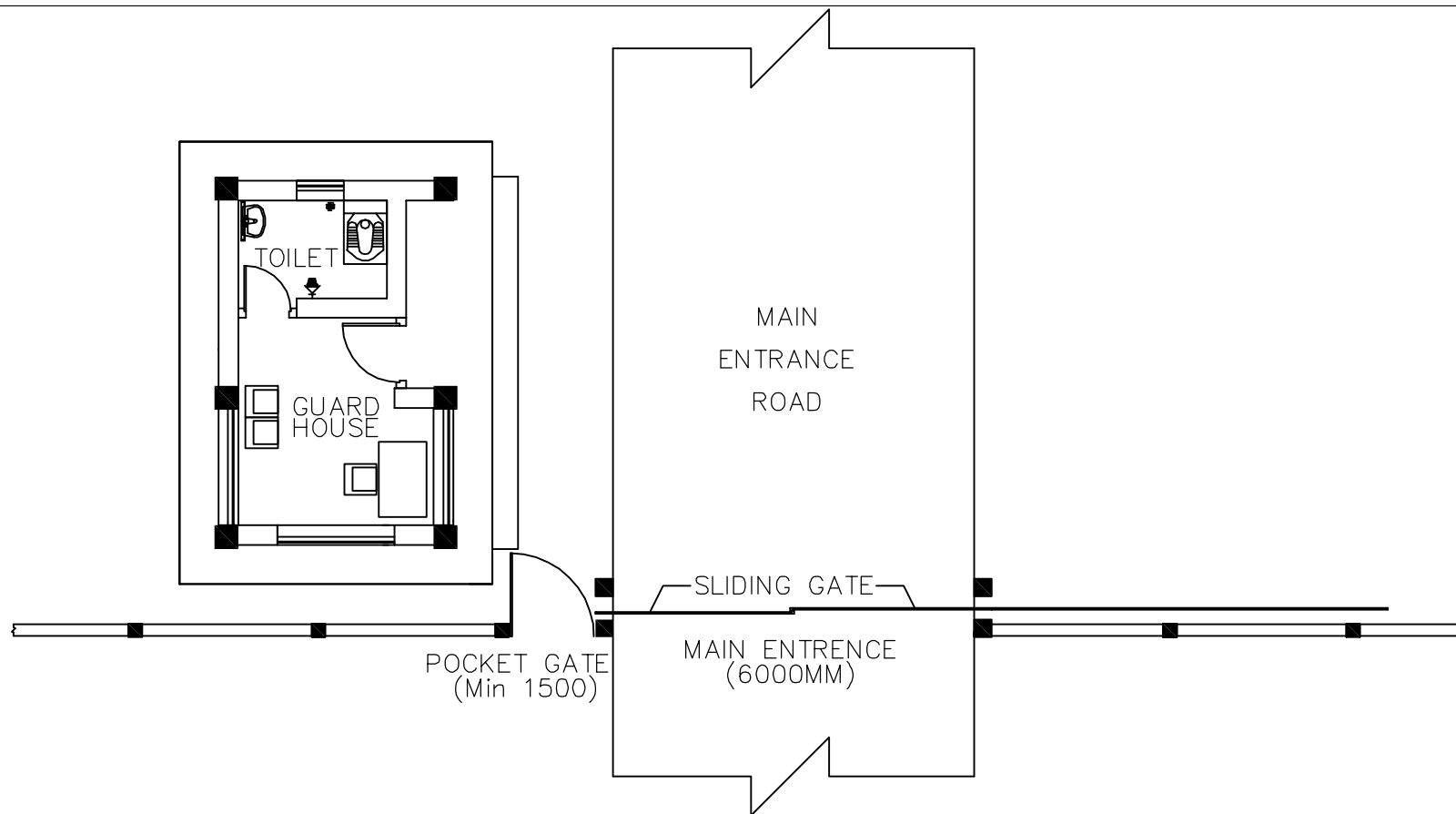


NOTES:

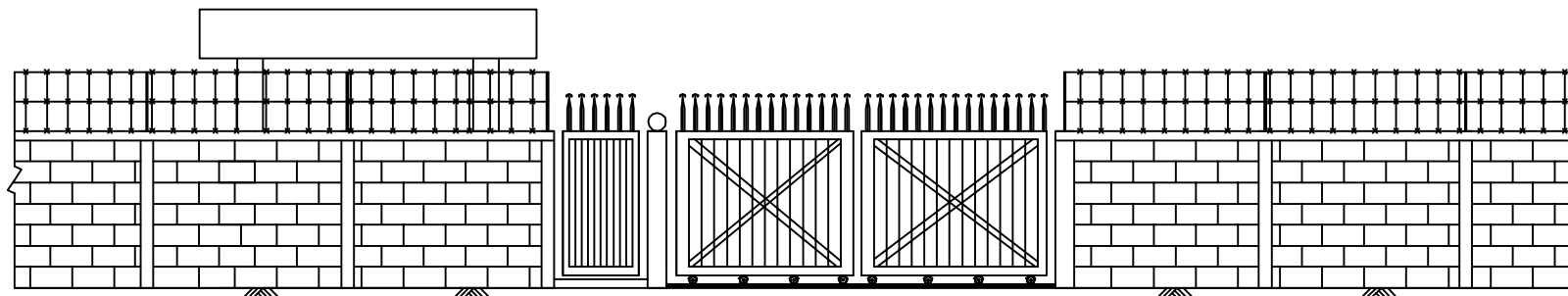
1. DETAILS OF ARCHITECTURAL, STRUCTURAL & FOUNDATION DRAWING SHALL BE SUBMITTED FOR APPROVAL.
2. WATER SUPPLY SYSTEM, TOILET & OTHER SANITARY FITTINGS SHALL BE PROVIDED.
3. ROOF SHALL BE WATER PROOFED WITH LIME TERRACING 2:2:7— LIME, SHURKI (POWDERED BRICK) & 0.75" DOWN BRICK CHIPS.
4. RAIN WATER DOWN PIPE & BUILDING DRAINAGE SYSTEM SHALL BE TAKE INTO CONSIDER PRIOR TO SLAB CASTING.
5. POWER CONNECTION LAYOUT SHALL BE APPROVED BEFORE WORK.

Tender Drawing

Power Grid Company of Bangladesh Limited				
Project				
Drawing Title	Gaurd House			
Drawing No.				
Drawn:		Checked:		Approved:



PLAN VIEW



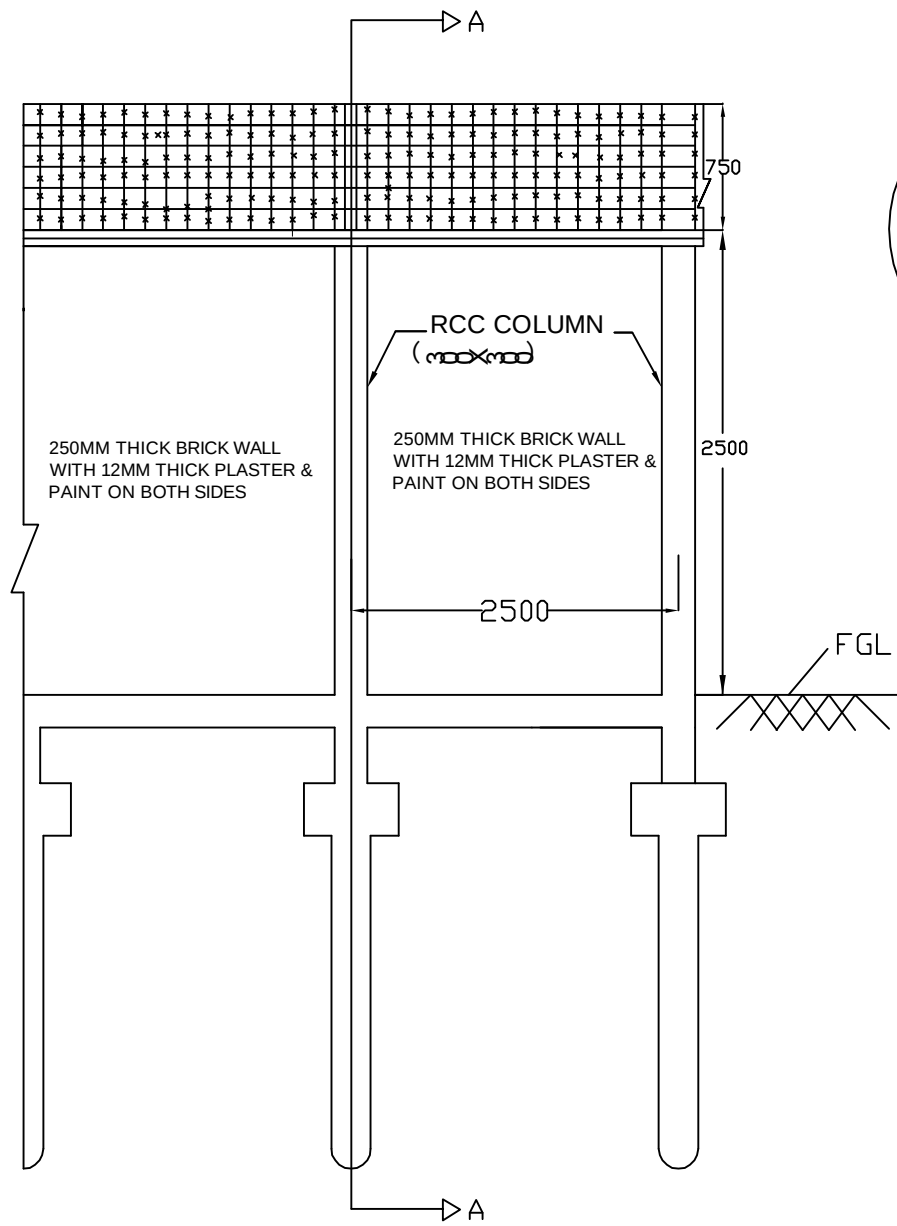
FRONT VIEW

ENTRANCE GATE

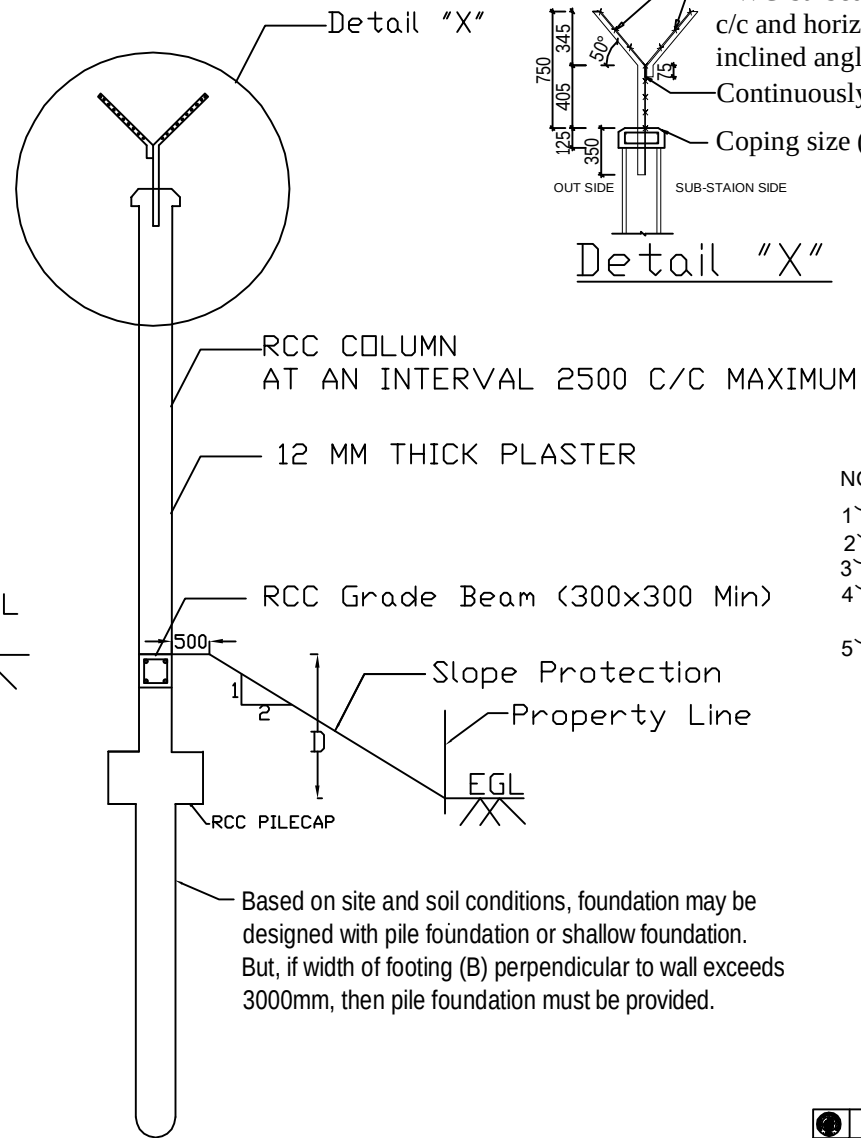
NOTE: Gate design shall be finalized during design stage.

Tender Drawing

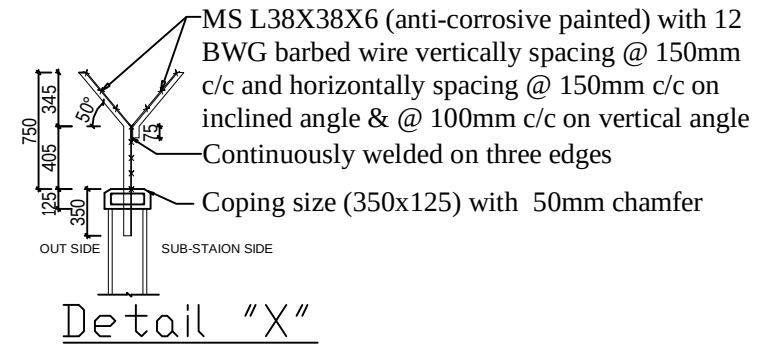
	Power Grid Company of Bangladesh Limited			
	Project			
Drawing Title	Main Entrance Gate			
Drawing No.				
Drawn:		Checked:		Approved:



FRONT ELEVATION



SECTION: A-A

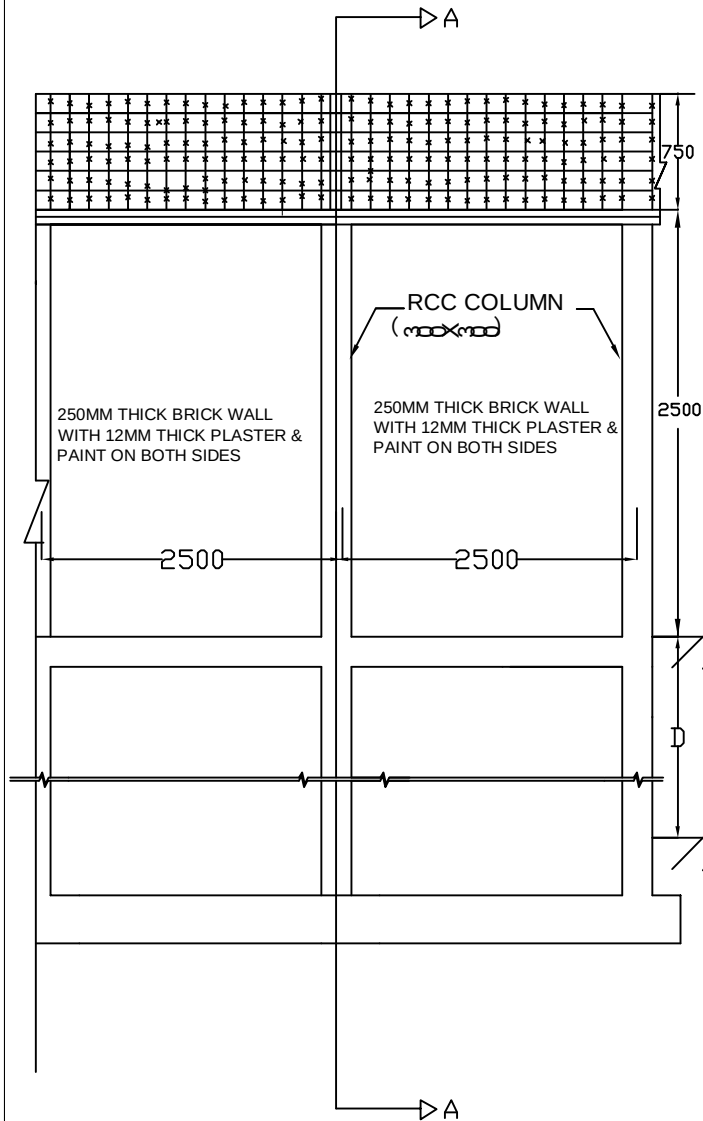


NOTE:

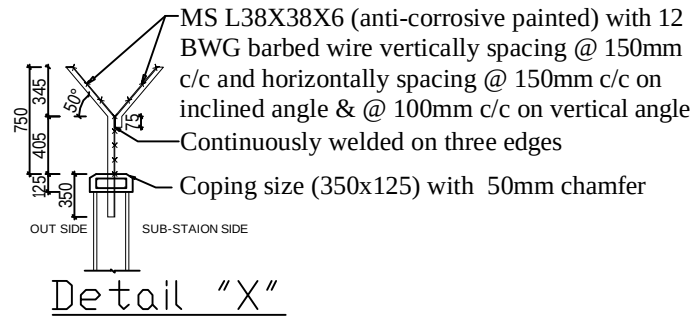
- 1~ "EGL" means Existing Ground level
- 2~ "FGL" means Finished Ground level
- 3~ ALL DIMENSIONS ARE IN MM
- 4~ 'D'=Depth of Earth Filling for Land Development
- 5~ Expansion Joints shall have to be provided at maximum 25m Interval.

Tender Drawing

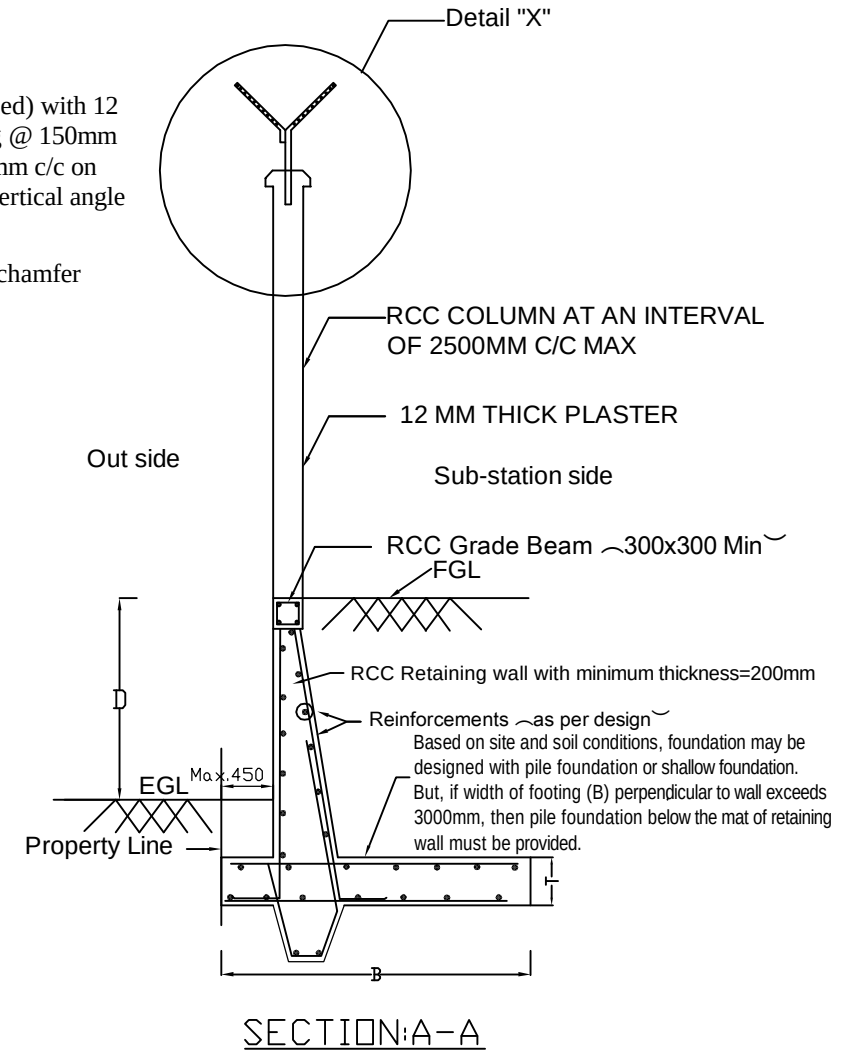
Power Grid Company of Bangladesh Limited			
Project			
Drawing Title	Boundary wall without retaining wall		
Drawing No.	PGCB/ADB/400KV/GOPAL-SSMEG		
Drawn:	Checked:	Approved:	



FRONT ELEVATION

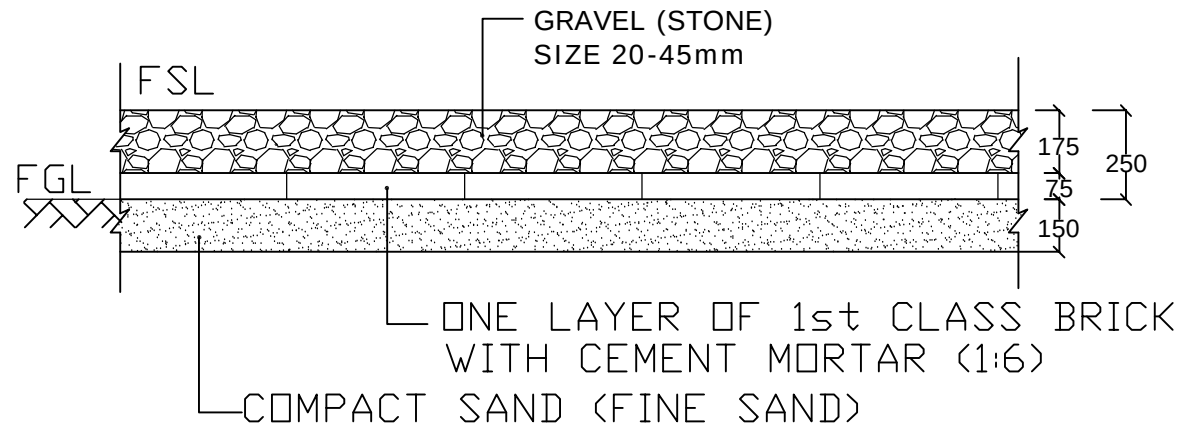
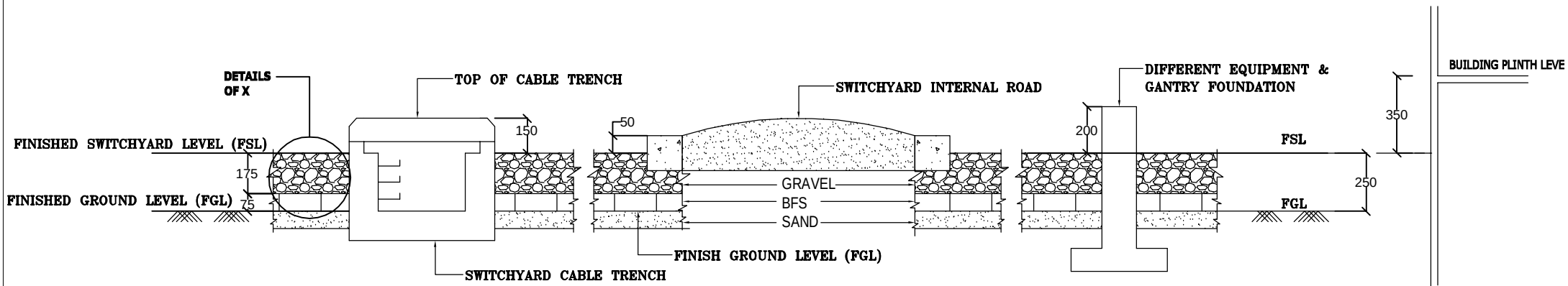


- NOTE:
- ১) সীট এ প্রদত্ত সকল মাত্রা ও আকার
 - ২) সীট এ প্রদত্ত সকল মাত্রা ও আকার
 - ৩) প্রদত্ত সকল মাত্রা ও আকার
 - ৪) প্রদত্ত সকল মাত্রা ও আকার
 - ৫) প্রদত্ত সকল মাত্রা ও আকার
 - ৬) প্রদত্ত সকল মাত্রা ও আকার



Tender Drawing

	Power Grid Company of Bangladesh Limited		
<u>Project</u>			
Drawing Title		Boundary wall with RCC retaining wall	
Drawing No.			
Drawn:		Checked:	
Department: civil Design		Approved:	



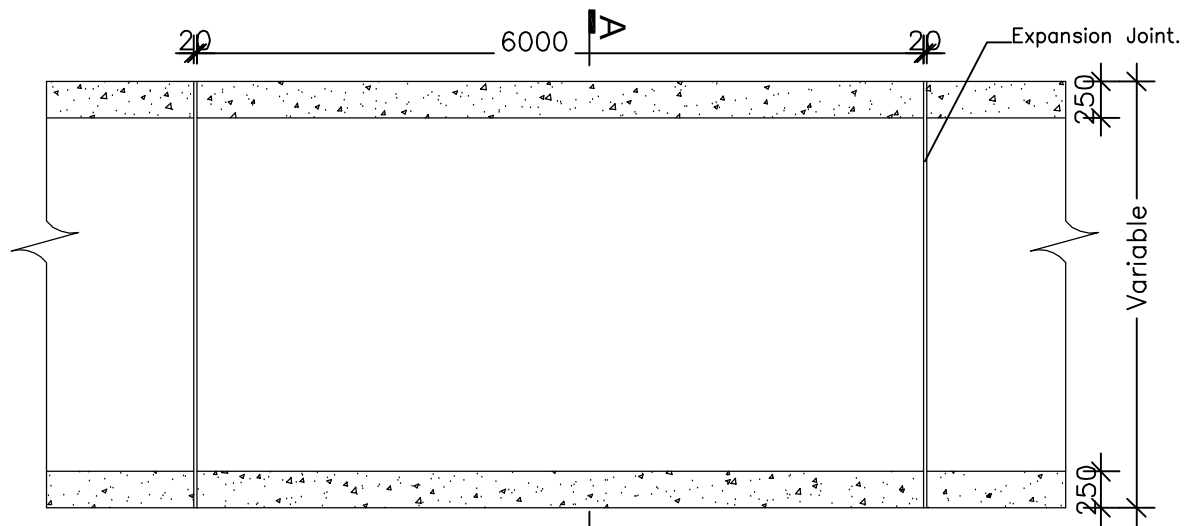
DETAIL OF X

NOTE:

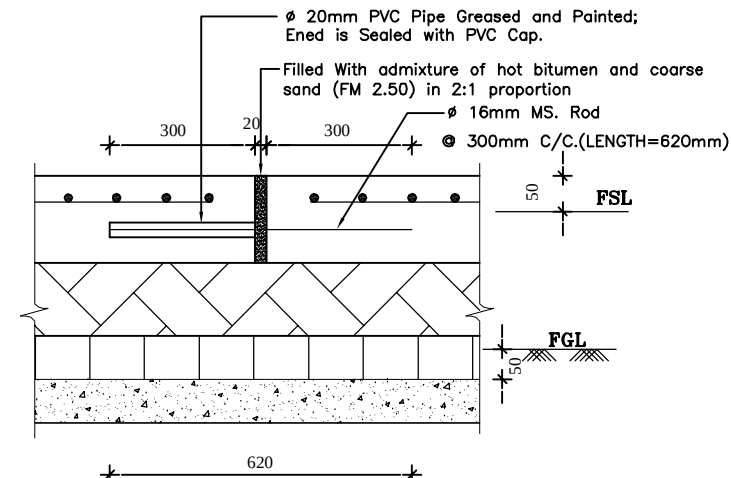
After determination of Finished Ground Level (FGL) with respect to MSL/PWD, the contractor should prepare and submit the relative RLs of all the structures for approval for each site.

Tender Drawing

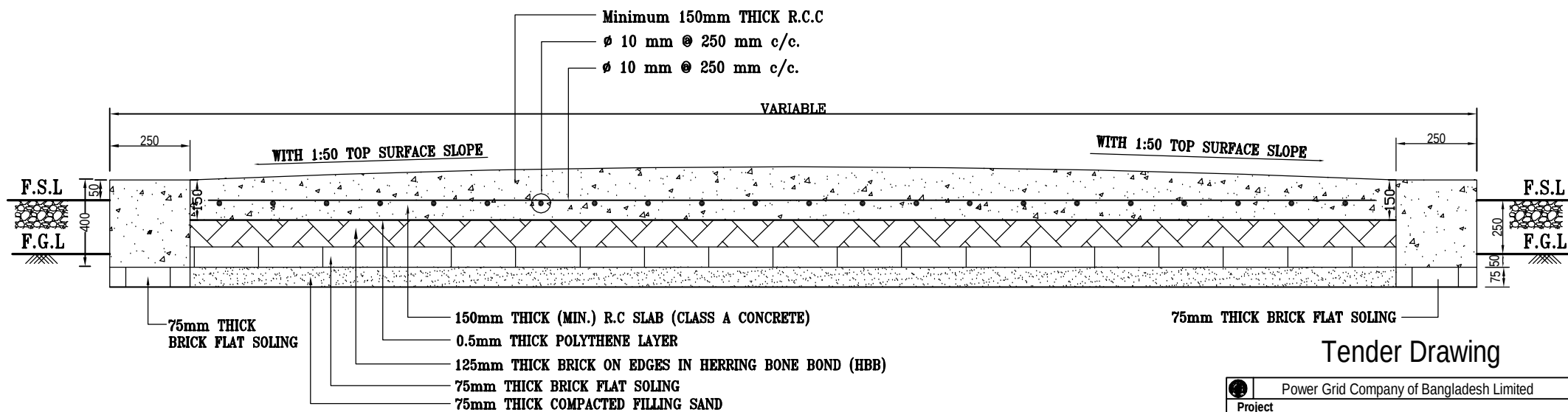
Power Grid Company of Bangladesh Limited				
Project				
Drawing Title	Switchyard Gravelling and Relative Levels of Different Structures			
Drawing No.				
Drawn:		Checked:		Approved:



KEY PLAN OF INTERNAL ROAD
(SCALE - NTS)



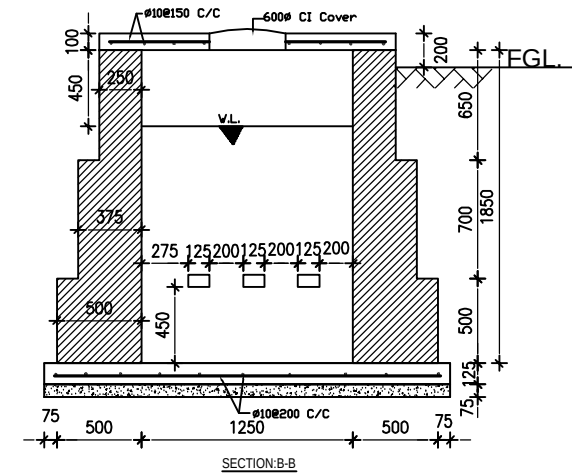
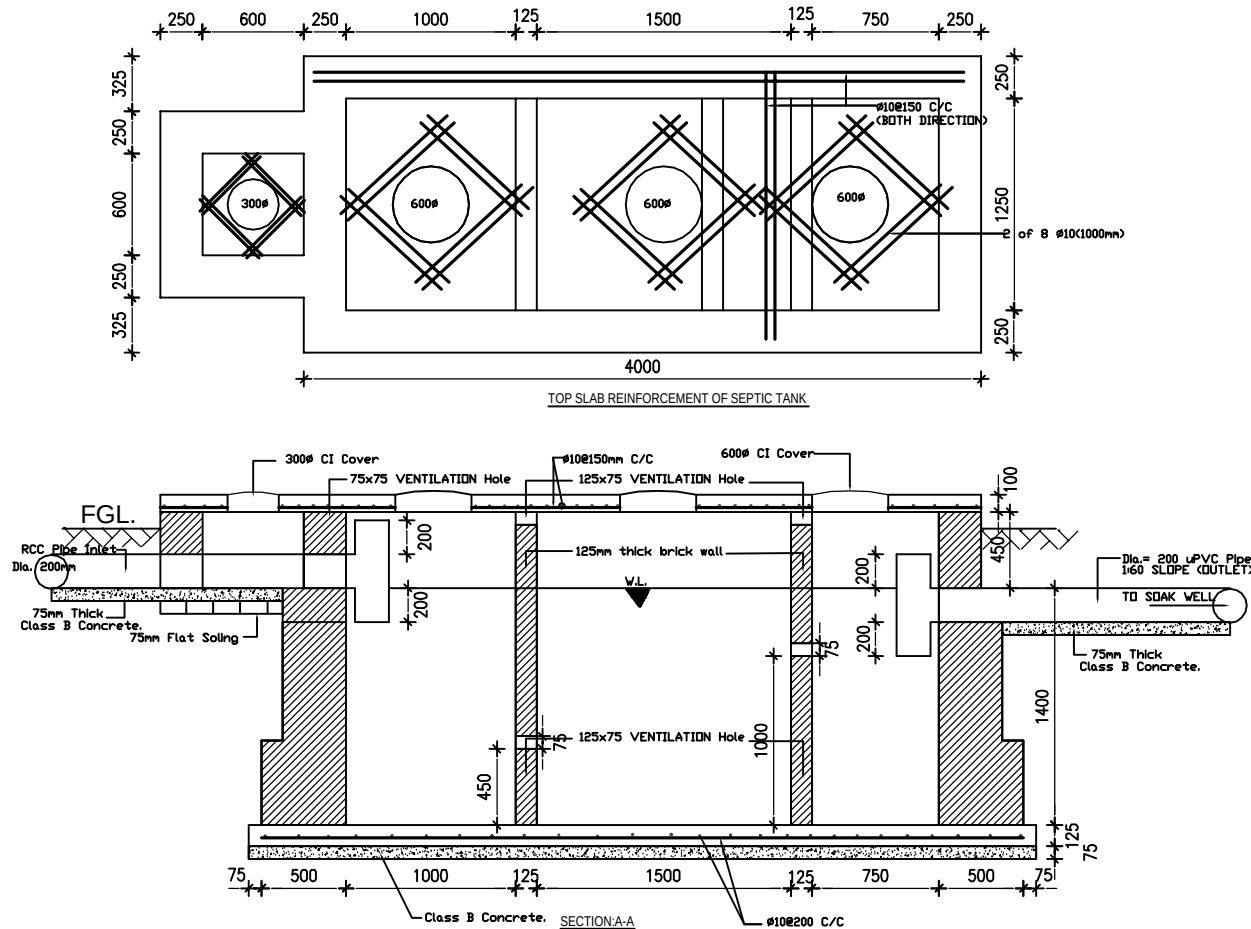
DETAIL OF EXPANSION JOINT
(SCALE - NTS)



ROAD CROSS SECTION : A-A
(SCALE - NTS)

Tender Drawing

Power Grid Company of Bangladesh Limited			
Project			
Drawing Title	Typical Road sections		
Drawing No.			
Drawn:	Checked:	Approved:	

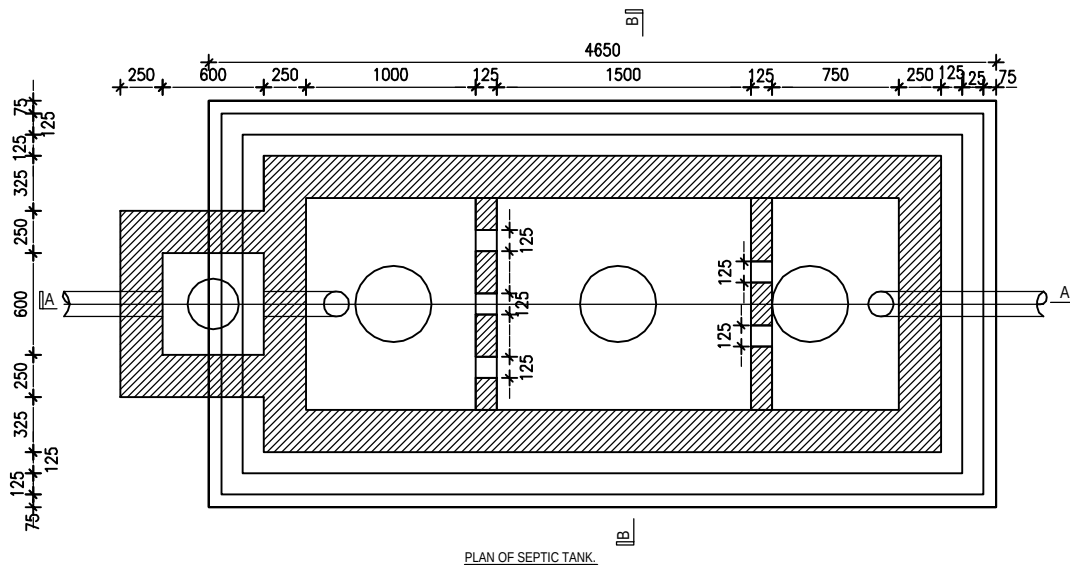


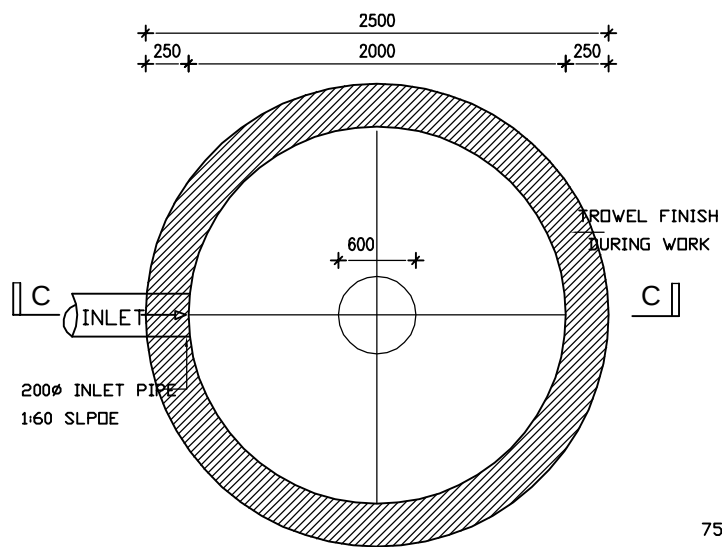
NOTES:

1. TYPE OF COVER FOR ALL INSPECTION HOLES IS C.I.
2. SIZE OF THE HOLE INSIDE BRICK HOLE INSIDE BRICK WALL FOR SEPTIC TANK IS 125X75 mm².
3. R.C.C. WORK AS PER APPROVED MIX. DESIGN.
4. MINIMUM YIELD STRENGTH OF REBAR IS 415 N/ mm².
5. MORTAR MIXING PROPORTION IS 1:4.
6. PLASTER MIXING PROPORTION IS 1:3.
7. THE INTERIOR OF ALL SEPTIC TANKS AND MANHOLES CARRYING FOUL SEWAGE SHALL RECEIVE TWO COATS OF BITUMASTIC PAINT.
8. ALL SPECIFICATION WILL BE FOLLOWED AS SPECIFIED IN THE CONTRACT.
9. ALL EXTERIOR BRICK WORK OF SP & SW SHALL BE FURNISHED WITH NCF.
10. MINIMUM CLEAR COVER OF THE REBAR (BELOW GROUND LEVEL) IS 60mm.
11. SEPTIC TANK SHOULD BE LOCATED ADEQUATE DISTANCE FROM CONTROL BUILDING.
12. ALL DIMENSIONS ARE IN mm WHERE NOT STATED.

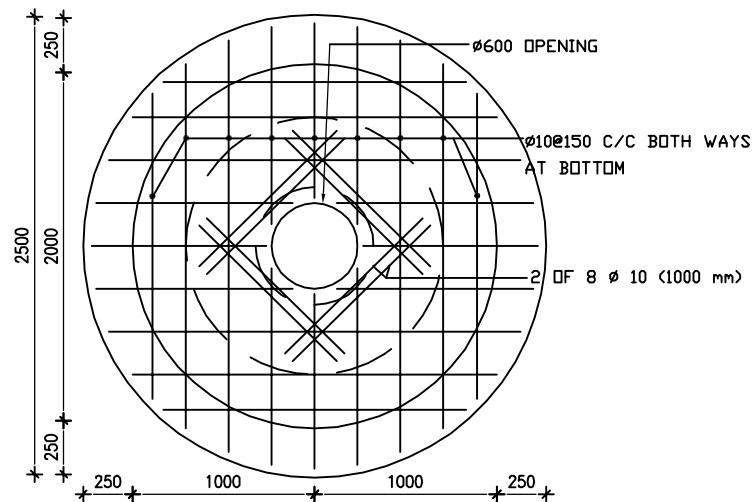
Tender Drawing

Power Grid Company of Bangladesh Limited			
Project			
Drawing Title	Septik Tank		
Drawing No.			
Drawn:	Checked:	Approved:	

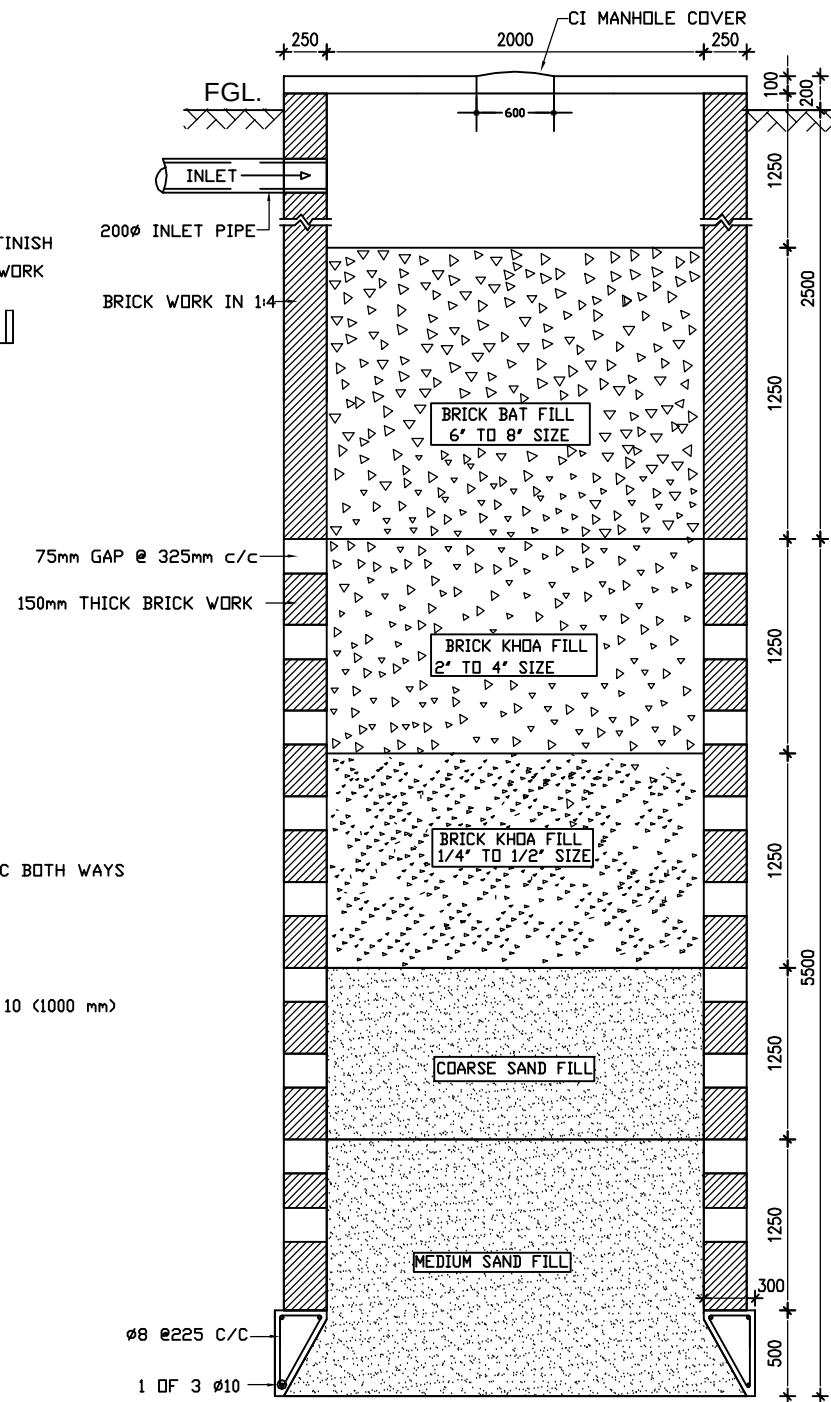




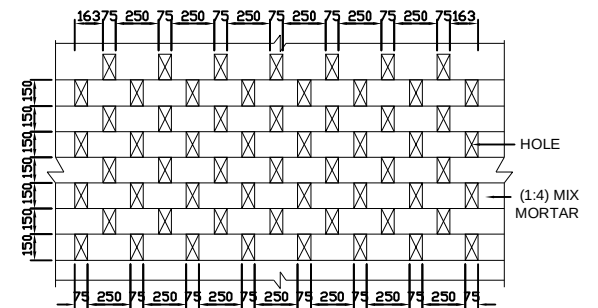
PLAN OF SOAK WELL (SW)



SLAB OF SW
REINFORCEMENT PLAN OF TOP



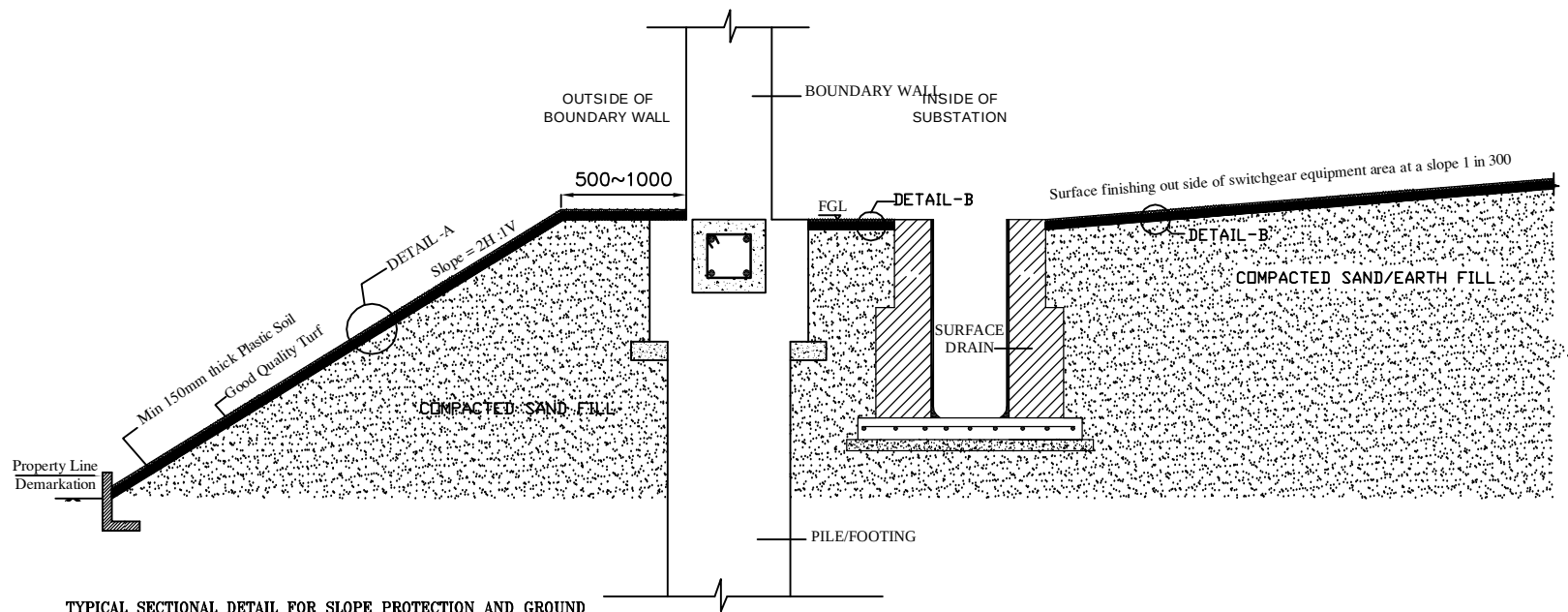
SECTION ON C - C



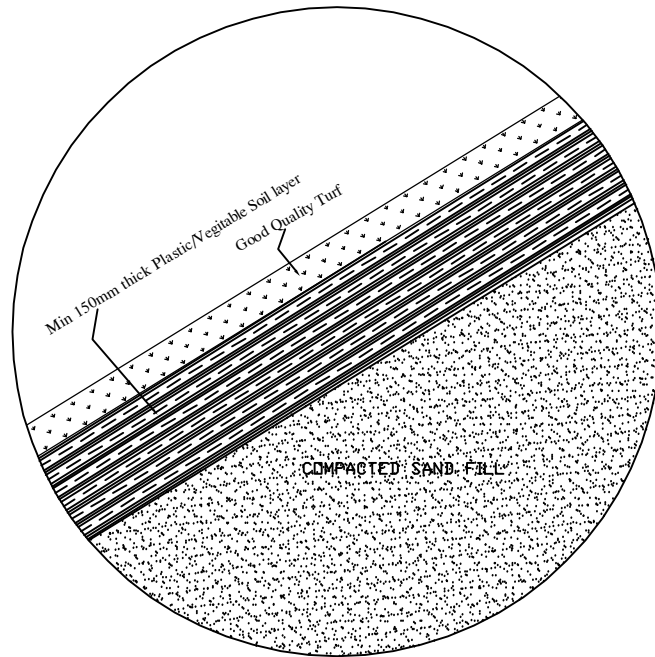
PART VIEW OF WALL WITH HOLE

Tender Drawing

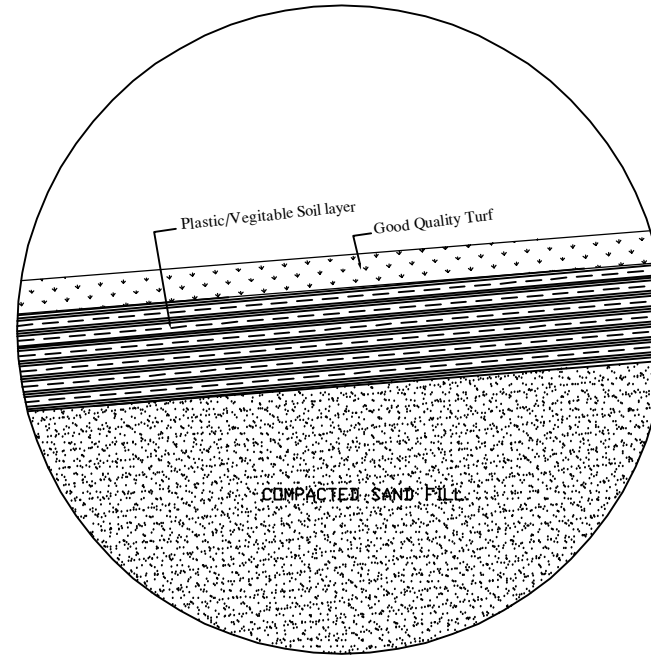
 Power Grid Company of Bangladesh Limited Project			
Drawing Title		Soak Well for Septik Tank	
Drawing No.			
Drawn:		Checked:	
		Approved:	



TYPICAL SECTIONAL DETAIL FOR SLOPE PROTECTION AND GROUND SURFACE FINISHING AROUND THE SURFACE DRAIN



DETAIL-A



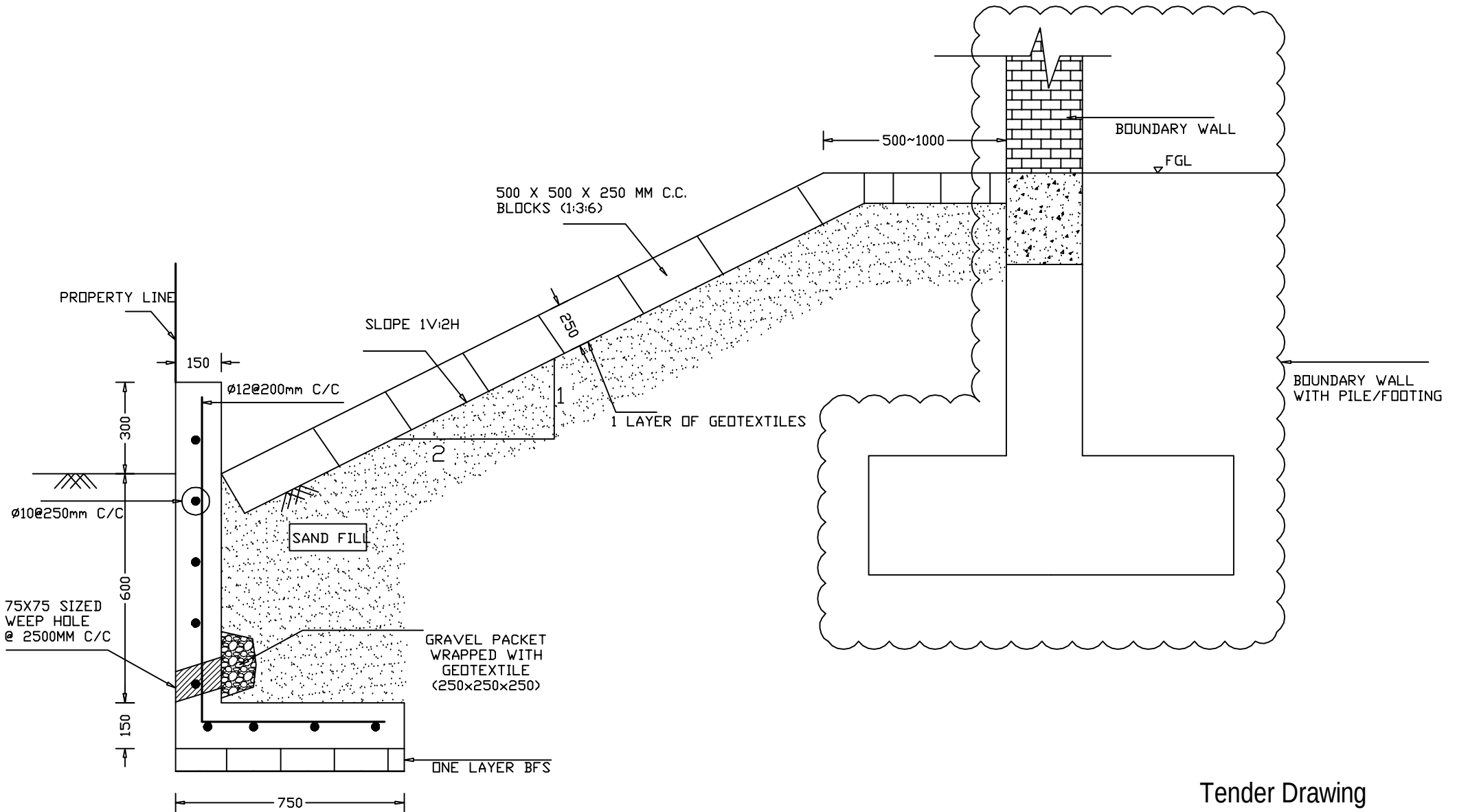
DETAIL-B

NOTE :

The substation plot, outside of the designated switchgear equipment areas, shall be turfed. Turf shall be of good quality, free from weeds and impurities. Samples of the turf which is proposed to use shall have to be approved by the Engineer. The turfs shall be laid to even surfaces on a bed of vegetable soil, which shall be raked and consolidated to provide a suitable bed.

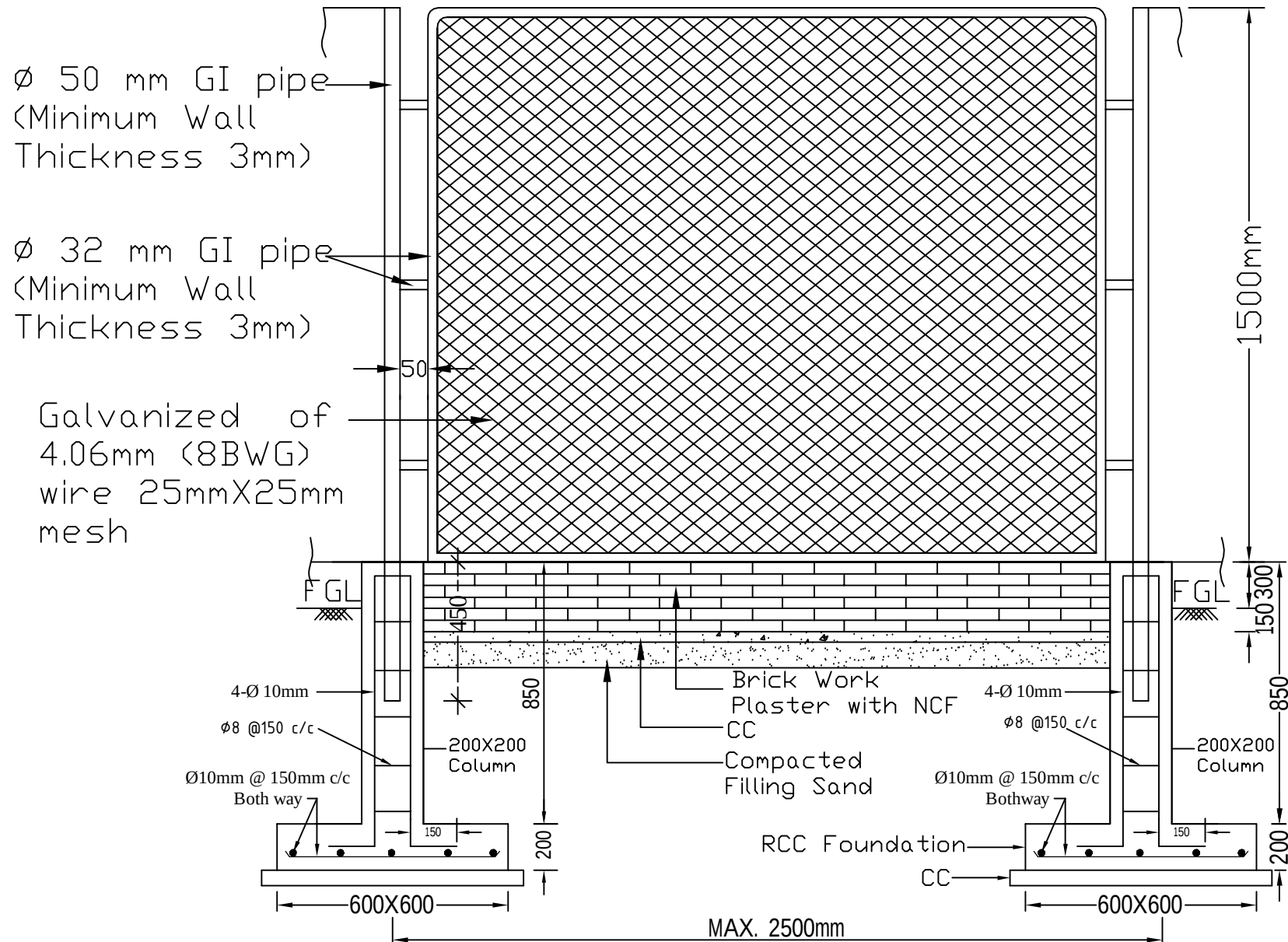
Tender Drawing

	Power Grid Company of Bangladesh Limited			
Project				
Drawing Title		Slope (1V:2H) protection with turfing		
Drawing No.				
Drawn:		Checked:		Approved:



Tender Drawing

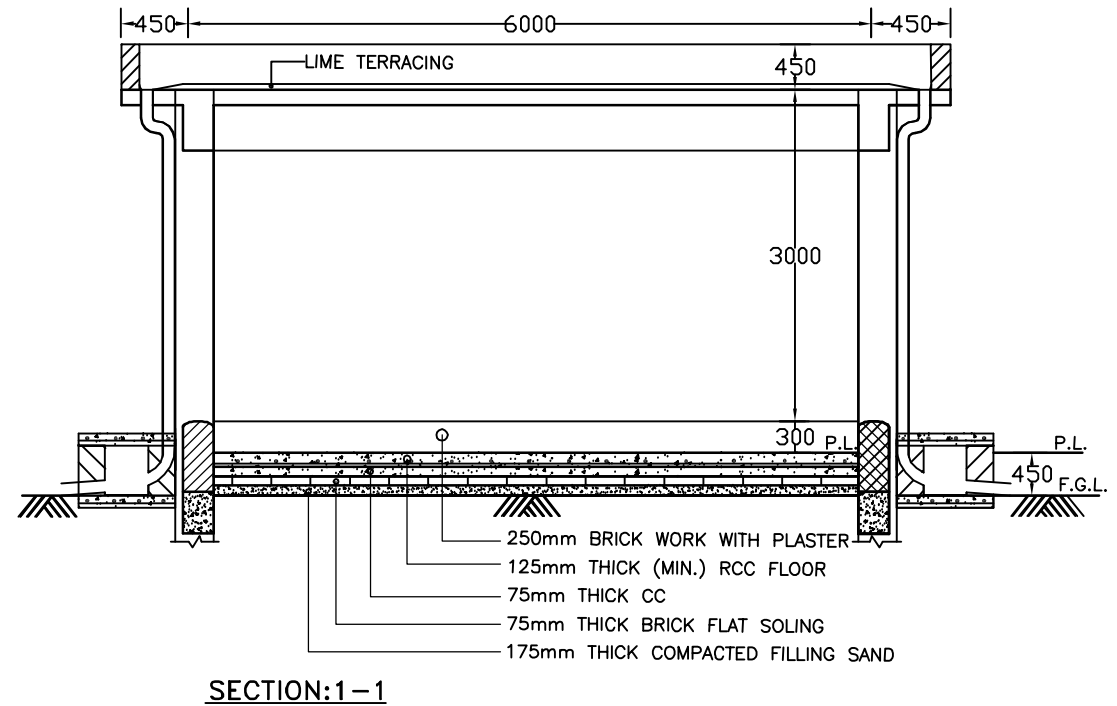
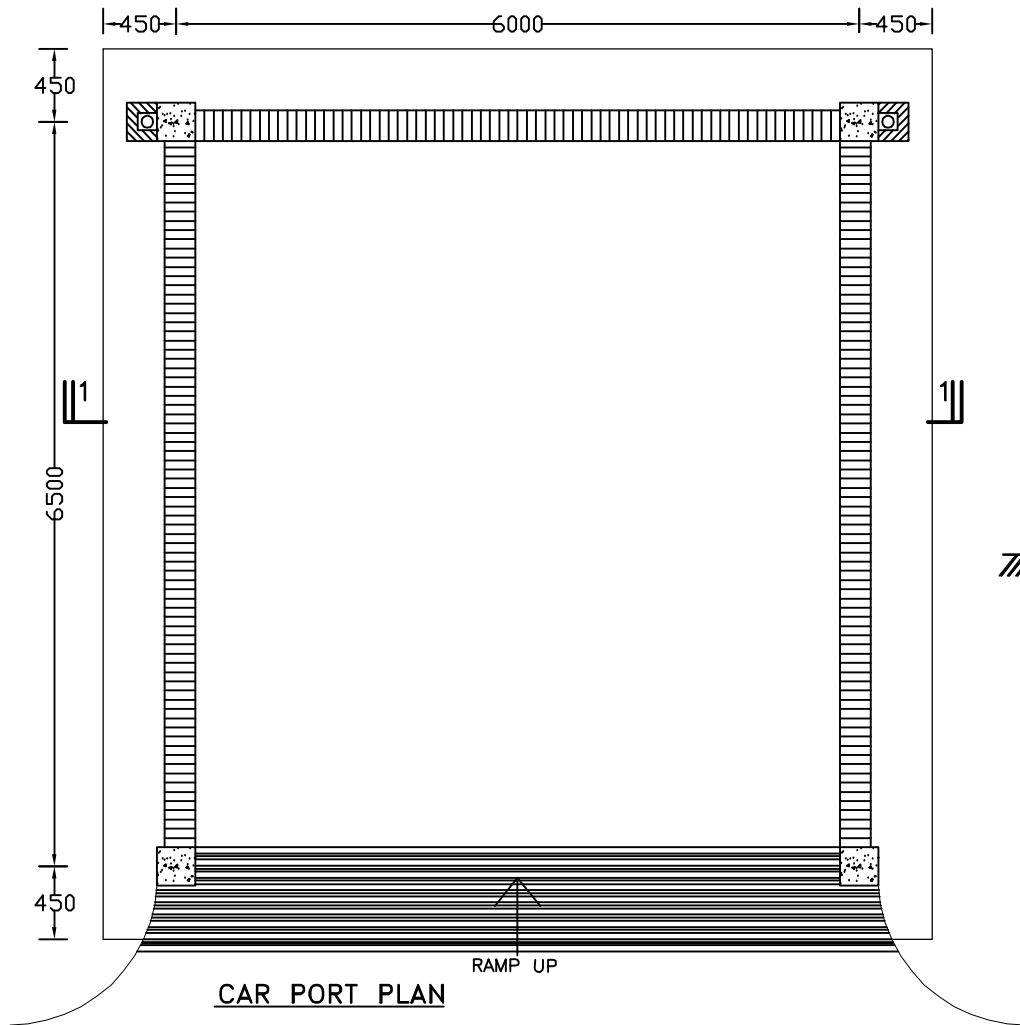
Power Grid Company of Bangladesh Limited			
Project			
Drawing Title	Slope (1V:2H) protection with CC blocks		
Drawing No.			
Drawn:	Checked:	Approved:	



Typical Section of Chain Linked Fencing

Tender Drawing

Power Grid Company of Bangladesh Limited			
Project			
Drawing Title	Typical Section of Chain linked fencing		
Drawing No.			
Drawn:	Checked:	Approved:	

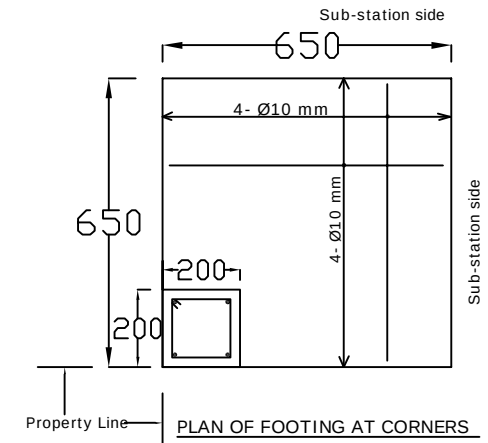
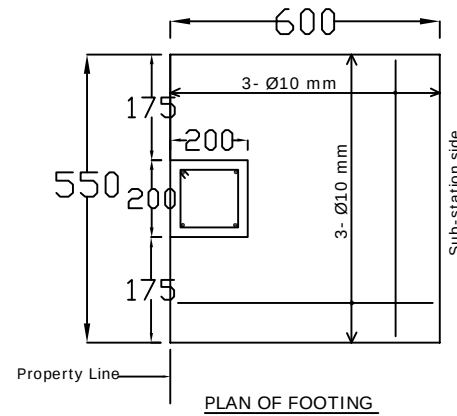
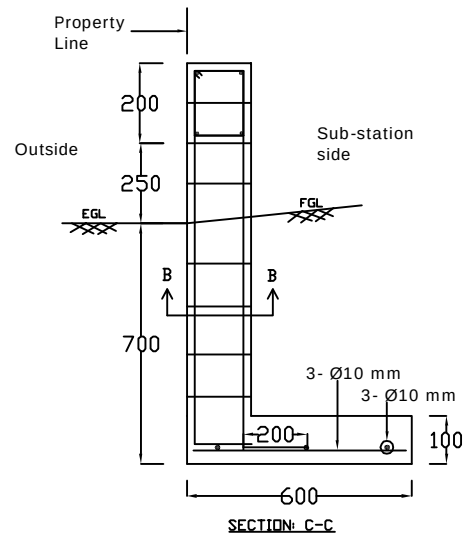
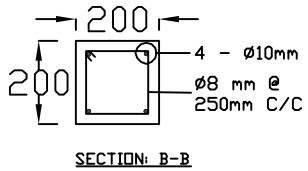
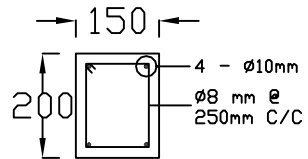
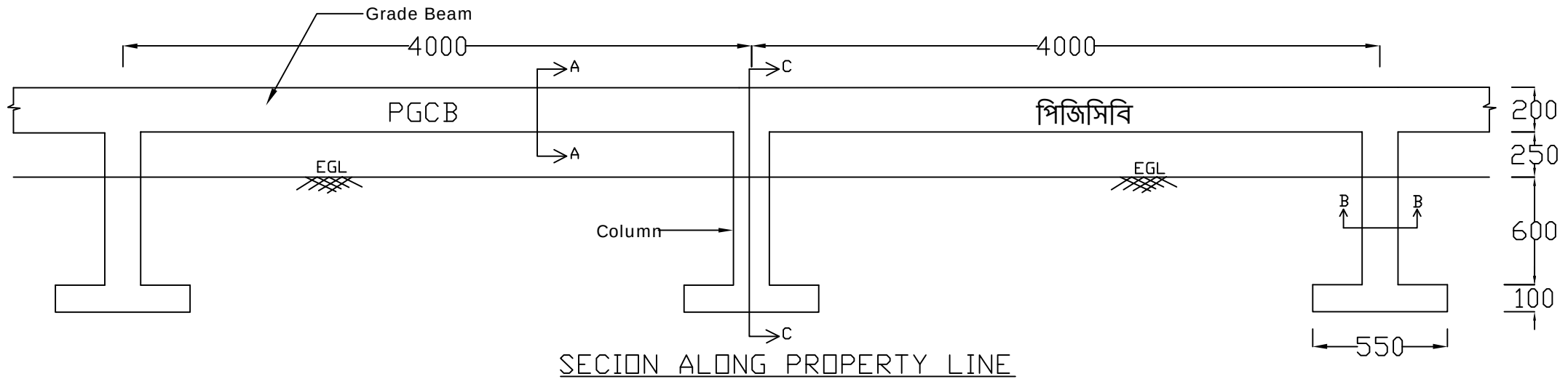


NOTES:

1. DETAILS OF ARCHITECTURAL, STRUCTURAL & FOUNDATION DRAWING SHALL BE SUBMITTED FOR APPROVAL.
2. ROOF SHALL BE WATER PROOFED WITH LIME TERRACING 2:2:7-LIME, SHURKI (POWDERED BRICK) & 0.75" DOWN BRICK CHIPS.
3. RAIN WATER DOWN PIPE SHALL BE TAKE INTO CONSIDER PRIOR TO SLAB CASTING.

Tender Drawing

	Power Grid Company of Bangladesh Limited			
<u>Project</u>				
Drawing Title		Car Port (For Two Cars)		
Drawing No.				
Drawn:		Checked:		Approved:

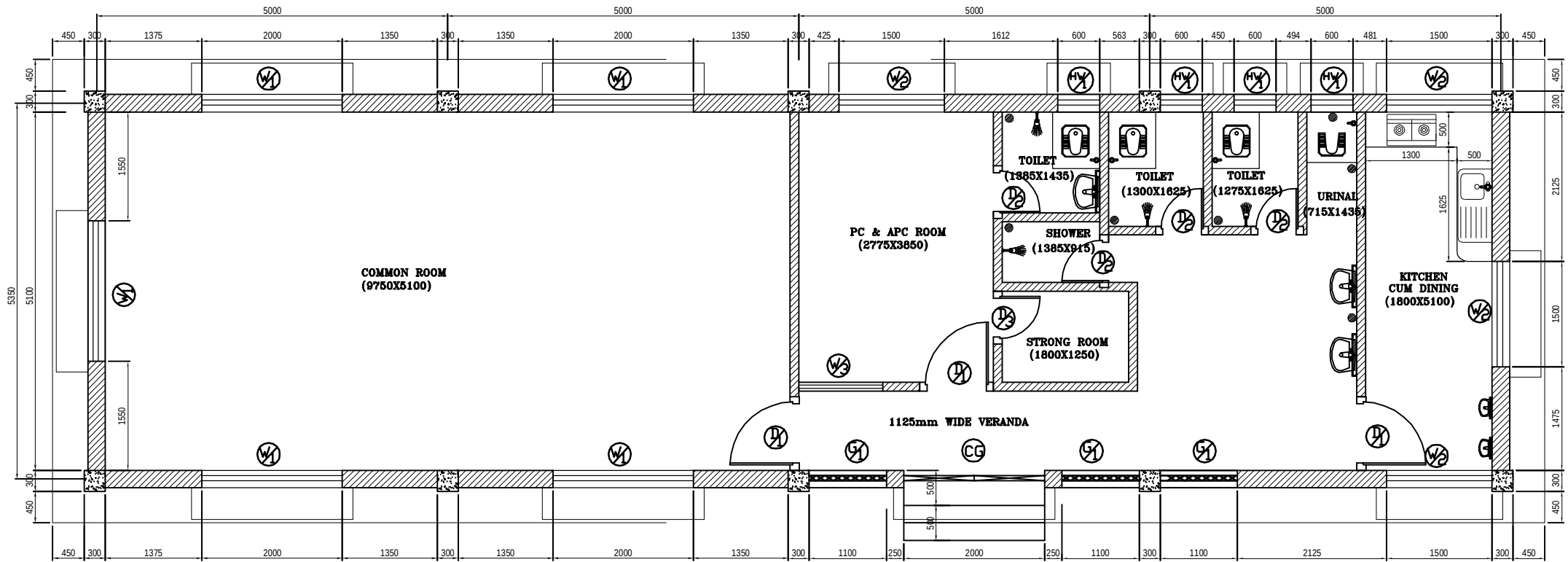


General Notes:

1. Grade beams, columns and footings are Class A Reinforced Cement Concrete(RCC) structures.
2. Grade of rebar shall be deformed bar of F_y 415 MPa minimum.
3. Clear cover both side and bottom: For Grade beam & column= 25mm and for Footing= 40mm.
4. Maximum centre to centre distance of columns = 4000mm.
5. All dimension are in mm where not stated.

Tender Drawing

Power Grid Company of Bangladesh Limited			
Project			
Drawing Title	Property Line demarcation		
Drawing No.			
Drawn:	Checked:	Approved:	



PLAN OF ANSAR BARRACK

FRONT

LEGEND

D = DOOR
W = WINDOW
HW = HIGH WINDOW
CG = COLLAPSIBLE GATE
G = VERANDA GRIL

DOOR SCHEDULE

S.L.	NO.	SIZE		MATERIAL
		WIDTH	HEIGHT	
CG	1	2000	2100	M. STEEL
D /1	3	1050	2100	TIMBER
D /2	4	750	2100	PLASTIC
D /3	1	750	2100	M. STEEL

WINDOW / VERANDA GRIL SCHEDULE

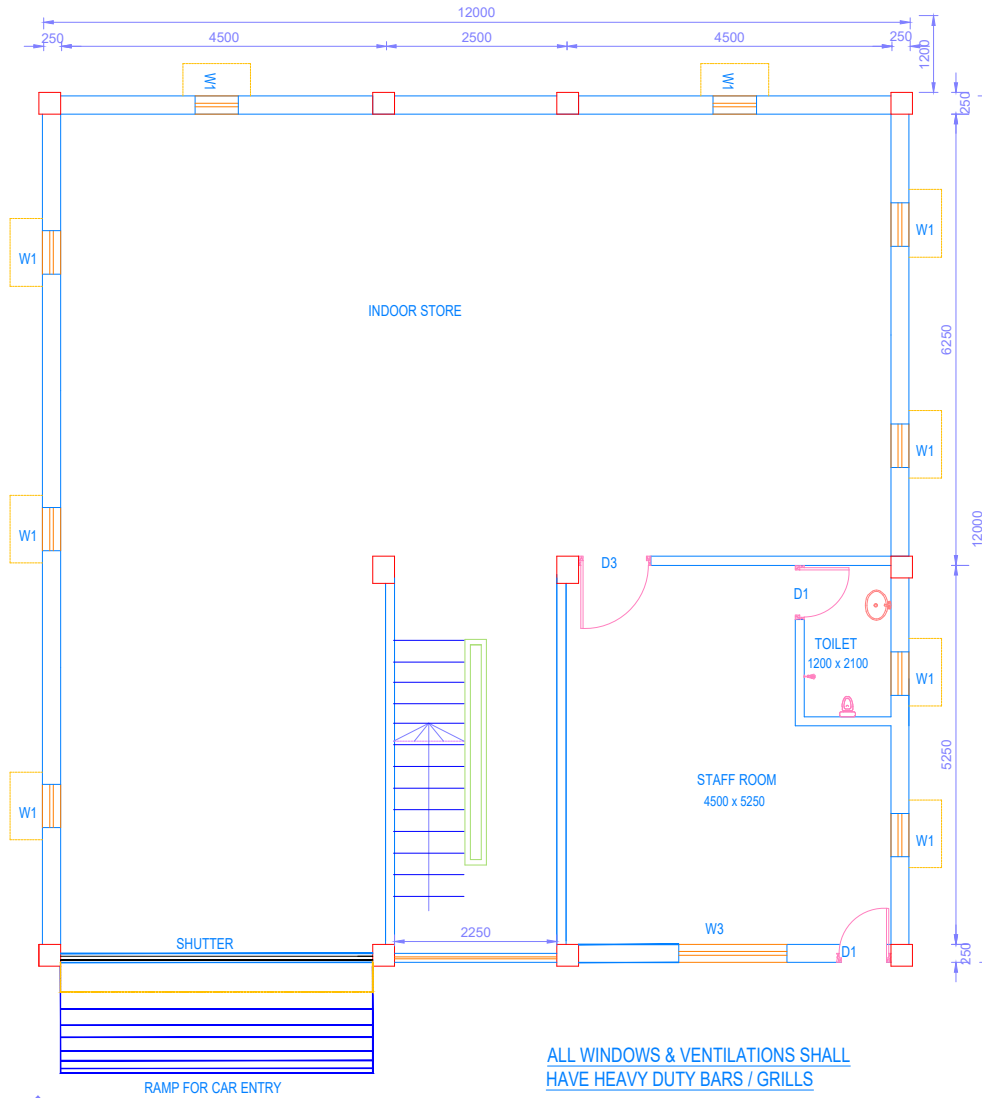
S.L.	NO.	SIZE		MATERIAL
		WIDTH	HEIGHT	
W /1	5	2000	1350	ALUMINIUM
W /2	4	1500	1350	ALUMINIUM
W /3	1	1200	1350	ALUMINIUM
HW /1	4	600	600	ALUMINIUM
G/1	3	1100	1350	MS PLAIN/ FLAT BAR

NOTES:

1. ANSAR BARRACK BUILDING SHALL BE RCC FRAME STRUCTURE AND FLOOR HEIGHT SHALL BE 3.0 METER.
2. DETAILS OF ARCHITECTURAL, STRUCTURAL & FOUNDATION DRAWING SHALL BE SUBMITTED FOR APPROVAL.
3. WATER SUPPLY SYSTEM, TOILET & OTHER SANITARY FITTINGS SHALL BE PROVIDED.
4. ROOF SHALL BE WATER PROOFED WITH LIME TERRACING 2:2:7-LIME, SHURKI (POWDERED BRICK) & 0.75" DOWN BRICK CHIPS.
5. RAIN WATER DOWN PIPE & BUILDING DRAINAGE SYSTEM SHALL BE TAKE INTO CONSIDER PRIOR TO SLAB CASTING.
6. POWER CONNECTION LAYOUT SHALL BE APPROVED BEFORE WORK.

Tender Drawing

Power Grid Company of Bangladesh Limited			
Project			
Drawing Title		Ansar Barak	
Drawing No.			
Drawn:	Checked:	Approved:	



**FLOOR PLAN OF DORMITORY CUM INDOOR STORE
CUM STAFF ROOM BUILDING (Ground Floor)**
GROUND FLOOR HEIGHT SHALL 5.0 METER (MIN.)

NOTES:

1. DETAILS OF ARCHITECTURAL, STRUCTURAL & FOUNDATION DRAWING SHALL BE SUBMITTED FOR APPROVAL.
2. WATER SUPPLY SYSTEM, TOILET & OTHER SANITARY FITTINGS SHALL BE PROVIDED.
3. ROOF SHALL BE WATER PROOFED WITH LIME TERRACING 2:2:7-LIME, SHURKI (POWDERED BRICK) & 0.75" DOWN BRICK CHIPS.
4. RAIN WATER DOWN PIPE & BUILDING DRAINAGE SYSTEM SHALL BE TAKE INTO CONSIDER PRIOR TO SLAB CASTING.
5. POWER CONNECTION LAYOUT SHALL BE APPROVED BEFORE WORK.
6. POSITION AND SIZE OF COLUMNS, DOORS, WINDOWS, STAIRS ETC WILL BE FINALIZED DURING DETAIL DESIGN.

FOR TENDER PURPOSE ONLY



**POWER GRID COMPANY OF
BANGLADESH LIMITED (PGCB)**

CIVIL DESIGN DEPARTMENT

ARCHITECTURAL DRAWINGS OF
DORMITORY CUM INDOOR STORE
CUM STAFF ROOM BUILDING

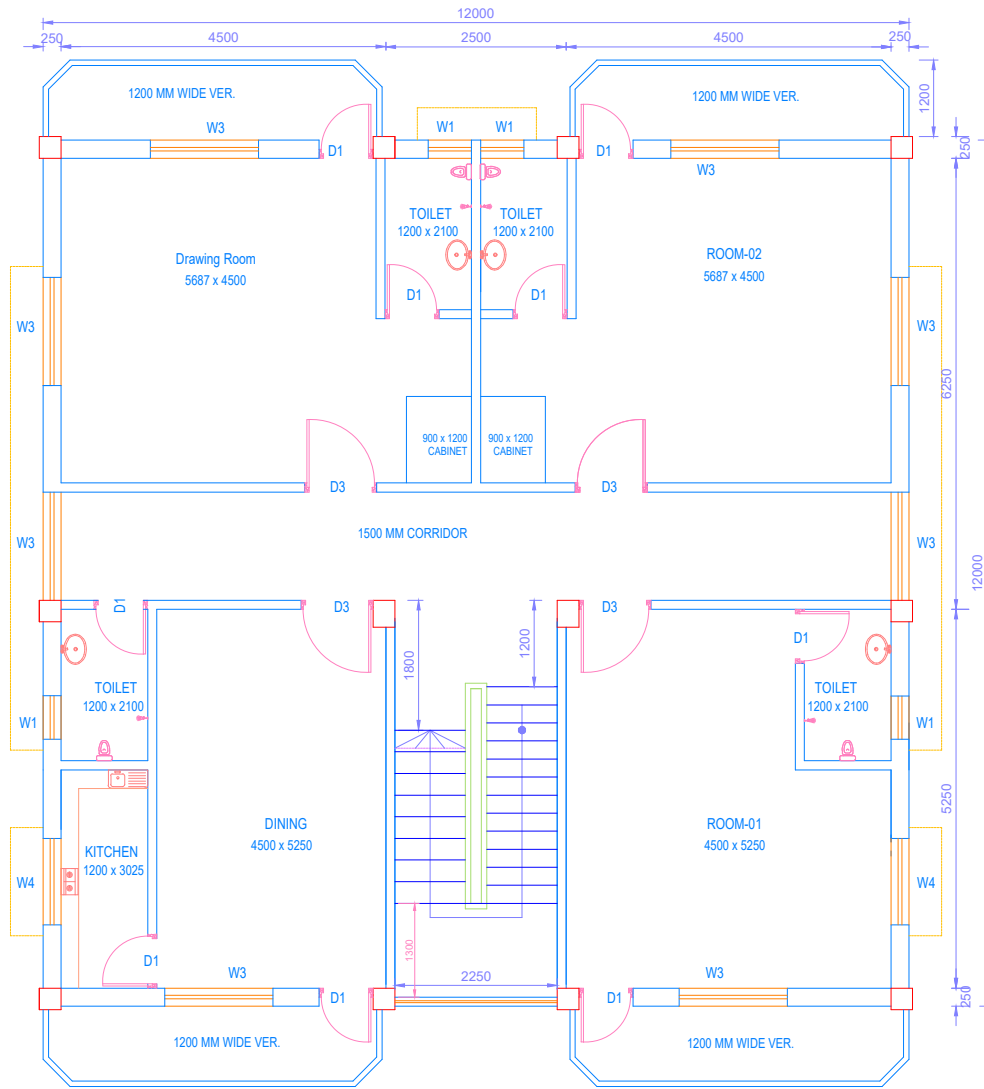
DRAWING TITLE :

DWG. NO.

DESIGNED BY

CHECKED BY

APPROVED BY



**FLOOR PLAN OF DORMITORY CUM INDOOR STORE
CUM STAFF ROOM BUILDING (1st Floor)**
1st FLOOR HEIGHT SHALL 3.0 METER (MIN.)

NOTES:

1. DETAILS OF ARCHITECTURAL, STRUCTURAL & FOUNDATION DRAWING SHALL BE SUBMITTED FOR APPROVAL.
2. WATER SUPPLY SYSTEM, TOILET & OTHER SANITARY FITTINGS SHALL BE PROVIDED.
3. ROOF SHALL BE WATER PROOFED WITH LIME TERRACING 2:2:7-LIME, SHURKI (POWDERED BRICK) & 0.75" DOWN BRICK CHIPS.
4. RAIN WATER DOWN PIPE & BUILDING DRAINAGE SYSTEM SHALL BE TAKE INTO CONSIDER PRIOR TO SLAB CASTING.
5. POWER CONNECTION LAYOUT SHALL BE APPROVED BEFORE WORK.
6. POSITION AND SIZE OF COLUMNS, DOORS, WINDOWS, STAIRS ETC WILL BE FINALIZED DURING DETAIL DESIGN.

FOR TENDER PURPOSE ONLY



**POWER GRID COMPANY OF
BANGLADESH LIMITED (PGCB)**

CIVIL DESIGN DEPARTMENT

ARCHITECTURAL DRAWINGS OF
DORMITORY CUM INDOOR STORE
CUM STAFF ROOM BUILDING

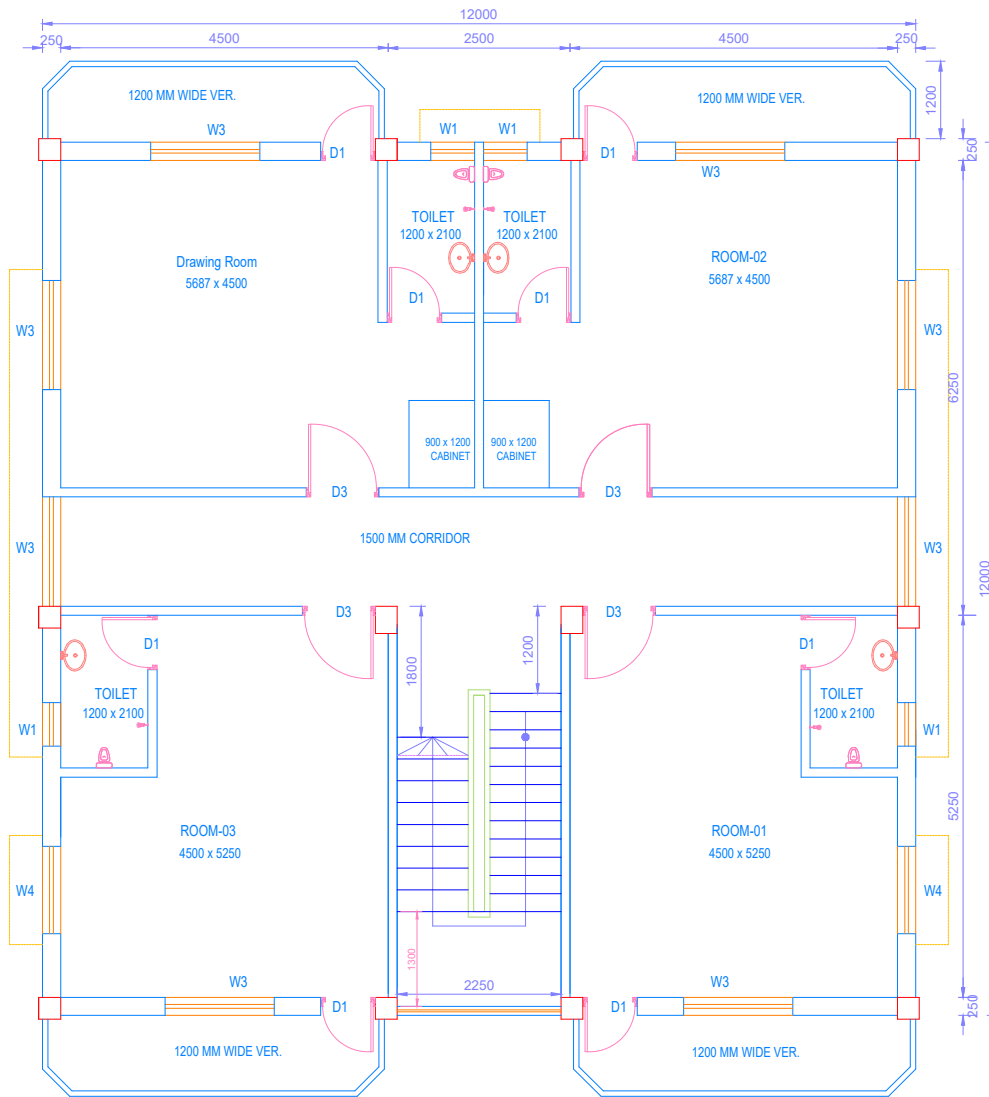
DRAWING TITLE :

DWG. NO.

DESIGNED BY

CHECKED BY

APPROVED BY



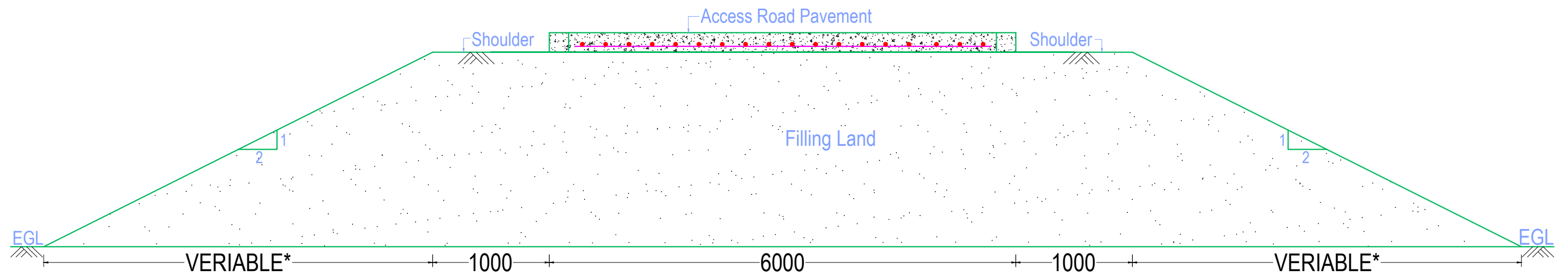
**FLOOR PLAN OF DORMITORY CUM INDOOR STORE
CUM STAFF ROOM BUILDING (2nd Floor)**
2nd FLOOR HEIGHT SHALL 3.0 METER (MIN.)

NOTES:

1. DETAILS OF ARCHITECTURAL, STRUCTURAL & FOUNDATION DRAWING SHALL BE SUBMITTED FOR APPROVAL.
2. WATER SUPPLY SYSTEM, TOILET & OTHER SANITARY FITTINGS SHALL BE PROVIDED.
3. ROOF SHALL BE WATER PROOFED WITH LIME TERRACING 2:2:7-LIME, SHURKI (POWDERED BRICK) & 0.75" DOWN BRICK CHIPS.
4. RAIN WATER DOWN PIPE & BUILDING DRAINAGE SYSTEM SHALL BE TAKE INTO CONSIDER PRIOR TO SLAB CASTING.
5. POWER CONNECTION LAYOUT SHALL BE APPROVED BEFORE WORK.
6. POSITION AND SIZE OF COLUMNS, DOORS, WINDOWS, STAIRS ETC WILL BE FINALIZED DURING DETAIL DESIGN.

FOR TENDER PURPOSE ONLY

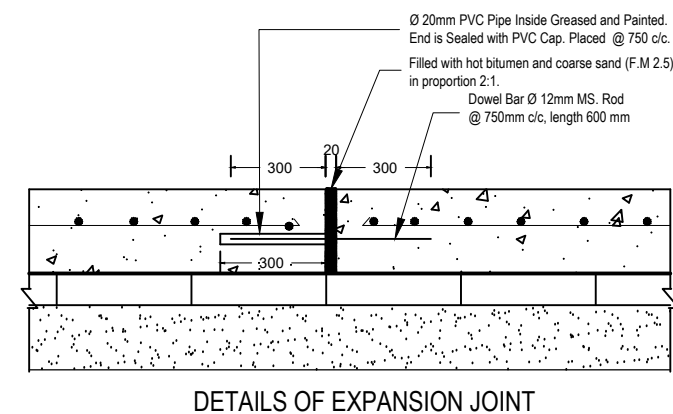
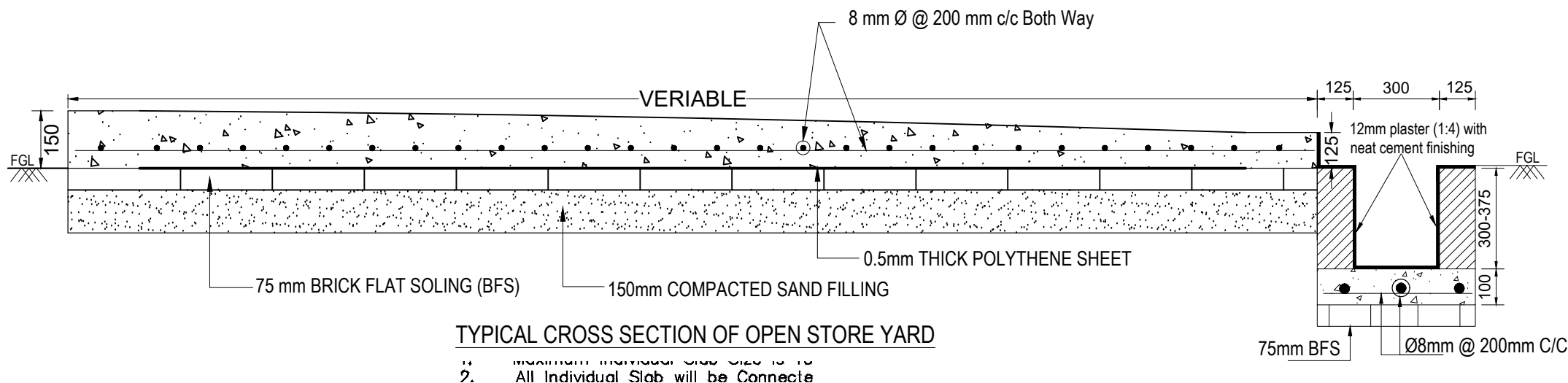
 POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB) CIVIL DESIGN DEPARTMENT	ARCHITECTURAL DRAWINGS OF DORMITORY CUM INDOOR STORE CUM STAFF ROOM BUILDING	DRAWING TITLE :	DESIGNED BY	CHECKED BY	APPROVED BY		
		DWG. NO.					



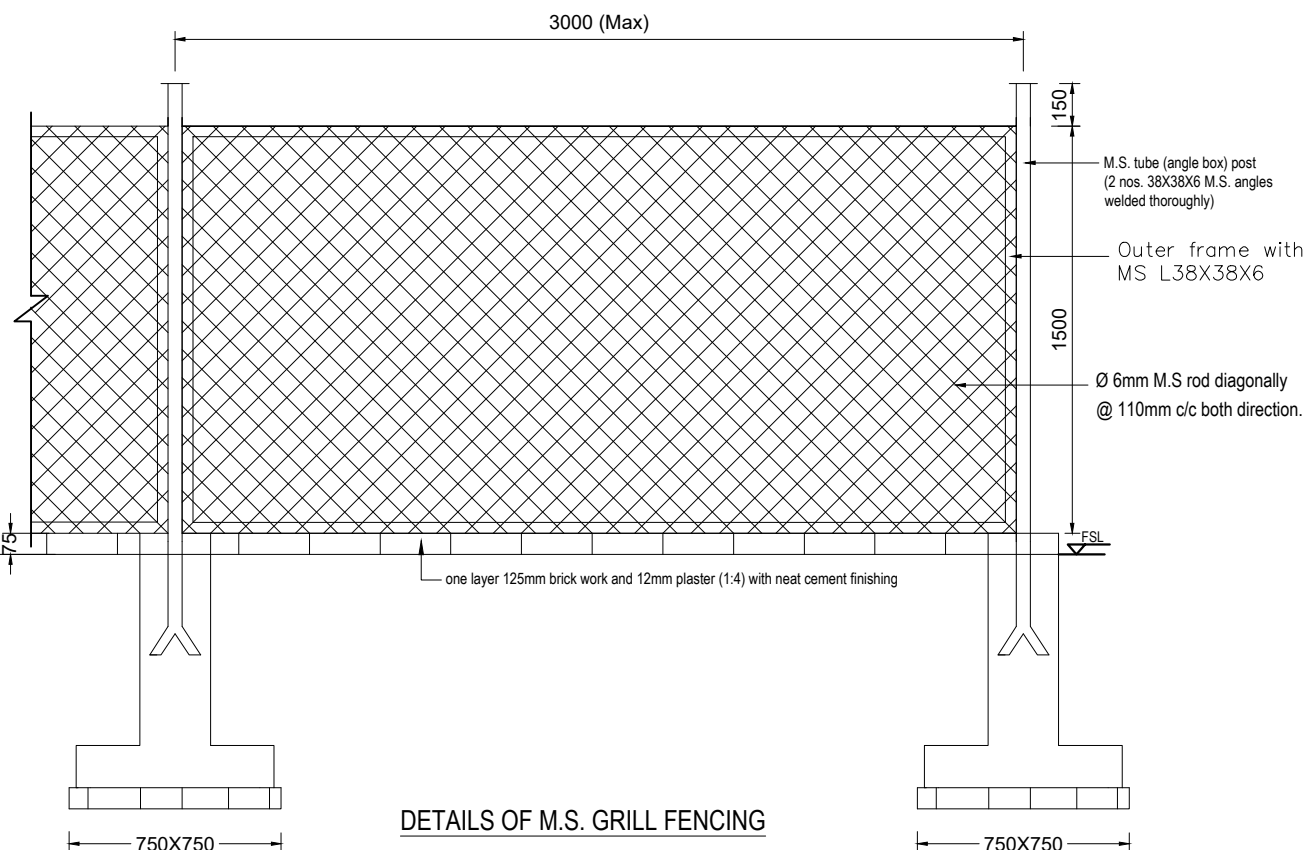
TYPICAL SCHEMATIC DIAGRAM FOR APPROACH ROAD

For Tender Purpose Only

	Power Grid Company of Bangladesh Limited				
<u>Project</u>					
Drawing Title		Approach Road			
Drawing No.					
Drawn:		Checked:		Approved:	



Tender Drawing



 Power Grid Company of Bangladesh Limited				
Project				
Drawing Title		Open Store Yard		
Drawing No.				
Drawn:		Checked:		Approved: