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1

2

3

A

B

C

D

E

F

TONEKABON3
63/20 KV SUBSTATION
GENERAL LAYOUT & SECTIONS

REFERENCE DOCUMENT & DWG

LEGENDS

NOTES

KEY PLAN

A									
O									
Rev.	DESCRIPTION	DRAWN	DESIGNED	CHKD.	HEAD	APPR.	DATE		



Mapna Power Plants Construction & Development Co.(MD-1)



MOHAM SHARGH CO.



GHODS NIROO CONSULTING ENGINEERS


PROJECT: TONEABON3 63/20KV AIS S/S

TITLE: GENERAL LAYOUT & SECTIONS


OWNER'S DWG. NO. : MD1-BQ-12-SS-E-01-NY0-706REV. NO. : A

SCALE : AS SHOWNFORMAT : A3FILE NO. :SHEET: 0 OF: 9

CONTRACT NO. :DESIGN TYPE : BASIC DESIGN ☐DETAIL DESIGN ☐



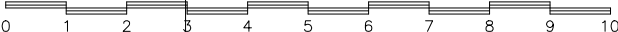
MAZANDARAN REGIONAL ELECTRIC COMPANY (M.R.E.C)



SUB-CONTRACTOR'S LOGO





DRAWN	DESIGNED	CHKD.	HEAD	APPR.	DATE
SUB CONTRACTOR DWG. NO.:					REV. NO.

XXXX IN-HOUSE REVISION									
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Rev.	DESCRIPTION	DRAWN	DESIGNED	CHKD.	HEAD	APPR.	DATE		

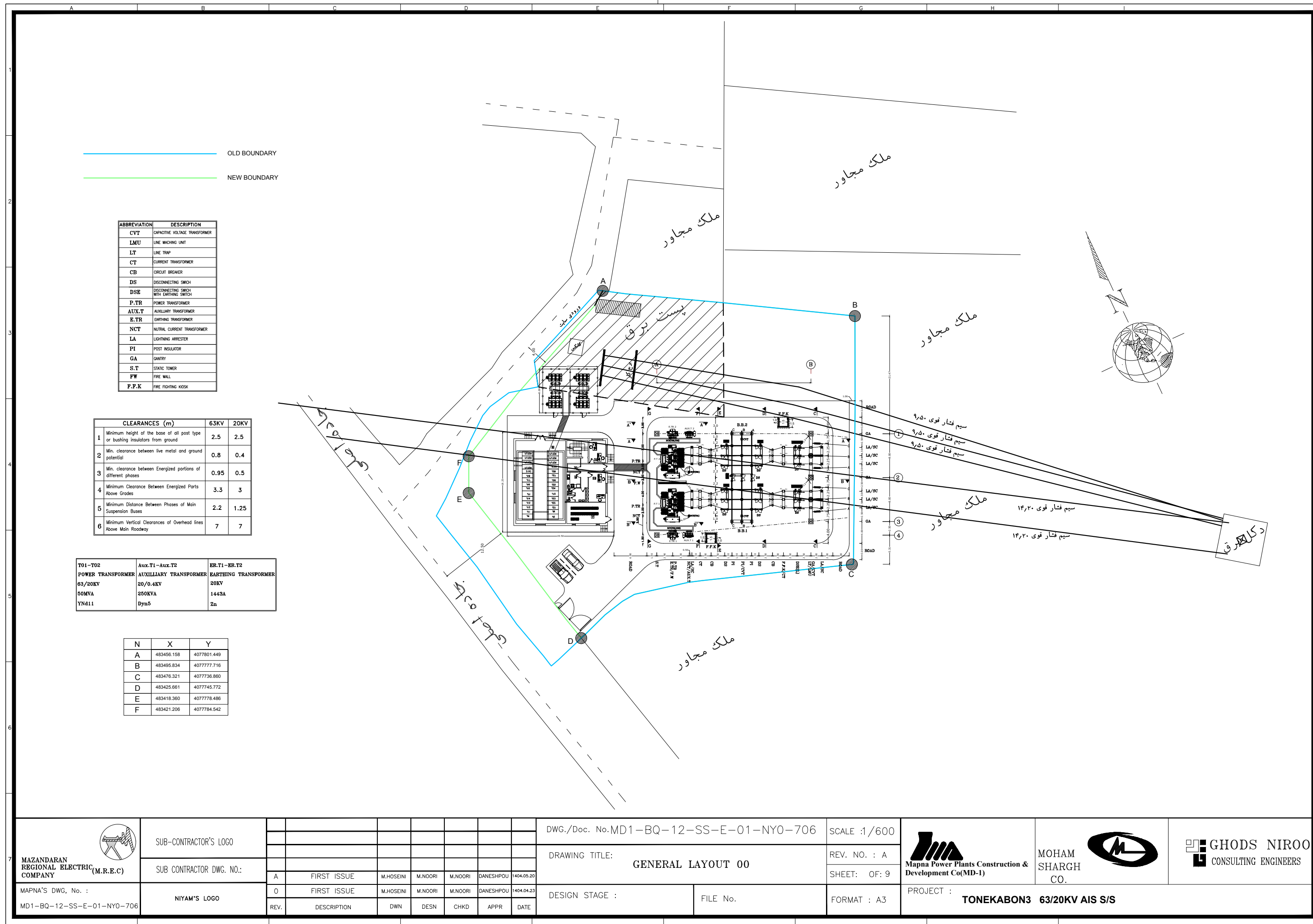


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Page	Description	Revision			
		<i>O</i>	<i>A</i>		
1	COVER SHEET	X	X		
2	INDEX	X	X		
3	GENERAL LAYOUT 00	X	X		
4	GENERAL LAYOUT 01	X	X		
5	SECTION A-A	X	X		
6	SECTION B-B	X	X		
7	SECTION C-C	X	X		
8	SECTION D-D&E-E	X	X		
9	SECTION F-F	X	X		
10	SECTION G-G	X	X		

<div></div> <div>MAZANDARAN REGIONAL ELECTRIC COMPANY (M.R.E.C)</div>	SUB-CONTRACTOR'S LOGO								DWG./Doc. No.MD1-BQ-12-SS-E-01-NY0-706	SCALE : 1/150	<div></div> <div>Mapna Power Plants Construction & Development Co(MD-1)</div>	<div></div> <div>MOHAM SHARGH CO.</div>	<div></div> <div>GHODS NIROO CONSULTING ENGINEERS</div>
	SUB CONTRACTOR DWG. NO.:								DRAWING TITLE: INDEX	REV. NO. : A			
										SHEET: 1 OF: 9			
		A	FIRST ISSUE	M.HOSEINI	M.NOORI	M.NOORI	DANESHPOU	1404.05.20					
MAPNA'S DWG. No. : MD1-BQ-12-SS-E-01-NY0-706	NIYAM'S LOGO	0	FIRST ISSUE	M.HOSEINI	M.NOORI	M.NOORI	DANESHPOU	1404.04.23	DESIGN STAGE :	FILE No.	FORMAT : A3	PROJECT : TONEKABON3 63/20KV AIS S/S	
REV.		DESCRIPTION	DWN	DESN	CHKD	APPR	DATE						

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ABBREVIATION	DESCRIPTION
CVT	CAPACITIVE VOLTAGE TRANSFORMER
LMU	LINE WACHING UNIT
LT	LINE TRAP
CT	CURRENT TRANSFORMER
CB	CIRCUIT BREAKER
DS	DISCONNECTING SWITCH
DSE	DISCONNECTING SWICH WITH EARTHING SWITCH
P.TR	POWER TRANSFORMER
AUX.T	AUXILIARY TRANSFORMER
E.TR	EARTHING TRANSFORMER
NCT	NUTRAL CURRENT TRANSFORMER
LA	LIGHTNING ARRESTER
PI	POST INSULATOR
GA	GANTRY
S.T	STATIC TOWER
FW	FIRE WALL
P.F.K	FIRE FIGHTING KIOSK

CLEARANCES (m)	63KV	20KV
1 Minimum height of the base of all post type or bushing insulators from ground	2.5	2.5
2 Min. clearance between live metal and ground potential	0.8	0.4
3 Min. clearance between Energized portions of different phases	0.95	0.5
4 Minimum Clearance Between Energized Parts Above Grades	3.3	3
5 Minimum Distance Between Phases of Main Suspension Buses	2.2	1.25
6 Minimum Vertical Clearances of Overhead lines Above Main Roadway	7	7

T01-T02 POWER TRANSFORMER 63/20KV 50MVA YNd11	Aux.T1-Aux.T2 AUXILIARY TRANSFORMER 20/0.4KV 250KVA Dyn5	ER.T1-ER.T2 EARTHING TRANSFORMER 20KV 1443A Zn
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N	X	Y
A	483456.158	4077801.449
B	483495.834	4077777.716
C	483476.321	4077736.860
D	483425.661	4077745.772
E	483418.360	4077778.486
F	483421.206	4077784.542

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		SUB CONTRACTOR DWG. NO.:											
	A		FIRST ISSUE	M.HOSEINI	M.NOORI	M.NOORI	DANESHPOU	1404.05.20	SHEET: OF: 9				
	0		FIRST ISSUE	M.HOSEINI	M.NOORI	M.NOORI	DANESHPOU	1404.04.23	DESIGN STAGE : FILE No.	FORMAT : A3			
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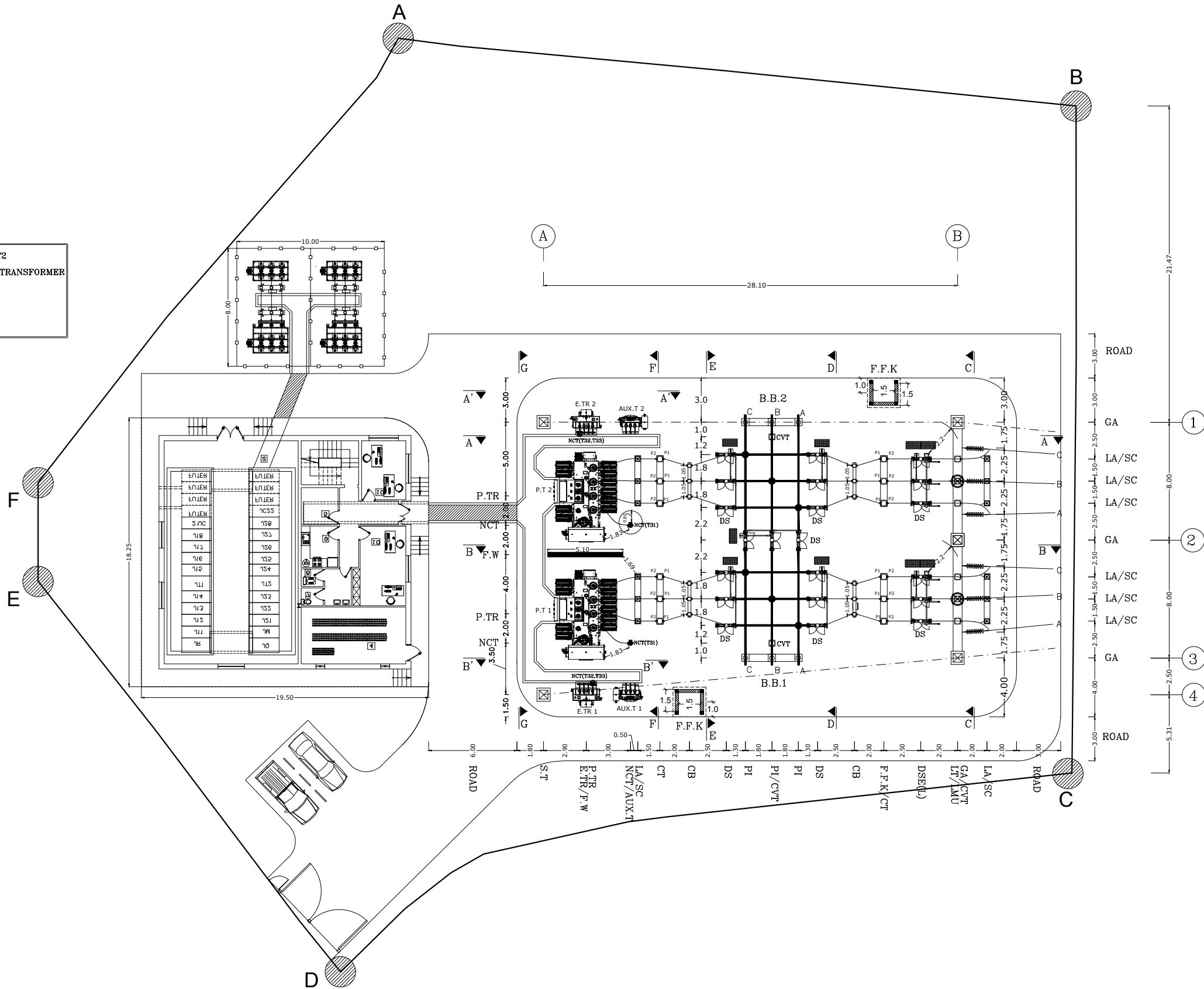
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T01-T02	Aux.T1-Aux.T2	ER.T1-ER.T2
POWER TRANSFORMER	AUXILIARY TRANSFORMER	EARTHING TRANSFORMER
63/20KV	20/0.4KV	20KV
50MVA	250KVA	1443A
YNd11	Dyn5	Zn

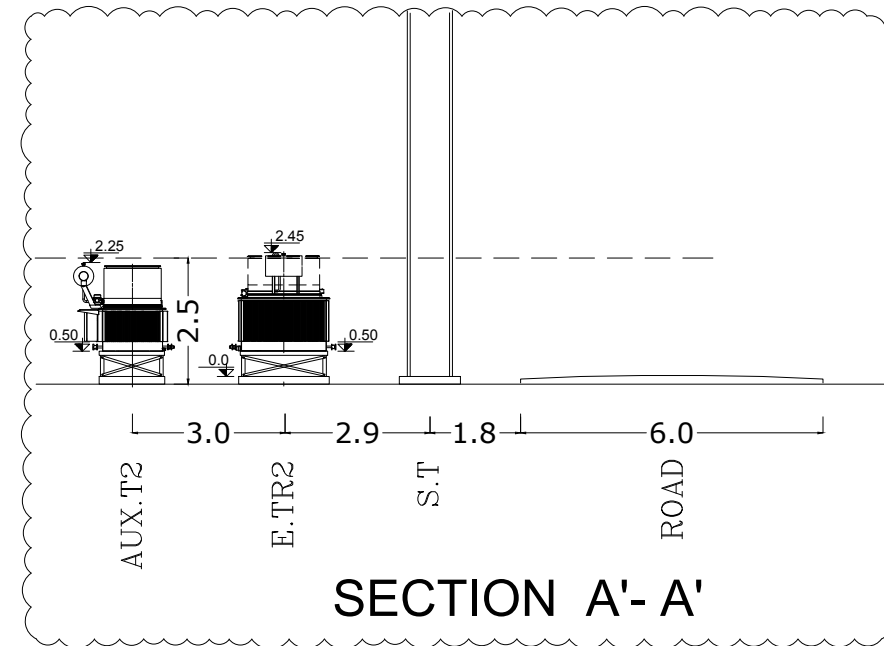
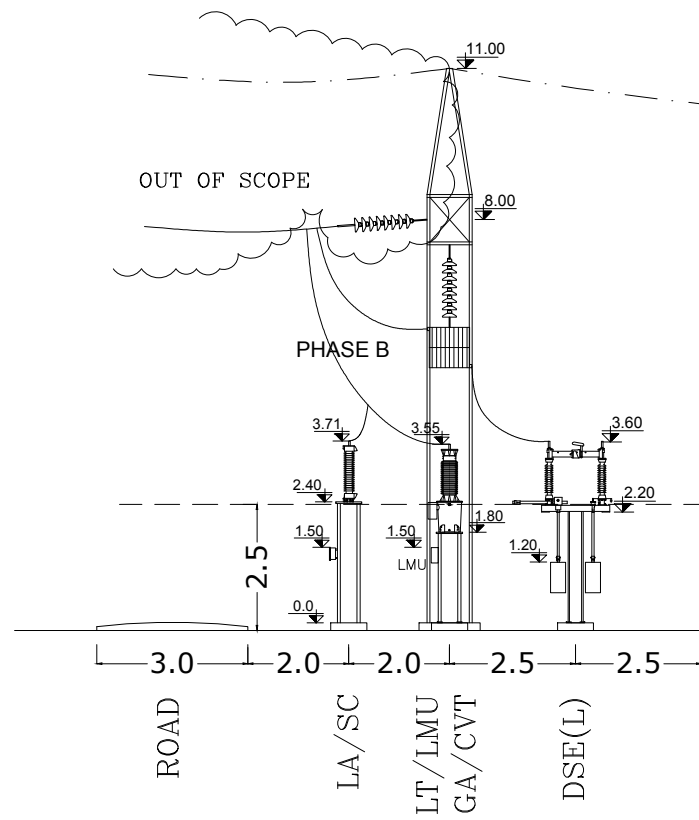
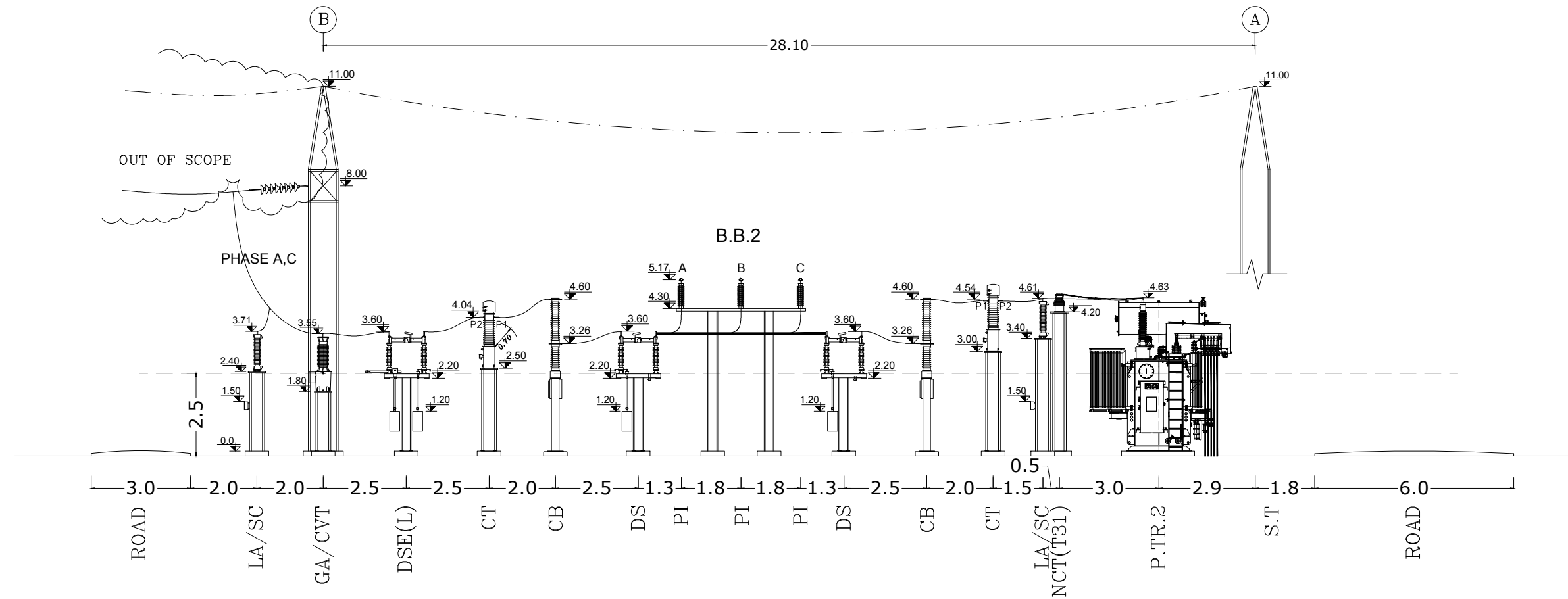
ABBREVIATION	DESCRIPTION
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S.T	STATIC TOWER
FW	FIRE WALL
F.F.K	FIRE FIGHTING KIOSK

N	X	Y
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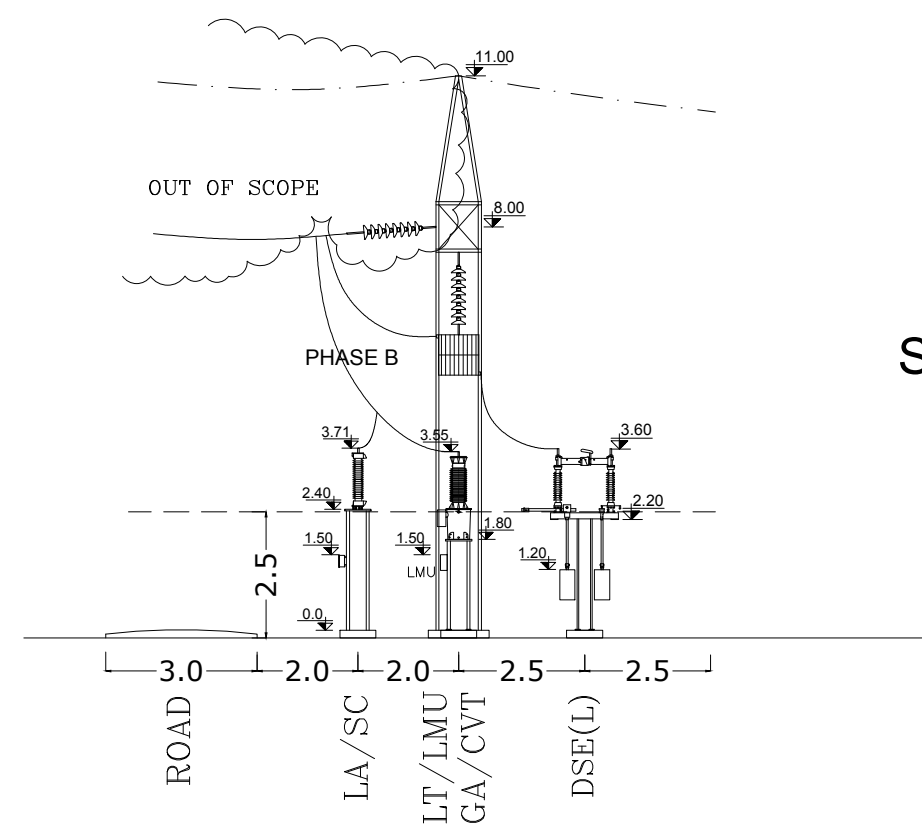
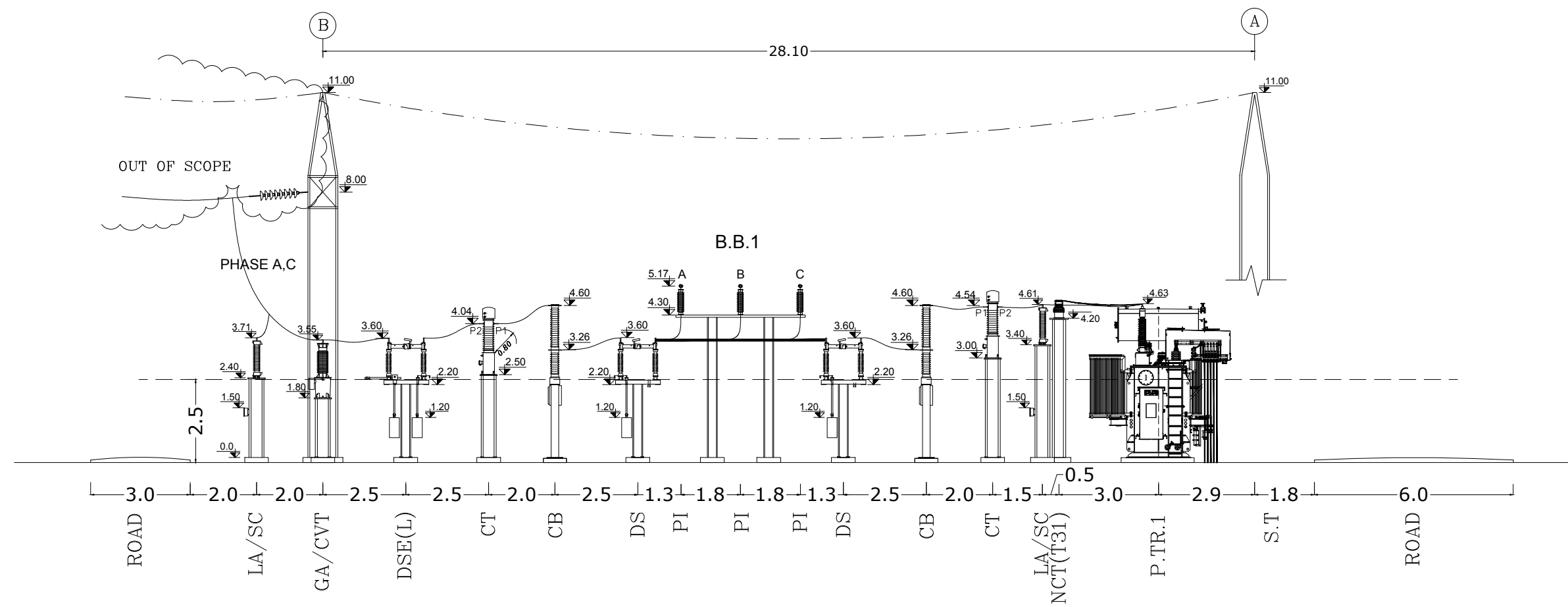
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		A	FIRST ISSUE	M.HOSEINI	M.NOORI	M.NOORI	DANESHPOU	1404.05.20		SHEET: 4 OF: 9			
	MAPNA'S DWG. No. : MD1-BQ-12-SS-E-01-NYO-706	NIYAM'S LOGO	0	FIRST ISSUE	M.HOSEINI	M.NOORI	M.NOORI	DANESHPOU	1404.04.23	DESIGN STAGE : FILE No.			
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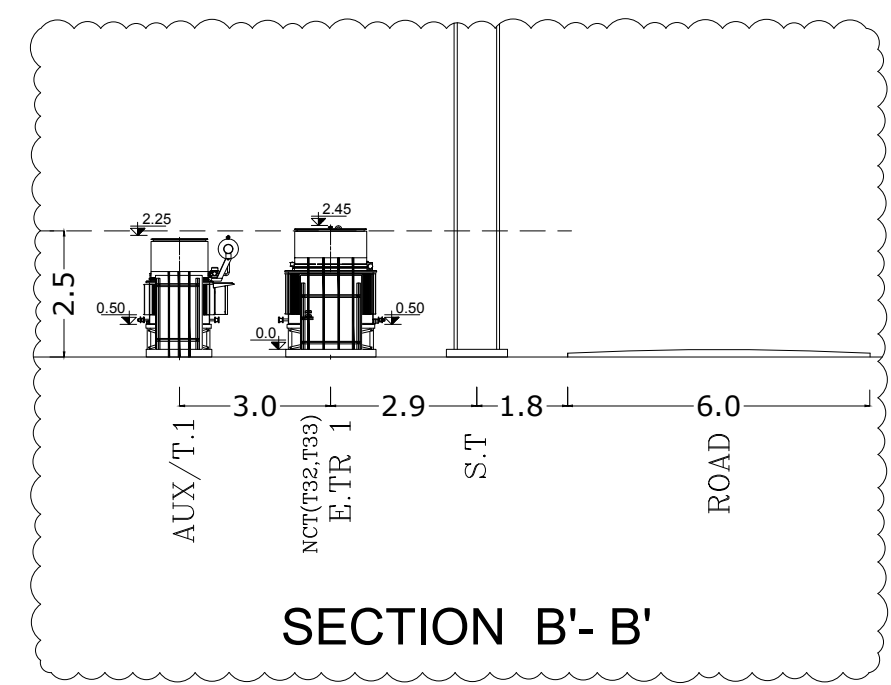


<div><div><div></div><div>MAZANDARAN REGIONAL ELECTRIC COMPANY</div></div><div><div>MAPNA'S DWG. No. : MD1-BQ-12-SS-E-01-NY0-706</div></div></div>	<div><div><div></div><div>SUB-CONTRACTOR'S LOGO</div></div><div><div>SUB CONTRACTOR DWG. NO.:</div></div></div>	<div><div><div></div><div>A</div><div>FIRST ISSUE</div><div>M.HOSEINI</div><div>M.NOORI</div><div>M.NOORI</div><div>DANESHPOU</div><div>1404.05.20</div></div><div><div><div></div><div>0</div><div>FIRST ISSUE</div><div>M.HOSEINI</div><div>M.NOORI</div><div>M.NOORI</div><div>DANESHPOU</div><div>1404.04.23</div></div><div><div><div></div><div>REV.</div><div>DESCRIPTION</div><div>DWN</div><div>DESN</div><div>CHKD</div><div>APPR</div><div>DATE</div></div></div></div></div>	DWG./Doc. No.MD1-BQ-12-SS-E-01-NY0-706		SCALE :1/150	<div><div><div></div><div>Mapna Power Plants Construction & Development Co(MD-1)</div></div><div>PROJECT : TONEKABON3 63/20KV AIS S/S</div></div>	<div><div><div></div><div>MOHAM SHARGH CO.</div></div><div><div><div></div><div>GHODS NIROO CONSULTING ENGINEERS</div></div></div></div>
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			SHEET: 4 OF: 9				
	DESIGN STAGE :	FILE No.	FORMAT : A3				

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SECTION B-B



SECTION B'- B'





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	SUB CONTRACTOR DWG. NO.:									DRAWING TITLE:	REV. NO. : A			
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MAPNA'S DWG. No. : MD1-BQ-12-SS-E-01-NY0-706	NIYAM'S LOGO	A	FIRST ISSUE	M.HOSEINI	M.NOORI	M.NOORI	DANESHPOU	1404.05.20				PROJECT : TONEKABON3 63/20KV AIS S/S		
		0	FIRST ISSUE	M.HOSEINI	M.NOORI	M.NOORI	DANESHPOU	1404.04.23	DESIGN STAGE :	FILE No.	FORMAT : A3			
		REV.	DESCRIPTION	DWN	DESN	CHKD	APPR	DATE						

Diagram illustrating the cross-section (SECTION C-C) of a power line structure, showing dimensions and components.

Dimensions:

- Overall width: 24.0m (8.0m + 8.0m + 8.0m)
- Span between GA (Grounding Arrangement) structures: 8.0m
- Span between CVT (Capacitor Voltage Transformer) structures: 8.0m
- Span between LMU (Line Monitoring Unit) structures: 8.0m
- Span between GA and CVT: 4.0m
- Span between CVT and LMU: 1.5m
- Span between LMU and CVT: 1.5m
- Span between CVT and GA: 2.5m
- Span between GA and ROAD: 3.0m
- Span between ROAD and GA: 3.0m

Components and Labels:

- GA (Grounding Arrangement)
- CVT (Capacitor Voltage Transformer)
- LMU (Line Monitoring Unit)
- ROAD
- SECTION C-C

Scale: 1/100

Revision: REV. NO. : A

Sheet: SHEET: 6 OF: 9

Format: A3

Project: TONEKABON3 63/20KV AIS S/S





Design Stage: DESIGN STAGE : FILE No. : FORMAT : A3

Company Logos:

- MAZANDARAN REGIONAL ELECTRIC COMPANY (M.R.E.C.)
- NIYAM'S LOGO
- GHODS NIROO CONSULTING ENGINEERS

REV.	DESCRIPTION	DWN	DESN	CHKD	APPR	DATE
A	FIRST ISSUE	M.HOSEINI	M.NOORI	M.NOORI	DANESHPOU	1404.05.20
O	FIRST ISSUE	M.HOSEINI	M.NOORI	M.NOORI	DANESHPOU	1404.04.23



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	SUB CONTRACTOR DWG. NO.:								DRAWING TITLE: <div>SECTION C-C</div>	REV. NO. : A						
	MAPNA'S DWG. No. : MD1-BQ-12-SS-E-01-NYO-706	NIYAM'S LOGO	A	FIRST ISSUE	M.HOSEINI	M.NOORI	M.NOORI	DANESHPOU	1404.05.29	DESIGN STAGE : FILE No.				SHEET:6 OF: 9	FORMAT : A3	PROJECT : TONEKABON3 63/20KV AIS S/S
			0	FIRST ISSUE	M.HOSEINI	M.NOORI	M.NOORI	DANESHPOU	1404.04.23							
		REV.	DESCRIPTION	DWN	DESN	CHKD	APPR	DATE								

SECTION D-D

SECTION E-E

REV.	DESCRIPTION	DWN	DESN	CHKD	APPR	DATE
A	FIRST ISSUE	M.HOSEINI	M.NOORI	M.NOORI	DANESHPOU	1404.05.20
O	FIRST ISSUE	M.HOSEINI	M.NOORI	M.NOORI	DANESHPOU	1404.04.23

DWG./Doc. No.MD1-BQ-12-SS-E-01-NY0-706

SCALE :1/100

DRAWING TITLE: SECTION D-D&E-E

DESIGN STAGE :

FILE No.

FORMAT : A3

PROJECT : TONEKABON3 63/20KV AIS S/S

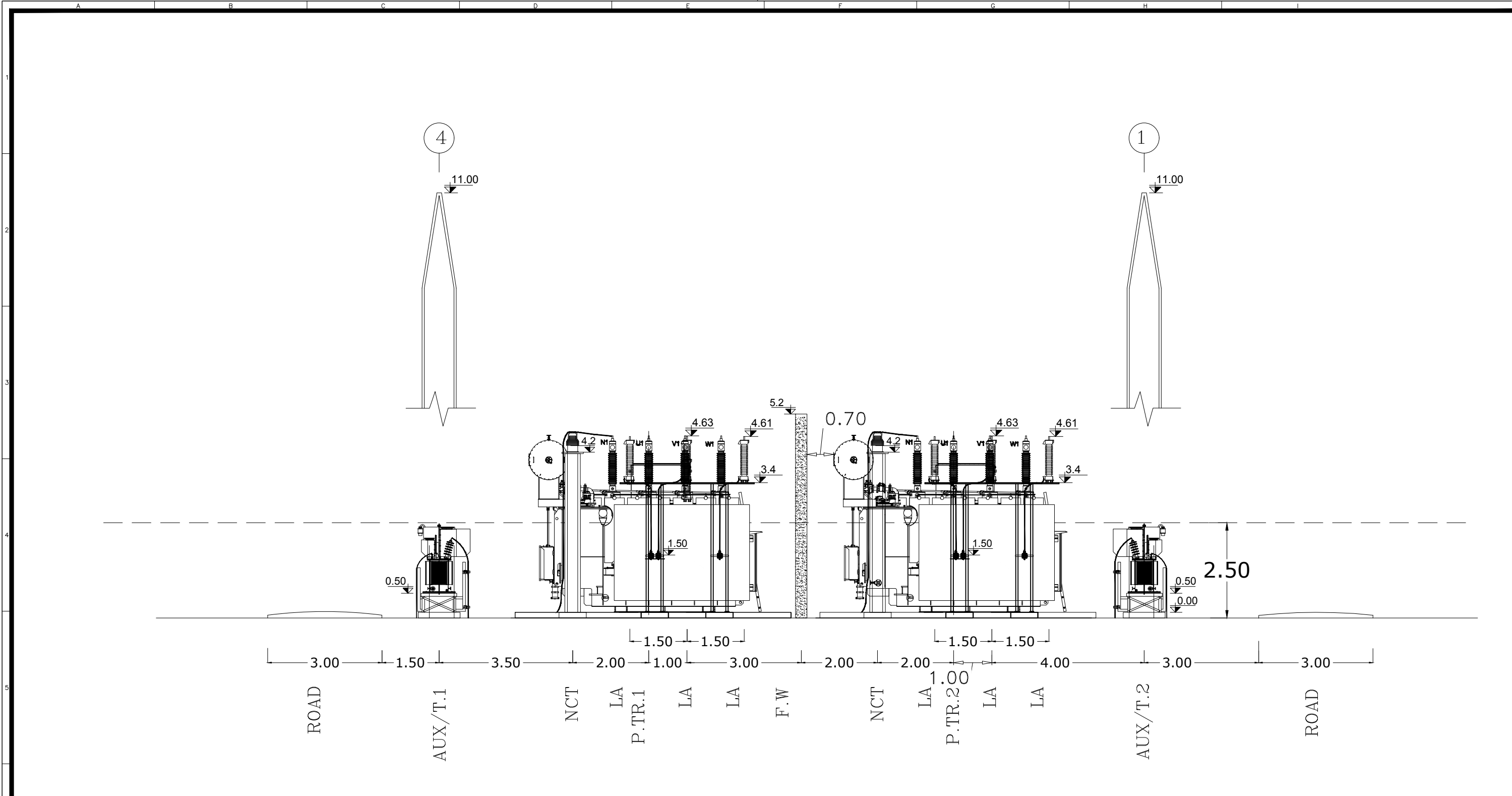
MAZANDARAN REGIONAL ELECTRIC COMPANY (M.R.E.C)

Mapna Power Plants Construction & Development Co(MD-1)





MOHAM SHARGH CO.

GHODS NIROO CONSULTING ENGINEERS

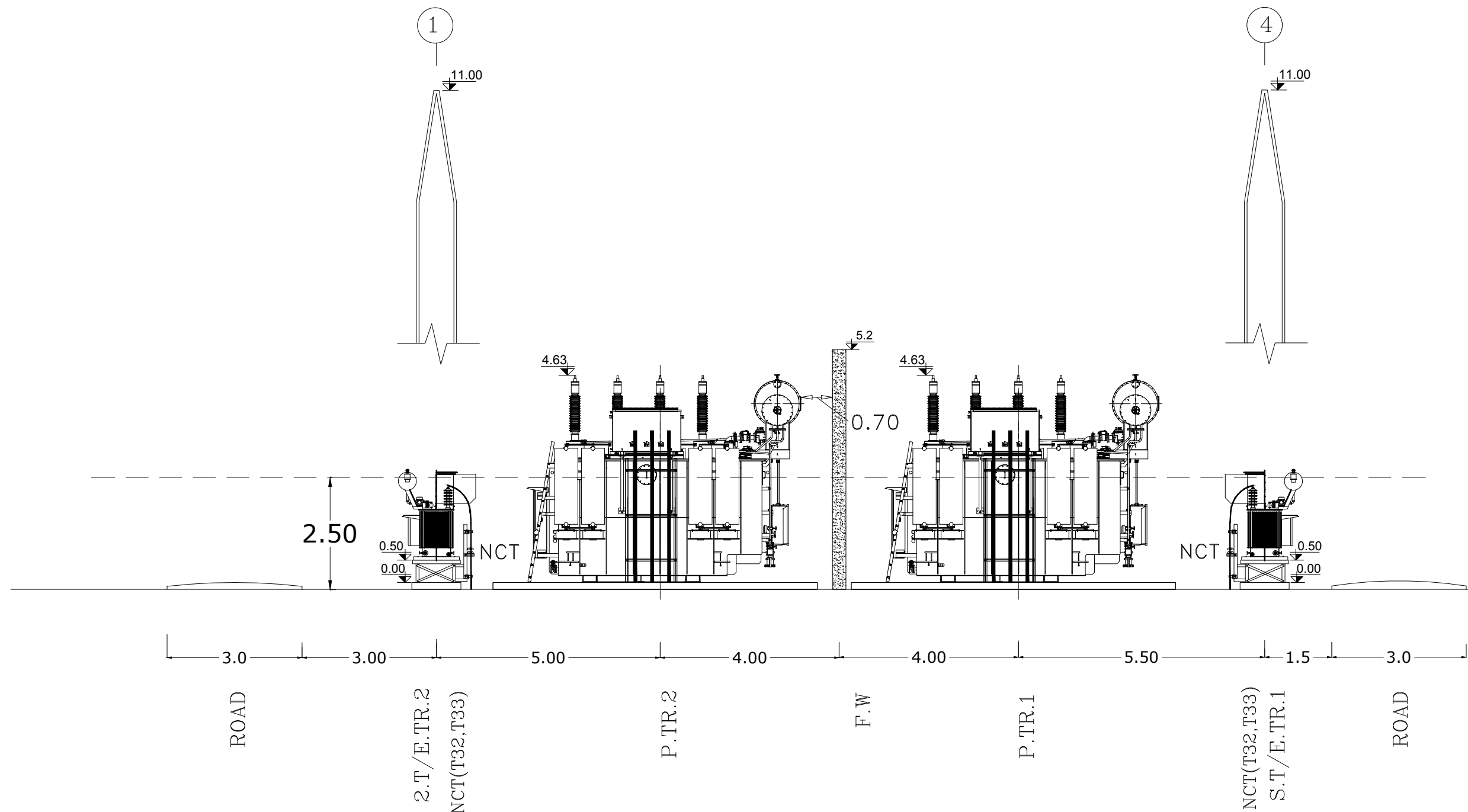
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SECTION F-F

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												SHEET:8 OF: 9			
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MAPNA'S DWG. No. : MD1-BQ-12-SS-E-01-NYO-706	NIYAM'S LOGO	O	FIRST ISSUE	M.HOSEINI	M.NOORI	M.NOORI	DANESHPOU	1404.04.23	DESIGN STAGE :		FILE No.	FORMAT : A3	PROJECT : TONEKABON3 63/20KV AIS S/S		
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SECTION G-G

<div><p>MAZANDARAN REGIONAL ELECTRIC COMPANY (M.R.E.C)</p></div>	SUB-CONTRACTOR'S LOGO									DWG./Doc. No.MD1-BQ-12-SS-E-01-NY0-706	SCALE :1/100	<div><p>Mapna Power Plants Construction & Development Co(MD-1)</p></div>	<div><p>MOHAM SHARGH CO.</p></div>	<div><p>GHODS NIROO CONSULTING ENGINEERS</p></div>
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