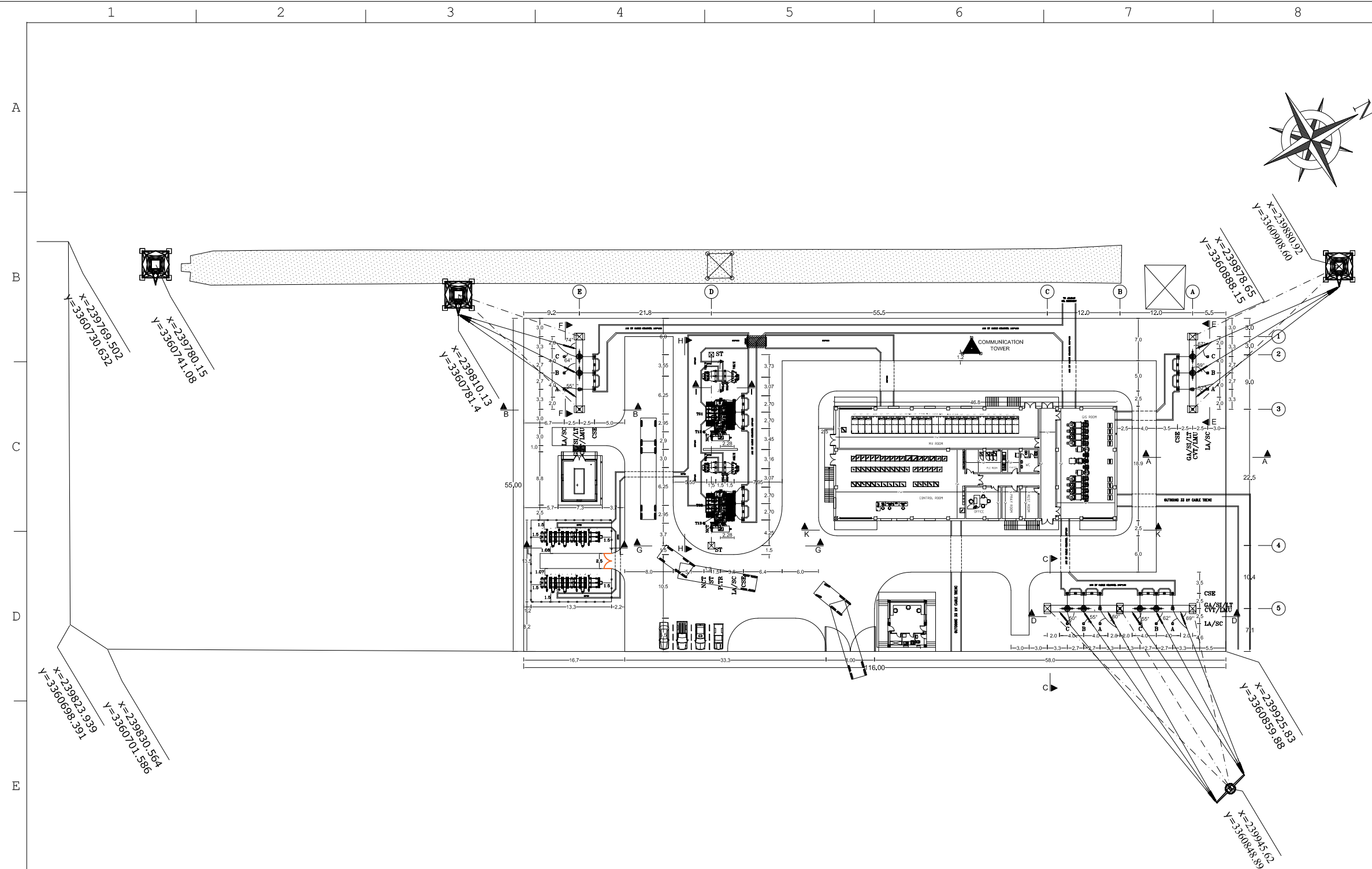


132 / 33 kV SUBSTATION

GENERAL LAYOUT & SECTIONS

REFERENCE DOCUMENT			DOCUMENT NO.		REV.
GENERAL SINGLE LINE DIAGRAM			6154-EL-DIG-0403		
LEGEND :					
NOTES :					
ELEVATAION :					
04	09/03/2025	ACC TO LET NO.1403/179509/60282	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
03	02/01/2025	ACC TO LET NO.1403/179509/57039	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
02	09/09/2024	REVISE.1	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
01	2024MAY18	ACC TO LET NO.6154-AR-MS-L 1403-22006	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
000	2024MARCH05	Issued for Approval	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
REV.	DATE	DESCRIPTION	MODIFY	CHECK	APPROVE
CONTRACTOR:			OWNER:		
 MOHAM SHARGH CO.			 ABADAN OIL REFINERY COMPANY (AORC)		
DWG. NO. : 6154-EL-DIG-0403					
PROJECT:					
KOFEISHEH 132/33kv SUBSTATION					
TITLE: DOCUMENT TITLE GENERAL LAYOUT & SECTIONS (Cover Sheet)				ISSUE CODE: 6154-EL-DWG-0331	
PREPARED:	E.BARZEGAR	DATE:	09/03/2025		
CHECKED:	E.BARZEGAR	DATE:	09/03/2025		
APPROVED:	M.DANESHPOU	DATE:	09/03/2025		
AUTHORIZED:		DATE:			
CONTRACT NO.: 96-73-6154			AORC Doc. No.: -----		SIZE: A3
SCALE: -		DESIGN STAGE: -----		REV: 04	SHEET: 00 of 12



	REFERENCE DOCUMENT	DOCUMENT NO.	REV.
A	GENERAL SINGLE LINE DIAGRAM	6154-EL-DIG-0403	

LEGEND :

ABBREVIATION	DESCRIPTION
LA	LIGHTNING ARRESTER
CVT	CAPACITIVE VOLTAGE TRANSFORMER
SC	SURGE COUNTER
GA	GANTRY
LT	LINE TRAP
LMU	LINE MACHING UNIT
SI	STRING INSULATOR
GIS	GAS INSULATED SWITCHGEAR
P.TR	POWER TRANSFORMER
AUX.TR	AUXILIARY TRANSFORMER
E.TR	EARTHING TRANSFORMER
NCT	NEUTRAL CURRENT TRANSFORMER
PI	POST INSULATOR
ST	STATIC TOWER
COF	CUTOUT FUSE
CSE	CABLE SEALING END

	CLEARANCES (m)	132KV	33KV
1	Minimum height of the base of all post type or bushing insulators from ground	2.50	2.5
2	Minimum clearances between live parts and ground potential	1.51	0.4
3	Minimum clearances between energized portions of different phases (rigid parts)	1.58	0.5
4	Minimum height of energized parts above ground	3.76	3.1
5	Distance between phases of main suspension	3.0	1.5
6	Minimum vertical clearances of overhead lines above roadway	9.0	7.0
7	Minimum shield wire clearances over bus conductors	3.0	3.0

NOTES :

POWER TRANSFORMER	AUX.TR
132/34 KV	33/0.4
50 MVA	250KVA
YNd1	Dyn11
	E.TR
	33 KV
	875 A
	ZNO

ELEVATION :

04	09/03/2025	ACC TO LET N0.1403/179509/60282	E.BARZEGAR	E.BARZEGAR	M.DANESHPOUR
	02/01/2025	ACC TO LET N0.1403/179509/57039	E.BARZEGAR	E.BARZEGAR	M.DANESHPOUR
02	09/09/2024	REVISE.1	E.BARZEGAR	E.BARZEGAR	M.DANESHPOUR
01	224MAY18	ACC TO LET N0.6154-AR-MS-L 1403-22006	E.BARZEGAR	E.BARZEGAR	M.DANESHPOUR
00	2024MARCH05	Issued for Approval	E.BARZEGAR	E.BARZEGAR	M.DANESHPOUR
REV.	DATE	DESCRIPTION	MODIFY	CHECK	APPROVE

CONTRACTOR:

MOHAM
SHARGH
CO

ABADAN OIL REFINERY COMPANY (AORC)

DWG. NO. : -----

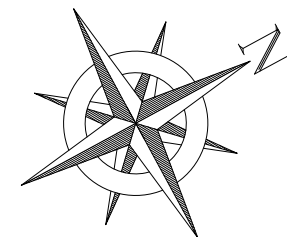
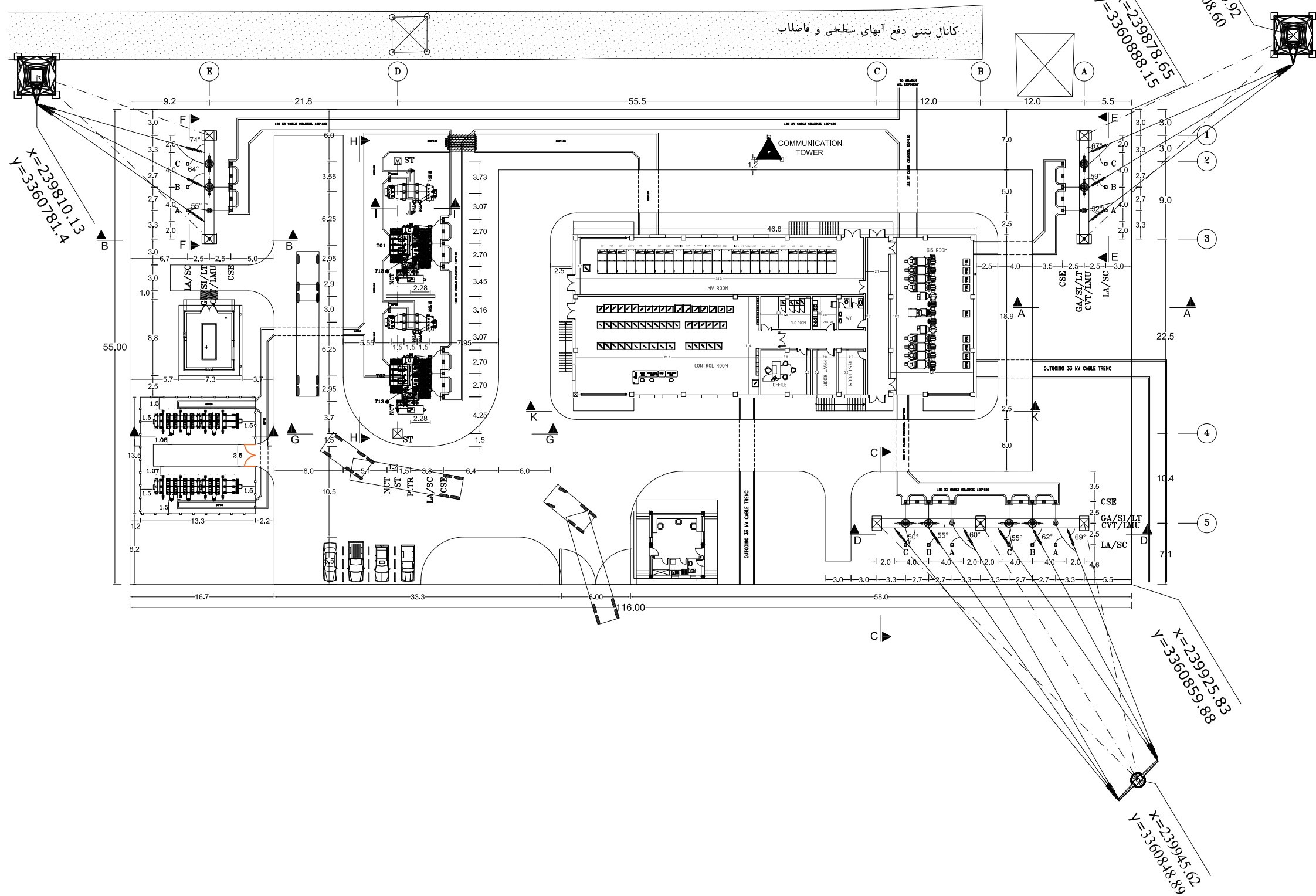
PROJECT:

KOFEISHEH
132/33kv SUBSTATION

TITLE:	DOCUMENT TITLE	ISSUE CODE:
	GENERAL LAYOUT & SECTIONS	6154-EL-DWG-0331
	(SITE PLAN)	

PREPARED:	E. BARZEGAR	DATE:	09/03/2025	
CHECKED:	E. BARZEGAR	DATE:	09/03/2025	
APPROVED:	M. DANESHPOU	DATE:	09/03/2025	
AUTHORIZED:		DATE:		
				GHODS NIRROO ENGINEERING COMPANY

CONTRACT NO.: 96-73-6154		AORC Doc. No.: -----	SIZE: A3
SCALE: 1/700	DESIGN STAGE: -----	REV: 04	SHEET: 02 of 12



LEGEND :

ABBREVIATION	DESCRIPTION
LA	LIGHTNING ARRESTER
CVT	CAPACITIVE VOLTAGE TRANSFORMER
SC	SURGE COUNTER
GA	GANTRY
LT	LINE TRAP
LMU	LINE MACHING UNIT
SI	STRING INSULATOR
GIS	GAS INSULATED SWITCHGEAR
P.TR	POWER TRANSFORMER
AUX.TR	AUXILLIARY TRANSFORMER
E.TR	EARTHING TRANSFORMER
NCT	NEUTRAL CURRENT TRANSFORMER
PI	POST INSULATOR
ST	STATIC TOWER
COF	CUTOUT FUSE
CSE	CABLE SEALING END

	CLEARANCES (m)	132KV	33KV
1	Minimum height of the base of all post type or bushing insulators from ground	2.50	2.50
2	Minimum clearances between live parts and ground potential	1.51	0.4
3	Minimum clearances between energized portions at different phases (rigid parts)	1.58	0.5
4	Minimum height of energized parts above ground	3.76	3.1
5	Distance between phases of main suspension	3.0	1.5
6	Minimum vertical clearances of overhead lines above roadway	9.0	7.0
7	Minimum shield wire clearances over bus conductors	3.0	3.0

NOTES :

POWER TRANSFORMER	AUX.TR
132/34 KV	33/0.4 KV
50 MVA	250KVA
Ynd1	Dyn11
	E.TR
	33 KV
	875 A
	ZNO

ELEVATION :

04	09/03/2025	ACC TO LET NO.1403/179509/60282	E.BARZEGAR	E.BARZEGAR	M.DANESHPOUR
02	02/01/2025	ACC TO LET NO.1403/179509/57039	E.BARZEGAR	E.BARZEGAR	M.DANESHPOUR
03	09/09/2024	REVISE 1	E.BARZEGAR	E.BARZEGAR	M.DANESHPOUR
01	2024MAY18	ACC TO LET NO.6154-AR-MS-L 1403-22006	E.BARZEGAR	E.BARZEGAR	M.DANESHPOUR
00	2024MARCH05	Issued for Approval	E.BARZEGAR	E.BARZEGAR	M.DANESHPOUR
REV.	DATE	DESCRIPTION	MODIFY	CHECK	APPROVE

CONTRACTOR:

OWNER:



ABADAN OIL REFINERY COMPANY (AORC)

DWG. NO. : -----

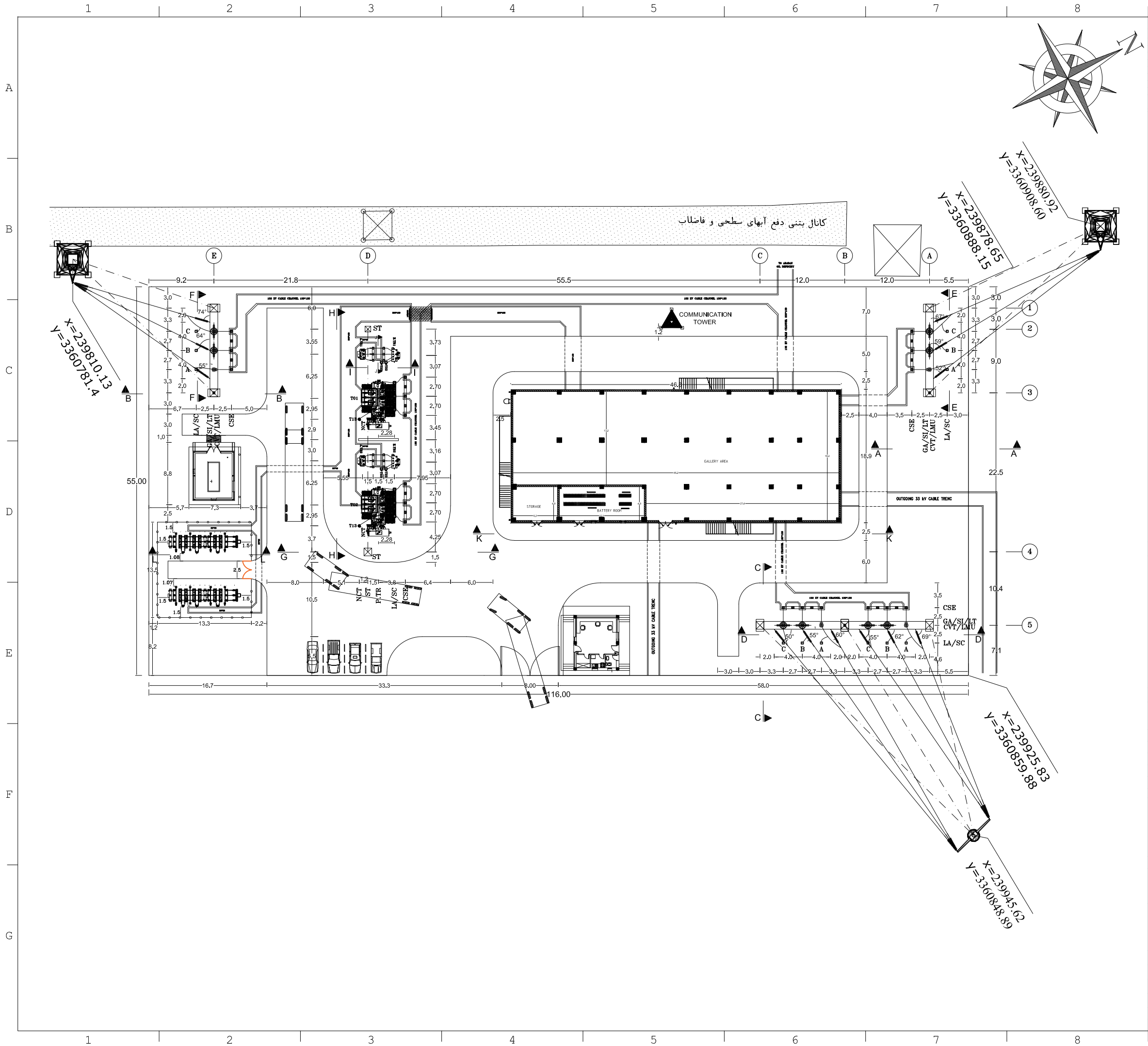
PROJECT:

KOFEISHEH
132/33ky SUBSTATION

TITLE:	DOCUMENT TITLE	ISSUE CODE:
	GENERAL LAYOUT & SECTIONS (GENERAL LAYOUT)	6154-EL-DWG-0331

PREPARED:	E.BARZEGAR	DATE:	09/03/2025	
CHECKED:	E.BARZEGAR	DATE:	09/03/2025	
APPROVED:	M.DANESHPOU	DATE:	09/03/2025	
AUTHORIZED:		DATE:		
CONTRACT NO.: 96-73-6154		AORC Doc. No.: -----		SIZE: A3
SCALE: 1/500	DESIGN STAGE: -----	REV: 04		SHEET: 03 of 12

P.O.I.: IFA



REFERENCE DOCUMENT
GENERAL SINGLE LINE DIAGRAM

DOCUMENT NO.
6154-EL-DIG-0403

REV.

LEGEND :

ABBREVIATION	DESCRIPTION
LA	LIGHTNING ARRESTER
CVT	CAPACITIVE VOLTAGE TRANSFORMER
SC	SURGE COUNTER
GA	GANTRY
LT	LINE TRAP
LMU	LINE MACHING UNIT
SI	STRING INSULATOR
GIS	GAS INSULATED SWITCHGEAR
P.TR	POWER TRANSFORMER
AUX.TR	AUXILLIARY TRANSFORMER
E.TR	EARTHING TRANSFORMER
NCT	NEUTRAL CURRENT TRANSFORMER
PI	POST INSULATOR
ST	STATIC TOWER
COF	CUTOUT FUSE
CSE	CABLE SEALING END

CLEARANCES (m)	132KV	33KV
1 Minimum height of the base of all post type or bushing insulators from ground	2.50	2.50
2 Minimum clearances between live parts and ground potential	1.51	0.4
3 Minimum clearances between energized portions of different phases (rigid parts)	1.58	0.5
4 Minimum height of energized parts above ground	3.76	3.1
5 Distance between phases of main suspension	3.0	1.5
6 Minimum vertical clearances of overhead lines above roadway	9.0	7.0
7 Minimum shield wire clearances over bus conductors	3.0	3.0

NOTES :

POWER TRANSFORMER
132/34 KV
50 MVA
Ynd1

AUX.TR
33/0.4 KV
250KVA
Dyn11

E.TR
33 KV
875 A
ZNO

ELEVATAION :

04	09/03/2025	ACC TO LET NO.1403/179509/60282	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
03	02/01/2025	ACC TO LET NO.1403/179509/57039	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
02	09/09/2024	REVISE.1	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
01	2024MAY18	ACC TO LET NO.6154-AR-MS-L 1403-22006	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
00	2024MARCH05	Issued for Approval	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU

REV. DATE DESCRIPTION

MODIFY CHECK APPROVE

CONTRACTOR:

MOHAM SHAROH CO.

OWNER:

ABADAN OIL REFINERY COMPANY (AORC)

DWG. NO. : -----

PROJECT:

KOFESHIEH
132/33kv SUBSTATION

TITLE: DOCUMENT TITLE
GENERAL LAYOUT & SECTIONS
(GROUND FLOOR LAYOUT)

ISSUE CODE:
6154-EL-DWG-0331

PREPARED: E.BARZEGAR
CHECKED: E.BARZEGAR
APPROVED: M.DANESHPOU
AUTHORIZED:

DATE: 09/03/2025
DATE: 09/03/2025
DATE: 09/03/2025
DATE:

GHODS NR00
ENGINEERING
COMPANY
(G.N.E.C)

CONTRACT NO.: 96-73-6154
SCALE: 1/500

DESIGN STAGE: -----
REV: 04

SIZE: A3
SHEET: 04 of 12

A

B

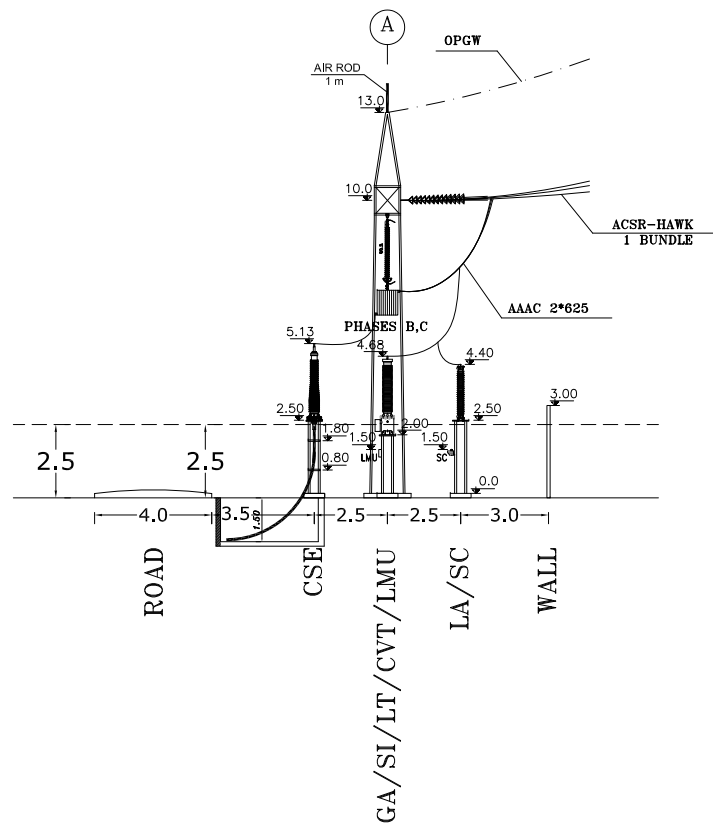
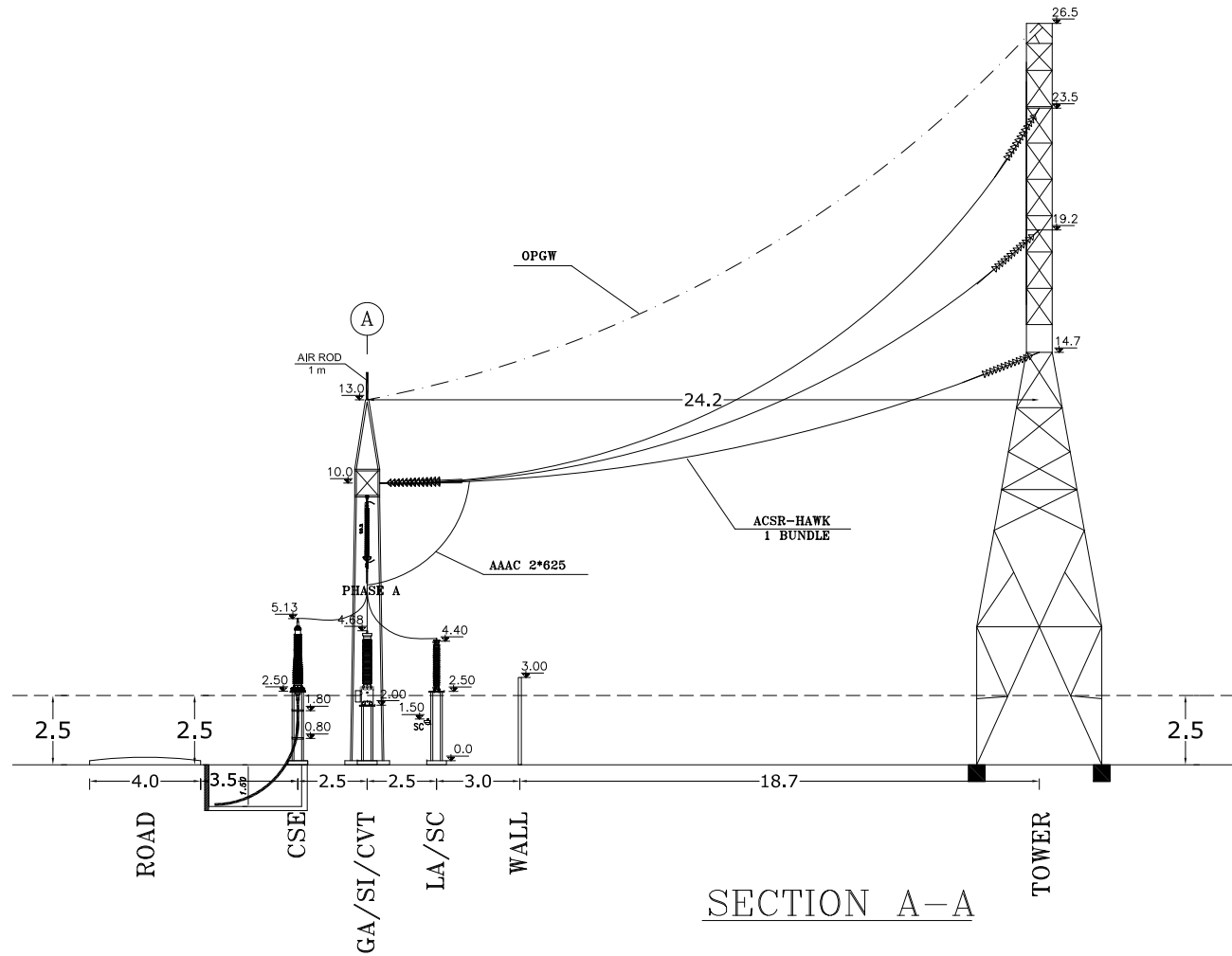
C

D

E

F

G



REFERENCE DOCUMENT	DOCUMENT NO.	REV.
GENERAL SINGLE LINE DIAGRAM	6154-EL-DIG-0403	

LEGEND :

NOTES :

132KV CABLE: NZXS2RYR - 1x630/215 mm² -76/132(145) kV
Overall diameter: 102.2mm
Minimum Bending Radius=15D: 1.55m

33KV CABLE: XLPE - 1x300/35 mm² -18/30 (36) kV
Overall diameter: 58.5mm
Minimum Bending Radius=15D: 0.88m

ELEVATAION :

04	09/03/2025	ACC TO LET NO.1403/179509/60282	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
03	02/01/2025	ACC TO LET NO.1403/179509/57039	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
02	09/09/2024	REVISE.1	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
01	2024MAY18	ACC TO LET NO.6154-AR-MS-L 1403-22006	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
00	2024MARCH05	Issued for Approval	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
REV.	DATE	DESCRIPTION	MODIFY	CHECK	APPROVE

CONTRACTOR:

MOHAM SHARGH CO.

OWNER:

ABADAN OIL REFINERY COMPANY (AORC)

DWG. NO. : -----
PROJECT:
**KOFEISHEH
132/33kv SUBSTATION**

TITLE:
DOCUMENT TITLE
GENERAL LAYOUT & SECTIONS
(SECTION A-A)

ISSUE CODE:
6154-EL-DWG-0331

PREPARED: E.BARZEGAR	DATE: 09/03/2025	GHODS NIROO ENGINEERING COMPANY (G.N.E.C)	
CHECKED: E.BARZEGAR	DATE: 09/03/2025		
APPROVED: M.DANESHPOU	DATE: 09/03/2025		
AUTHORIZED:	DATE:		
CONTRACT NO.: 96-73-6154		AORC Doc. No.: -----	SIZE: A3
SCALE: 1/250	DESIGN STAGE: -----	REV: 04	SHEET: 05 of 12

P.O.I.: FA

A

B

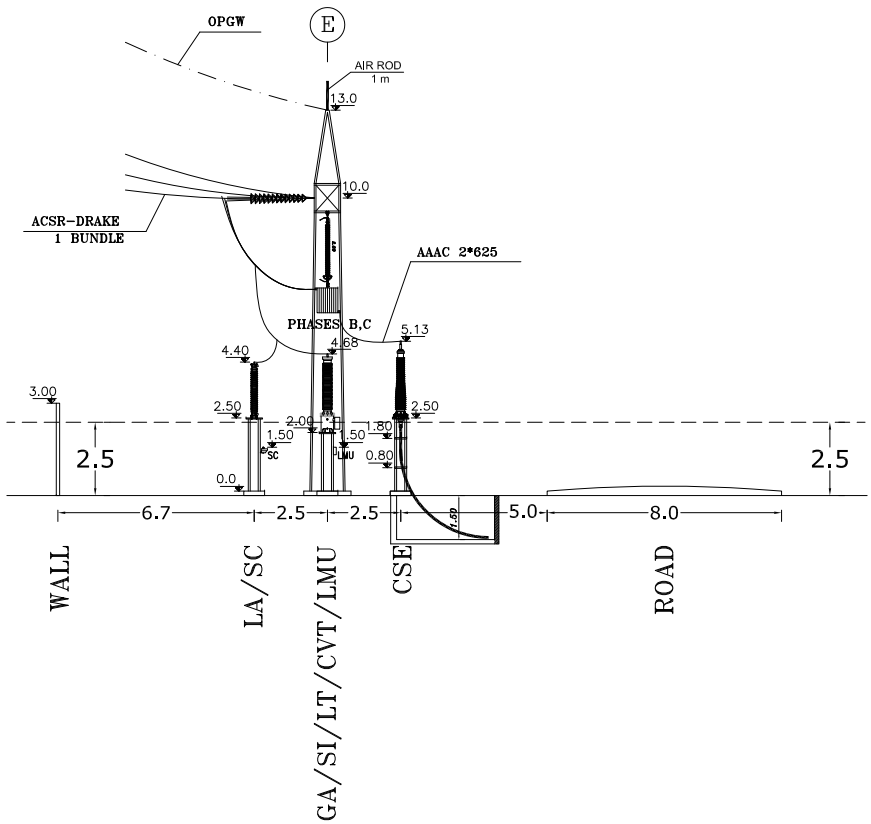
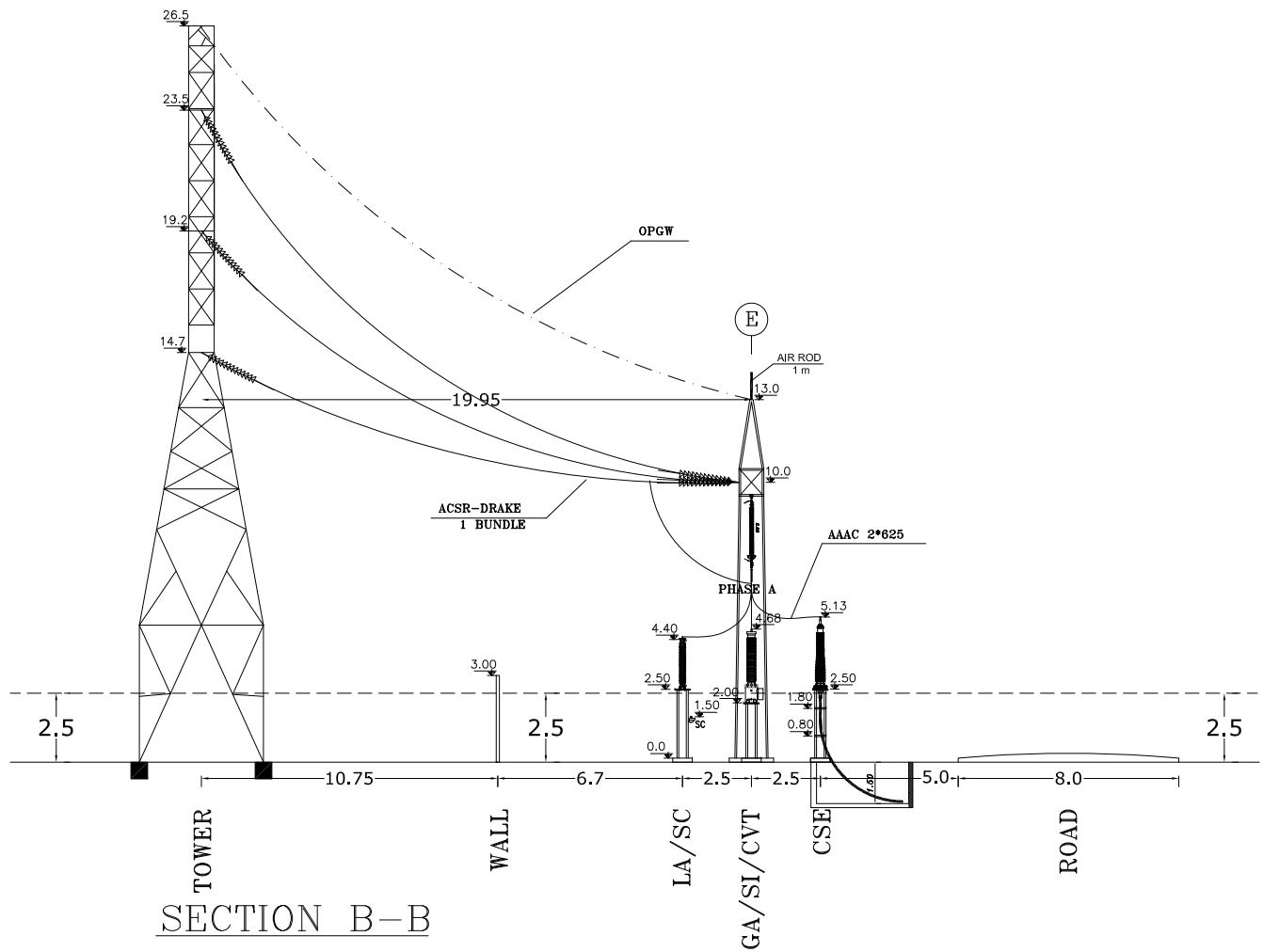
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D

E

F

G



REFERENCE DOCUMENT	DOCUMENT NO.	REV.
GENERAL SINGLE LINE DIAGRAM	6154-EL-DIG-0403	

LEGEND :

NOTES :

132KV CABLE: N2XSK2YRY - 1×630/215 mm² -76/132(145) kV
Overall diameter: 102.2mm
Minimum Bending Radius=15D: 1.55m

33KV CABLE: XLPE - 1×300/35 mm² -18/30 (36) kV
Overall diameter: 58.5mm
Minimum Bending Radius=15D: 0.88m

ELEVATAION :

04	09/03/2025	ACC TO LET NO.1403/179509/60282	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
03	02/01/2025	ACC TO LET NO.1403/179509/57039	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
02	09/09/2024	REVISE.1	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
01	2024MAY18	ACC TO LET NO.6154-AR-MS-L 1403-22006	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
00	2024MARCH05	Issued for Approval	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU

REV.	DATE	DESCRIPTION	MODIFY	CHECK	APPROVE
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CONTRACTOR:

MOHAM
SHARGH
CO.

OWNER:

ABADAN OIL REFINERY COMPANY (AORC)

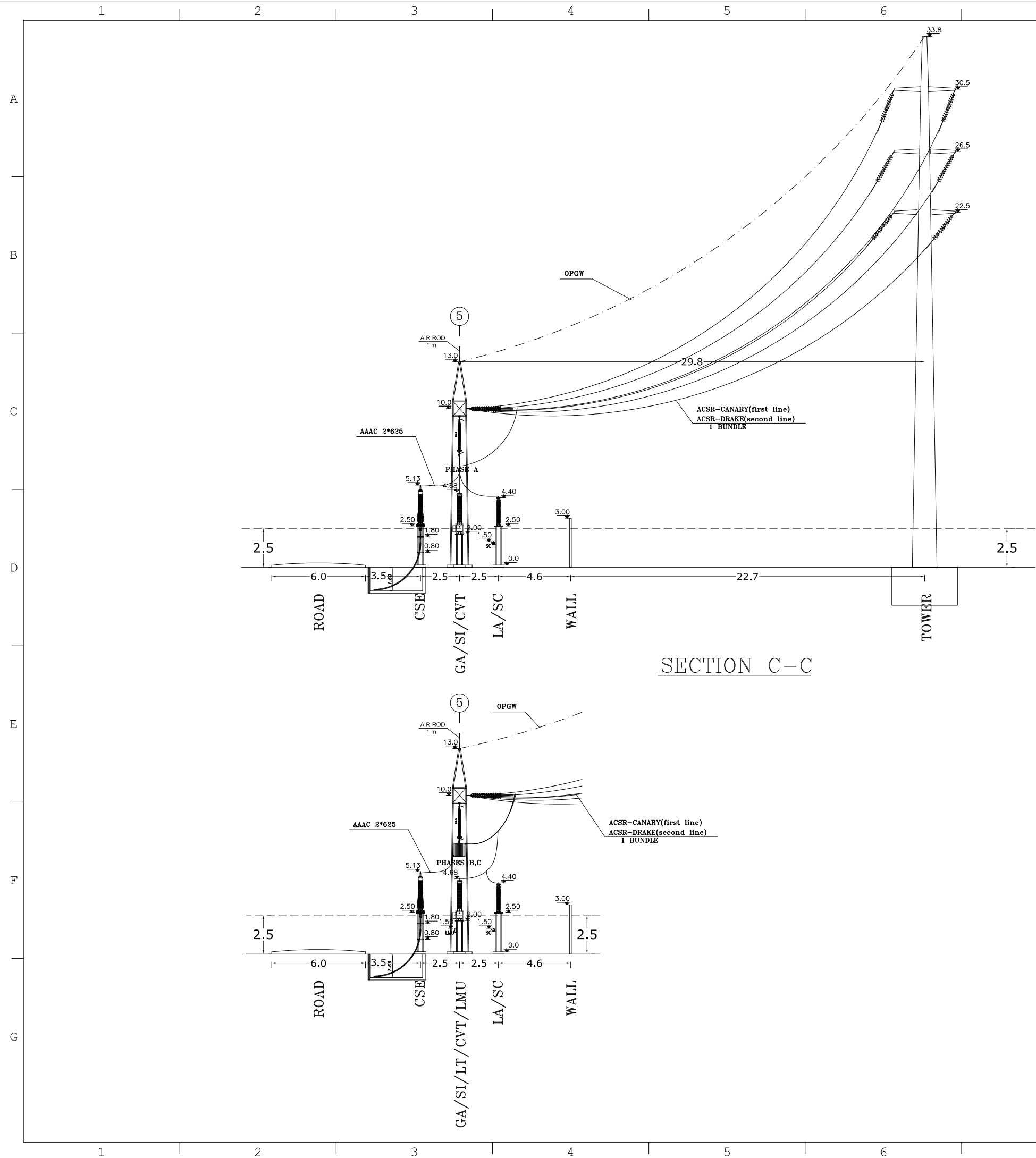
DWG. NO. : -----
PROJECT:
**KOFEISHEH
132/33kv SUBSTATION**

TITLE:
DOCUMENT TITLE
GENERAL LAYOUT & SECTIONS
(SECTION B-B)

ISSUE CODE:
6154-EL-DWG-0331

PREPARED:	E.BARZEGAR	DATE:	09/03/2025	
CHECKED:	E.BARZEGAR	DATE:	09/03/2025	
APPROVED:	M.DANESHPOU	DATE:	09/03/2025	
AUTHORIZED:		DATE:		
CONTRACT NO.: 96-73-6154		AORC Doc. No.: -----		SIZE: A3
SCALE: 1/250		DESIGN STAGE: -----		REV: 04
				SHEET: 06 of 12

Page 14

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LEGEND :

NOTES :

132KV CABLE: N2XSK2YRY - $1 \times 630/215 \text{ mm}^2$ - 76/132(145) kV
Overall diameter: 102.2mm
Minimum Bending Radius=15D: 1.55m

33KV CABLE: XLPE - $1 \times 300/35 \text{ mm}^2$ - 18/30 (36) kV
Overall diameter: 58.5mm
Minimum Bending Radius=15D: 0.88m

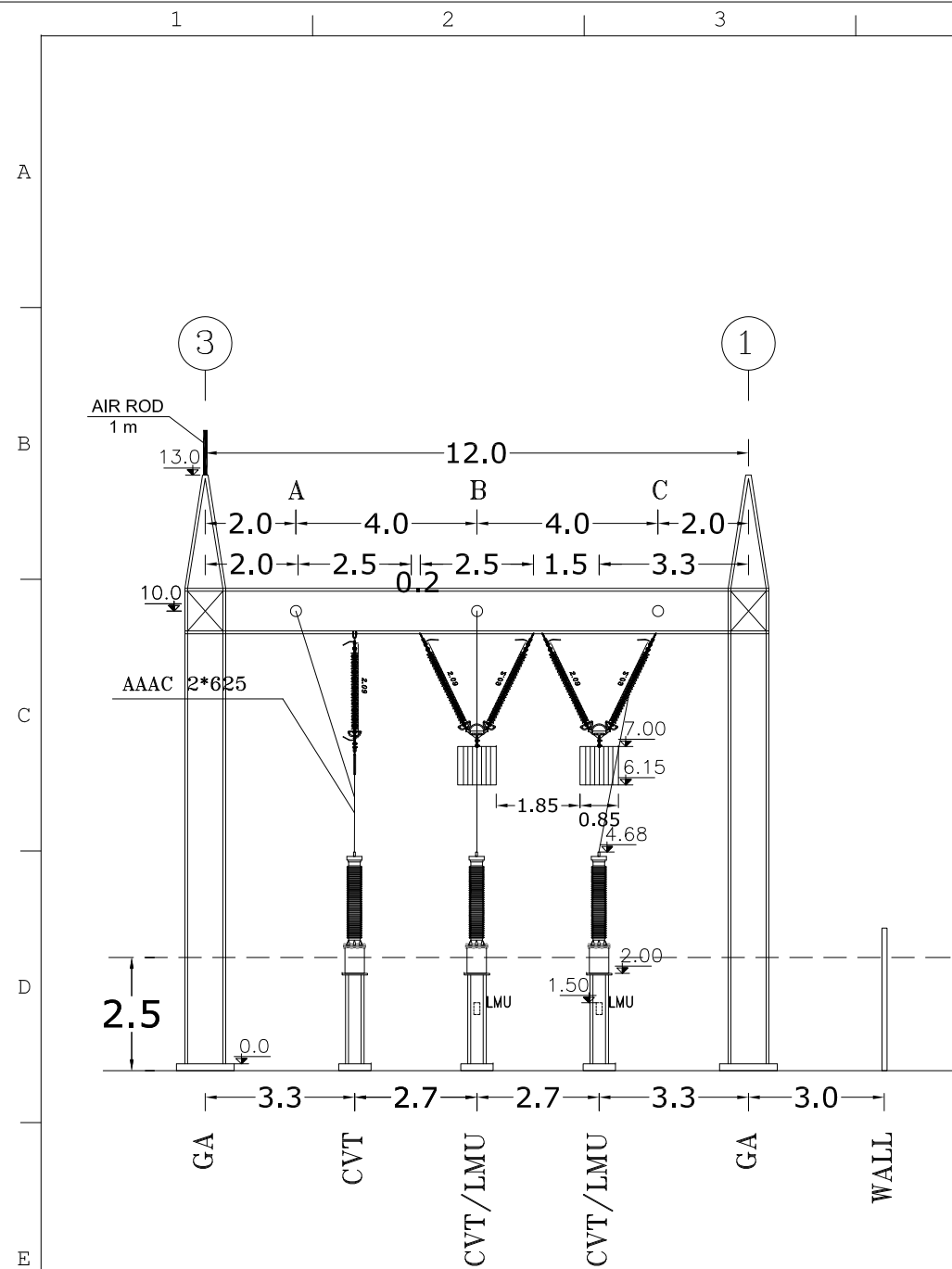
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04	09/03/2025	ACC TO LET NO.1403/179509/60282	E.BARZEGAR	E.BARZEGAR	M.DANESHPOUR	
03	02/01/2025	ACC TO LET NO.1403/179509/57039	E.BARZEGAR	E.BARZEGAR	M.DANESHPOUR	
02	09/09/2024	REVISE.1	E.BARZEGAR	E.BARZEGAR	M.DANESHPOUR	
01	2024MAY18	ACC TO LET NO.6154-AR-MS-L 1403-22006	E.BARZEGAR	E.BARZEGAR	M.DANESHPOUR	
00	2024MARCH05	Issued for Approval	E.BARZEGAR	E.BARZEGAR	M.DANESHPOUR	
00	DATE	DESCRIPTION	MOORE	SHAW	MOORE	

REV.	DATE	DESCRIPTION	MODIFY	CHECK	APPROVE
CONTRACTOR:			OWNER:		
 MOHAM SHARGH CO.			 ABADAN OIL REFINERY COMPANY (AORC)		

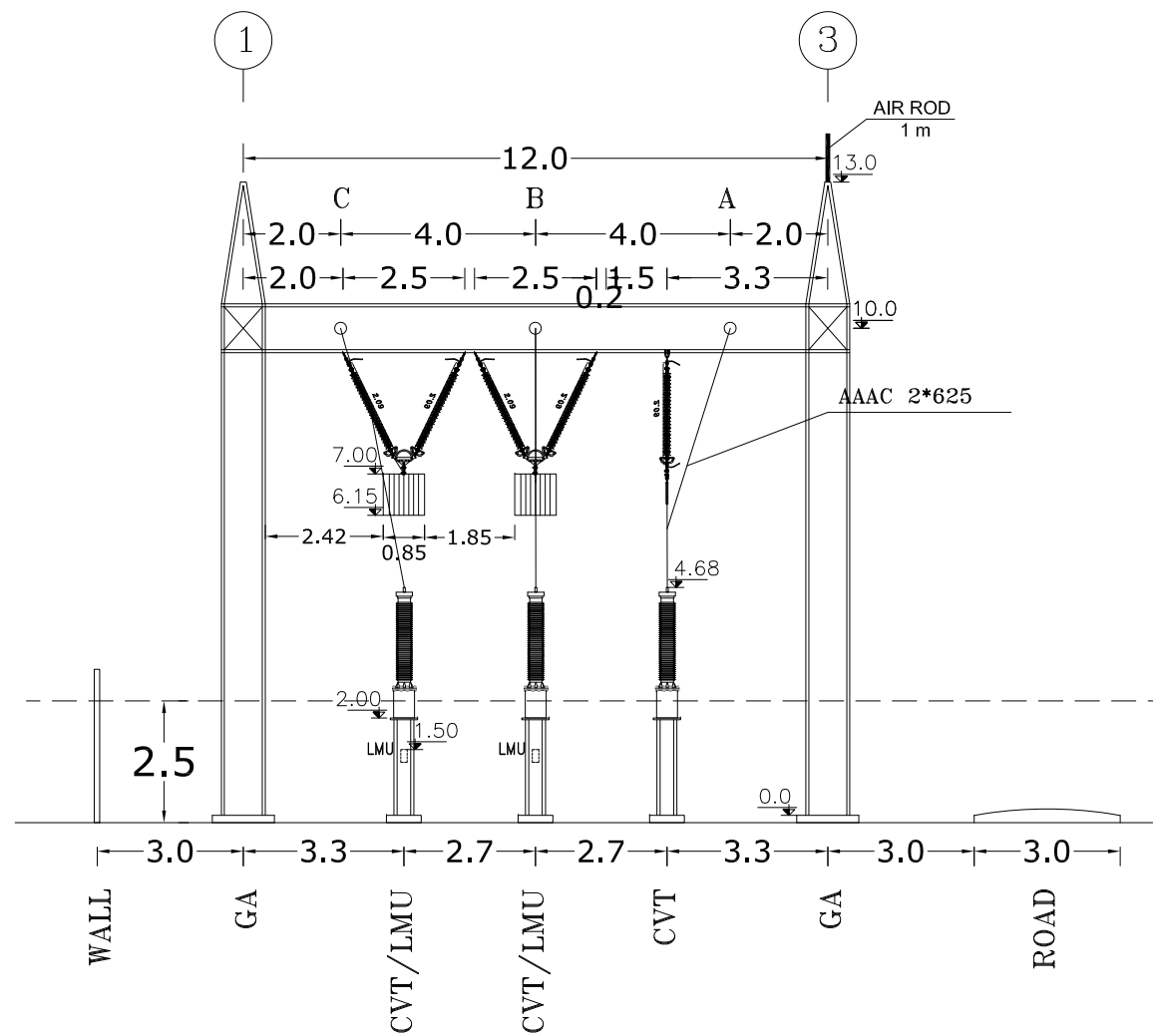
DWG. NO. : -----	
PROJECT:	
KOFEISHEH 132/33kv SUBSTATION	
TITLE:	ISSUE CODE:
DOCUMENT TITLE GENERAL LAYOUT & SECTIONS (SECTION C-C)	6154-EL-DWG-0331

PREPARED:	E.BARZEGAR	DATE:	09/03/2025	
CHECKED:	E.BARZEGAR	DATE:	09/03/2025	
APPROVED:	M.DANESHPOU	DATE:	09/03/2025	
AUTHORIZED:		DATE:		

		(G.N.E.C)	
CONTRACT NO.: 96-73-6154		AORC Doc. No.: -----	SIZE: A3
SCALE: 1/250	DESIGN STAGE: -----	REV: 04	SHEET: 07 of 12

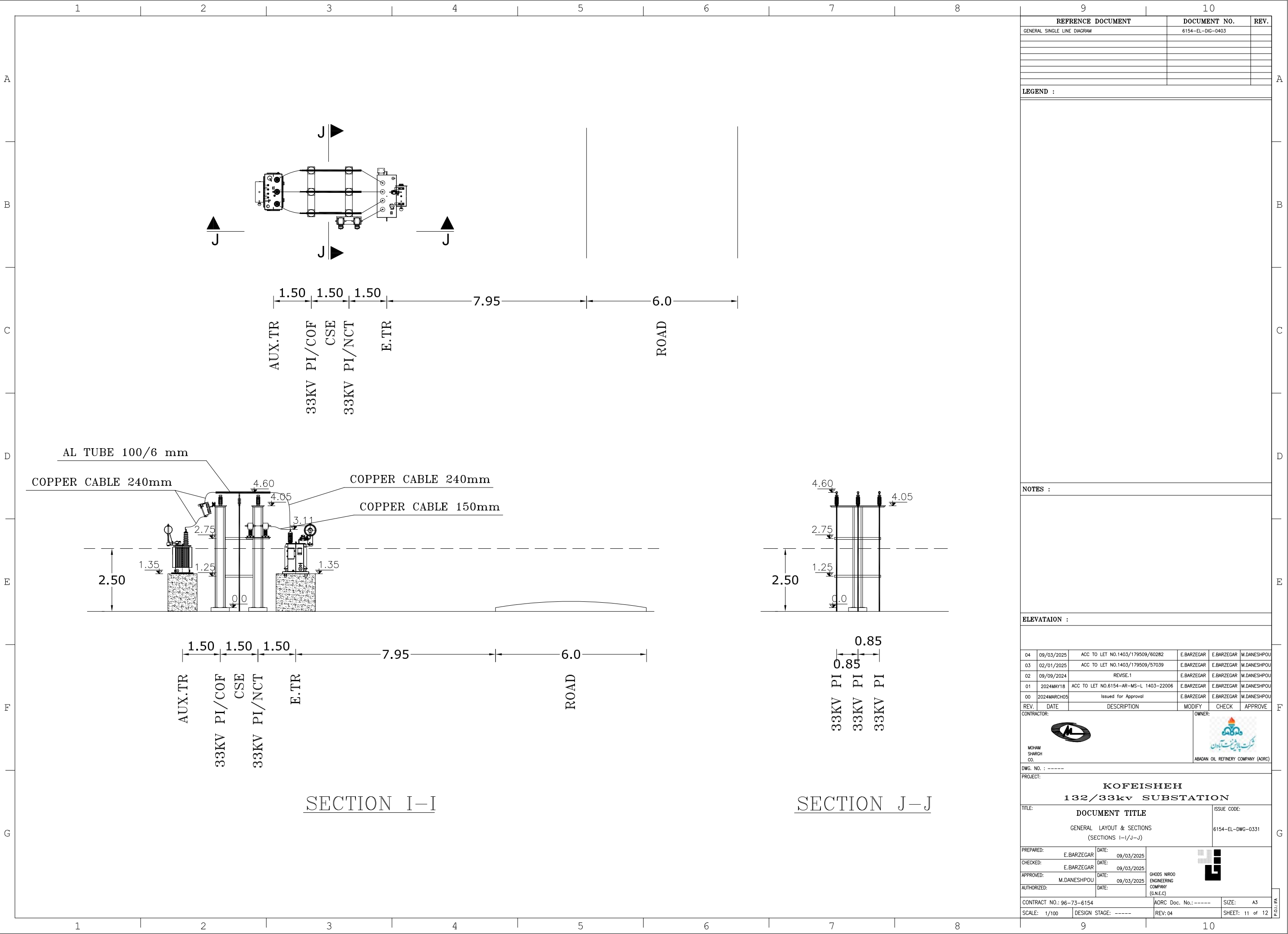


SECTION E-E



SECTION F-F

REFERENCE DOCUMENT			DOCUMENT NO.		REV.
GENERAL SINGLE LINE DIAGRAM			6154-EL-DIG-0403		
LEGEND :					
NOTES :					
ELEVATION :					
04	09/03/2025	ACC TO LET NO.1403/179509/60282	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
03	02/01/2025	ACC TO LET NO.1403/179509/57039	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
02	09/09/2024	REVISE.1	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
01	2024MAY18	ACC TO LET NO.6154-AR-MS-L 1403-22006	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
00	2024MARCH05	Issued for Approval	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
REV.	DATE	DESCRIPTION	MODIFY	CHECK	APPROVE
CONTRACTOR:				OWNER:	
 MOHAM SHARGH CO.			 ABADAN OIL REFINERY COMPANY (AORC)		
DWG. NO. : -----					
PROJECT:					
KOFEISHEH 132/33kv SUBSTATION					
TITLE: DOCUMENT TITLE GENERAL LAYOUT & SECTIONS (SECTION E-E & F-F)				ISSUE CODE: 6154-EL-DWG-0331	
PREPARED:	E.BARZEGAR	DATE:	09/03/2025		
CHECKED:	E.BARZEGAR	DATE:	09/03/2025		
APPROVED:	M.DANESHPOU	DATE:	09/03/2025		
AUTHORIZED:		DATE:			
CONTRACT NO.: 96-73-6154			AORC Doc. No.: -----		SIZE: A3
SCALE: 1/150		DESIGN STAGE: -----		REV: 04	SHEET: 09 of 12



REFERENCE DOCUMENT	DOCUMENT NO.	REV.
GENERAL SINGLE LINE DIAGRAM	6154-EL-DIG-0403	

LEGEND :

NOTES :

ELEVATAION :

04	09/03/2025	ACC TO LET NO.1403/179509/60282	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
03	02/01/2025	ACC TO LET NO.1403/179509/57039	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
02	09/09/2024	REVISE.1	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
01	2024MAY18	ACC TO LET NO.6154-AR-MS-L 1403-22006	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
00	2024MARCH05	Issued for Approval	E.BARZEGAR	E.BARZEGAR	M.DANESHPOU
REV.	DATE	DESCRIPTION	MODIFY	CHECK	APPROVE

CONTRACTOR:	OWNER:
MOHAM SHARGH CO.	ABADAN OIL REFINERY COMPANY (AORC)

DWG. NO. : -----

PROJECT:

TITLE:	DOCUMENT TITLE	ISSUE CODE:
	GENERAL LAYOUT & SECTIONS (SECTIONS I-I/J-J)	6154-EL-DWG-0331

PREPARED:	E.BARZEGAR	DATE:	09/03/2025	GHODS NIROO ENGINEERING COMPANY (G.N.E.C)
CHECKED:	E.BARZEGAR	DATE:	09/03/2025	
APPROVED:	M.DANESHPOU	DATE:	09/03/2025	
AUTHORIZED:		DATE:		

CONTRACT NO.:	96-73-6154	AORC Doc. No.:	-----	SIZE:	A3
SCALE:	1/100	DESIGN STAGE:	-----	REV:	04
				SHEET:	11 of 12

