

PROGETTO PER LA REALIZZAZIONE DI UN IMPIANTO PER LA  
PRODUZIONE DI ENERGIA MEDIANTE LO SFRUTTAMENTO DEL VENTO  
NEL MARE ADRIATICO MERIDIONALE - BARIUM BAY  
74 WTG – 1.110 MW

**PROGETTO DEFINITIVO - SIA**

Progettazione e SIA



Indagini ambientali e studi specialistici



Studio misure di mitigazione e compensazione



supervisione scientifica





**5. OPERE DI CONNESSIONE ALLA RETE**

**T.5.3 Sottostazione Offshore - planimetria e sezioni elettomeccaniche**

REV.	DATA	DESCRIZIONE



		<b>BARIUM BAY OFFSHORE SUBSTATIONS ELECTRICAL EQUIPMENT LIST</b>				Document		12085-ELE-001							
						Pagina Page		1	di of		3				
		PROGETTO: Project				<h1 style="margin: 0;">Barium Bay Offshore</h1>				Security Index					
										A	B	C	D		
TITLE Sub-Title		<b>Electrical Equipment List</b>						<b>R.00</b>							
CLIENTE Client															
JOB no: <b>12085</b>				Doc. no. <b>ELE-001</b>											
INOLTRO AL CLIENTE Submittal to the client				Per Approvazione For approval				Per Informazione For Information				Non richiesto Not Requested			
SISTEMA System				TIPO ELABORATO Document type				DISCIPLINA Discipline				NOME FILE File name			
REV.	DESCRIZIONE DELLE REVISIONI / REVISION DESCRIPTION														
00	First Issue														
00	30/06/2023		First Issue	/	SD		/	/	/	/	/	MT		MT	
REV	DATA Date		FASE Phase	SCOPO Scope	PREPARATO DA Prepared by		COLLABORAZIONI Co-operations					CONTROLLATO DA Checked by		APPROVATO DA Approved by	

# BARIUM BAY OFFSHORE SUBSTATIONS

## ELECTRICAL EQUIPMENT APPARECCHIATURE ELETTTRICHE

### SUBSTATION 1 (130m sea depth)

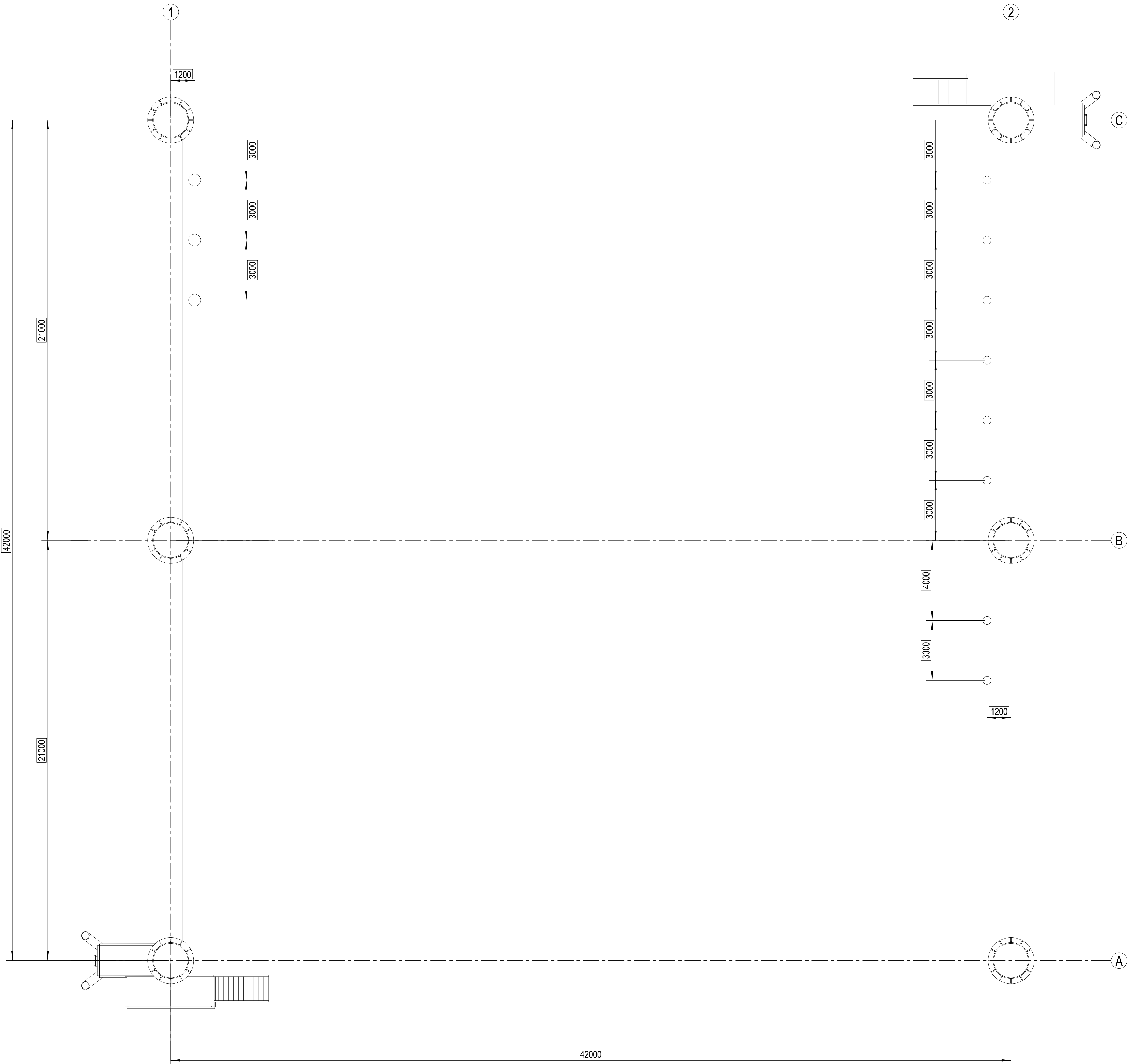
ITEM	DESCRIPTION	TECHNICAL DATA INFORMATION	QUANTITIES	TOTAL WEIGHT (kg)	VOLUME (m <sup>3</sup> ) [LxWxH]	NOTE
<b>ITEMIZED EQUIPMENT</b>						
1	<b>SWITCHYARD</b>					
	AIR INSULATED SUBSTATION (AIS)	n.a				
	380kV - GAS INSULATED SUBSTATION (GIS)	N°2 trafo bay N°3 line bay N°1 coupler	1	66.000	1.167	
	66kV - GAS INSULATED SUBSTATION (GIS)	N°12 bays N°1 coupler N°2 TV on busbars	1	61.100	476	
	HV OUTDOOR LOOSE EQUIPMENT	n.a				
2	<b>GENERATOR &amp; AUXILIARY EQUIPMENT</b>					
	G.T. GENERATOR & AUXILIARY EQUIPMENT	n.a				
	S.T. GENERATOR & AUXILIARY EQUIPMENT	n.a				
3	<b>BUS DUCTS</b>					
	G.T. ISOLADED PHASE BUS DUCT	n.a				
	S.T. ISOLADED PHASE BUS DUCT	n.a				
	DURESCA BUS DUCT	2x2000A Bus Duct at GIS 66kV terminals Tee-off (from 2x2000A to 1x4000A) 1X4000A Bus Duct to TRAF0	2	8.760	4	between GIS 66kV incomers to main transformers
4	<b>GENERATOR NEUTRAL EARTHING CUBICLE</b>					
	G.T. GENERATOR NEUTRAL EARTHING CUBICLE	n.a				
	S.T. GENERATOR NEUTRAL EARTHING CUBICLE	n.a				
5	<b>GENERATOR CIRCUIT BREAKER</b>					
	GT GENERATOR CIRCUIT BREAKER	n.a				
	ST GENERATOR CIRCUIT BREAKER	n.a				
	NEUTRAL EARTHING RESISTOR CUBICLE	n.a				
6	<b>TRANSFORMER</b>					
	MAIN TRANSFORMER <i>(including cooling bank)</i>	N° 2 x 330 MVA (ONAN) 380/66kV	2	660.000	1.383	
	EARTHING TRANSFORMER	N° 2 x 2MVA (tbd) dry type (tbd) 66/0,42-0,23 kV	2	10.000	16	
	AUXILIARY TRANSFORMER	N° 2 x 2MVA (tbd) dry type 66/0,42-0,23 kV	2	10.000	16	
	SMALL POWER TRANSFORMER	tbd				
	VARIABLE SHUNT REACTOR <i>(including cooling bank)</i>	N° 2 x 300 MVar (ONAN) 380kV	2	620.000	1.126	
	CURRENT LIMITING REACTOR	n.a				
	MV SWITCHGEARS	n.a				
	AUTOMATIC FAST TRNFER PANELS	n.a				
	BUS DUCT	n.a				
	LV SWITCHBOARDS	N° 1 x LVSG-AUX n°4 incomer n° 2 coupler n°24 feeder	1	12.600	25	assumed 14 cabinets
7	<b>DC SYSTEM &amp; UPS SYSTEM</b>					
		N°2 x AC/DC + DC/AC converters (100kVA, tbd) N° 2 x AC Distribution Panel (with Bypass transformer) N°1 x DC Distribution Panel N°2 x Battery Set	1	17.100	30	assumed 5 cabinets + battery packs
8	<b>DIESEL GENERATOR SET</b> <i>(including container and diesel tank)</i>	N° 2 x 500kVA (tbd)	2	40.000	140	
9	<b>ELECTRICAL MOTORS</b>					
	M.V. (INDUCTION & SYNCHRONOUS) MOTORS	tbd				
	L.V. MOTORS	tbd				
	VARIABLE SPEED DRIVE SYSTEM	tbd				
	ELECTRICAL MODULES	tbd				
	PROTECTION PANEL	tbd				
	UTF METERING SYSTEM	tbd				
	INTERFACE PANELS	tbd				
	CABLES	tbd				
10	<b>H.V. CABLES &amp; ACCESSORIES (JOINT &amp; TERMINATION)</b>	tbd				
<b>BULK MATERIAL</b>						
11	MV POWER CABLES & ACCESSORIES	tbd				
12	LV POWER CABLES & ACCESSORIES	tbd				
13	CONTROL CABLES & ACCESSORIES	tbd				
14	OPTICAL FIBER CABLES & ACCESSORIES	tbd				
15	CATHODIC PROTECTION SYSTEM	tbd				
16	MOTOR CONTROL STATIONS	tbd				
17	CONDUITS	tbd				
18	CABLE TRAYS/LADDER	tbd				
19	EARTHING & LIGHTNING PROTECTION SYSTEM	tbd				
20	LIGHTING and SMALL POWER SYSTEM	tbd				
21	HEAT TRACING SYSTEM	tbd				
22	COMMUNICATION and CLOCK SYSTEM	tbd				
23	ACCESS CONTROL SYSTEM	tbd				
24	ANTI-INTRUSION & SECURITY SYSTEM	tbd				
25	MISCELLANEOUS BULK MATERIAL	tbd				
<b>TOTAL</b>				<b>1.505.560</b>	<b>4.382</b>	

# BARIUM BAY OFFSHORE SUBSTATIONS

## ELECTRICAL EQUIPMENT APPARECCHIATURE ELETTTRICHE

### SUBSTATION 2 (150m sea depth)

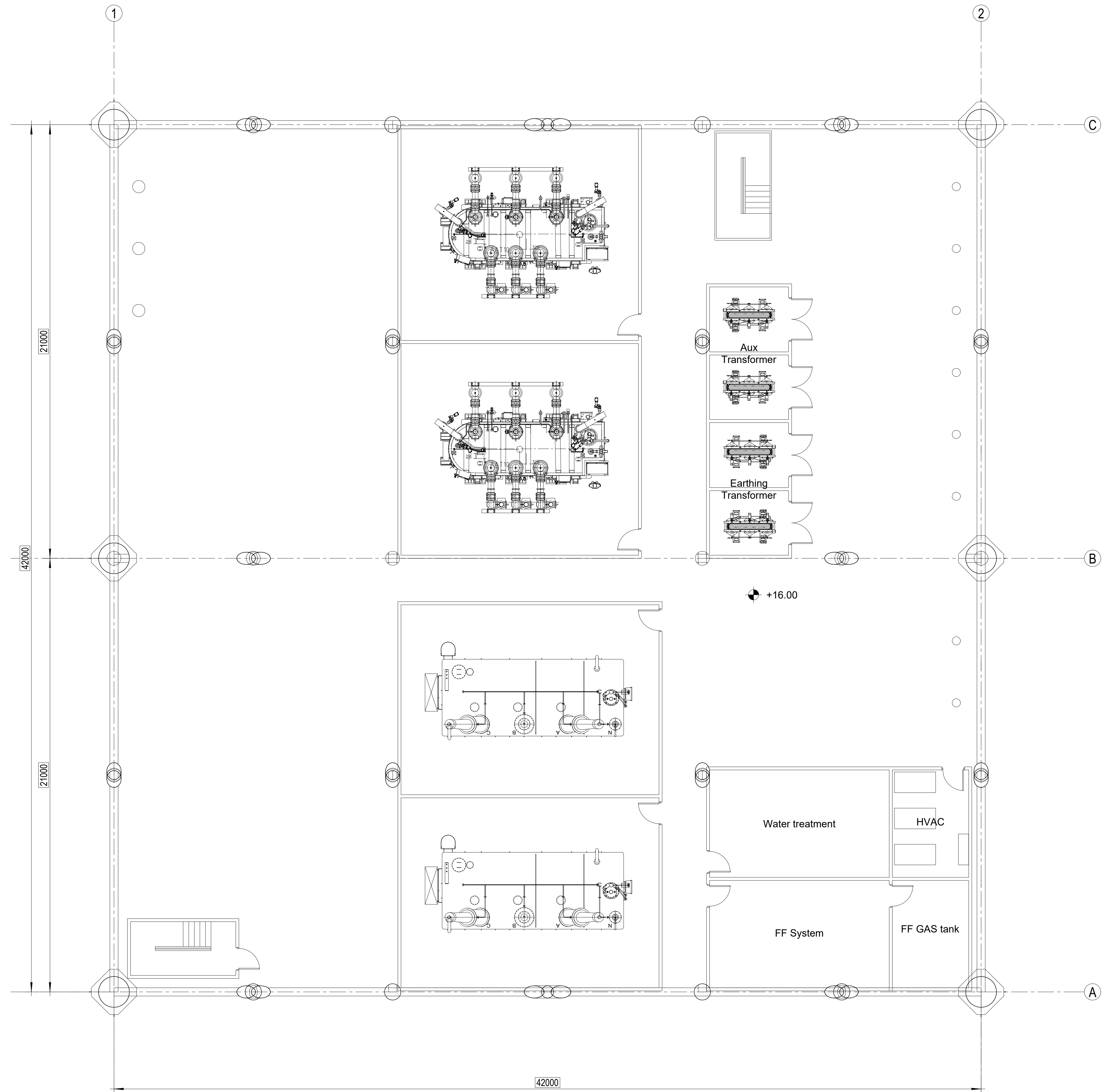
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<b>ITEMIZED EQUIPMENT</b>						
1	<b>SWITCHYARD</b>					
	AIR INSULATED SUBSTATION (AIS)	n.a				
	380kV - GAS INSULATED SUBSTATION (GIS)	N°2 trafo bay N°1 line bay	1	33.000	584	
	66kV - GAS INSULATED SUBSTATION (GIS)	N°12 bays N°1 coupler N°2 TV on busbars	1	61.100	476	
	HV OUTDOOR LOOSE EQUIPMENT	n.a				
2	<b>GENERATOR &amp; AUXILIARY EQUIPMENT</b>					
	G.T. GENERATOR & AUXILIARY EQUIPMENT	n.a				
	S.T. GENERATOR & AUXILIARY EQUIPMENT	n.a				
3	<b>BUS DUCTS</b>					
	G.T. ISOLATED PHASE BUS DUCT	n.a				
	S.T. ISOLATED PHASE BUS DUCT	n.a				
	DURESCA BUS DUCT	2x2000A Bus Duct at GIS 66kV terminals Tee-off (from 2x2000A to 1x4000A) 1X4000A Bus Duct to TRAF0	2	8.760	4	between GIS 66kV incomers to main transformers
4	<b>GENERATOR NEUTRAL EARTHING CUBICLE</b>					
	G.T. GENERATOR NEUTRAL EARTHING CUBICLE	n.a				
	S.T. GENERATOR NEUTRAL EARTHING CUBICLE	n.a				
5	<b>GENERATOR CIRCUIT BREAKER</b>					
	GT GENERATOR CIRCUIT BREAKER	n.a				
	ST GENERATOR CIRCUIT BREAKER	n.a				
	NEUTRAL EARTHING RESISTOR CUBICLE	n.a				
6	<b>TRANSFORMER</b>					
	MAIN TRANSFORMER <i>(including cooling bank)</i>	N° 2 x 330 MVA (ONAN) 380/66kV	2	660.000	1.383	
	EARTHING TRANSFORMER	N° 2 x 2MVA (tbd) dry type (tbd) 66/0.42-0.23 kV	2	10.000	16	
	AUXILIARY TRANSFORMER	N° 2 x 2MVA (tbd) dry type 66/0.42-0.23 kV	2	10.000	16	
	SMALL POWER TRANSFORMER	tbd				
	VARIABLE SHUNT REACTOR <i>(including cooling bank)</i>	N° 2 x 350 MVar (ONAN) 380kV	2	700.000	1.126	
	CURRENT LIMITING REACTOR	n.a				
	MV SWITCHGEARS	n.a				
	AUTOMATIC FAST TRANSFER PANELS	n.a				
	BUS DUCT	n.a				
	LV SWITCHBOARDS	N° 1 x LVSG-AUX n°4 incomer n° 2 coupler n°24 feeder	1	12.600	25	assumed 14 cabinets
7	<b>DC SYSTEM &amp; UPS SYSTEM</b>					
		N°2 x AC/DC + DC/AC converters (100kVA, tbd) N° 2 x AC Distribution Panel (with Bypass transformer) N°1 x DC Distribution Panel N°2 x Battery Set	1	17.100	30	assumed 5 cabinets + battery packs
8	<b>DIESEL GENERATOR SET</b> <i>(including container and diesel tank)</i>	N° 2 x 500kVA (tbd)	2	40.000	140	
9	<b>ELECTRICAL MOTORS</b>					
	M.V. (INDUCTION & SYNCHRONOUS) MOTORS	tbd				
	L.V. MOTORS	tbd				
	VARIABLE SPEED DRIVE SYSTEM	tbd				
	ELECTRICAL MODULES	tbd				
	PROTECTION PANEL	tbd				
	UTF METERING SYSTEM	tbd				
	INTERFACE PANELS	tbd				
	CABLES	tbd				
10	<b>H.V. CABLES &amp; ACCESSORIES (JOINT &amp; TERMINATION)</b>	tbd				
<b>BULK MATERIAL</b>						
11	MV POWER CABLES & ACCESSORIES	tbd				
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20	LIGHTING and SMALL POWER SYSTEM	tbd				
21	HEAT TRACING SYSTEM	tbd				
22	COMMUNICATION and CLOCK SYSTEM	tbd				
23	ACCESS CONTROL SYSTEM	tbd				
24	ANTI-INTRUSION & SECURITY SYSTEM	tbd				
25	MISCELLANEOUS BULK MATERIAL	tbd				
<b>TOTAL</b>				<b>1.552.560</b>	<b>3.798</b>	



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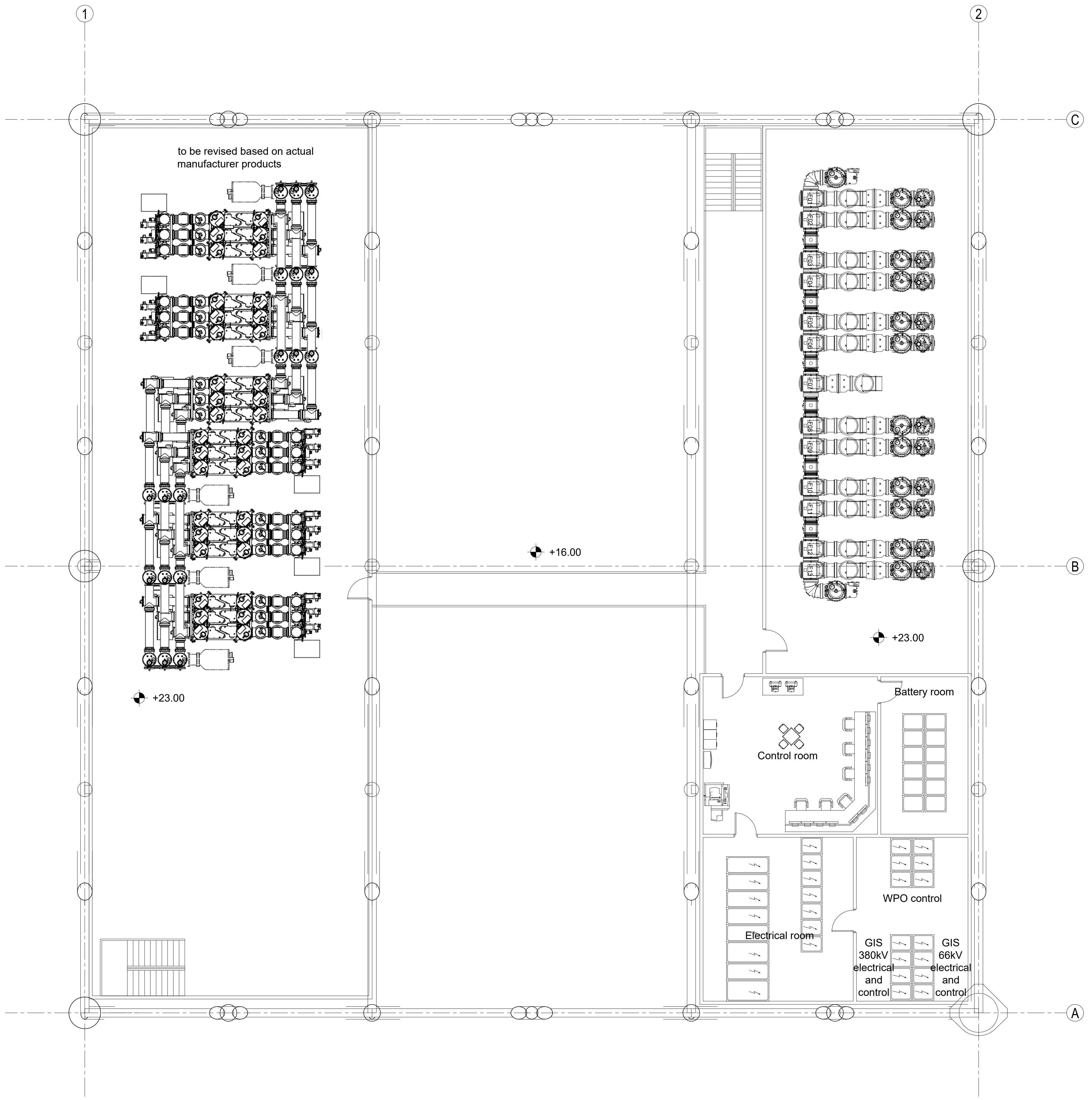
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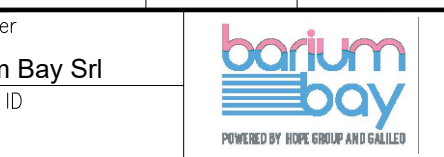


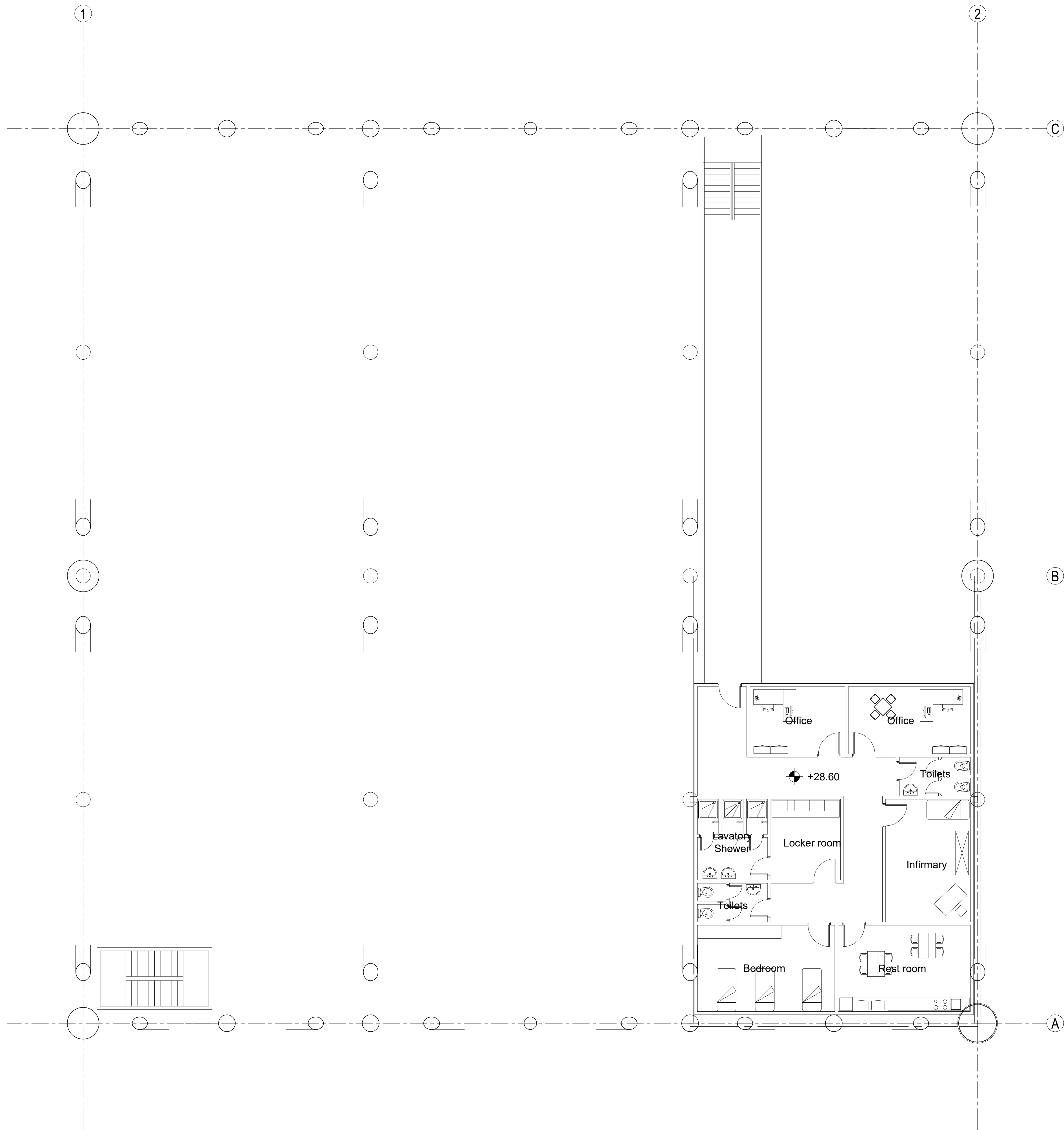


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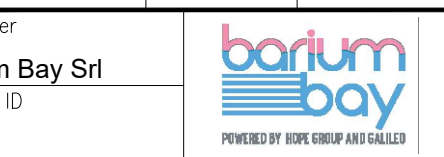




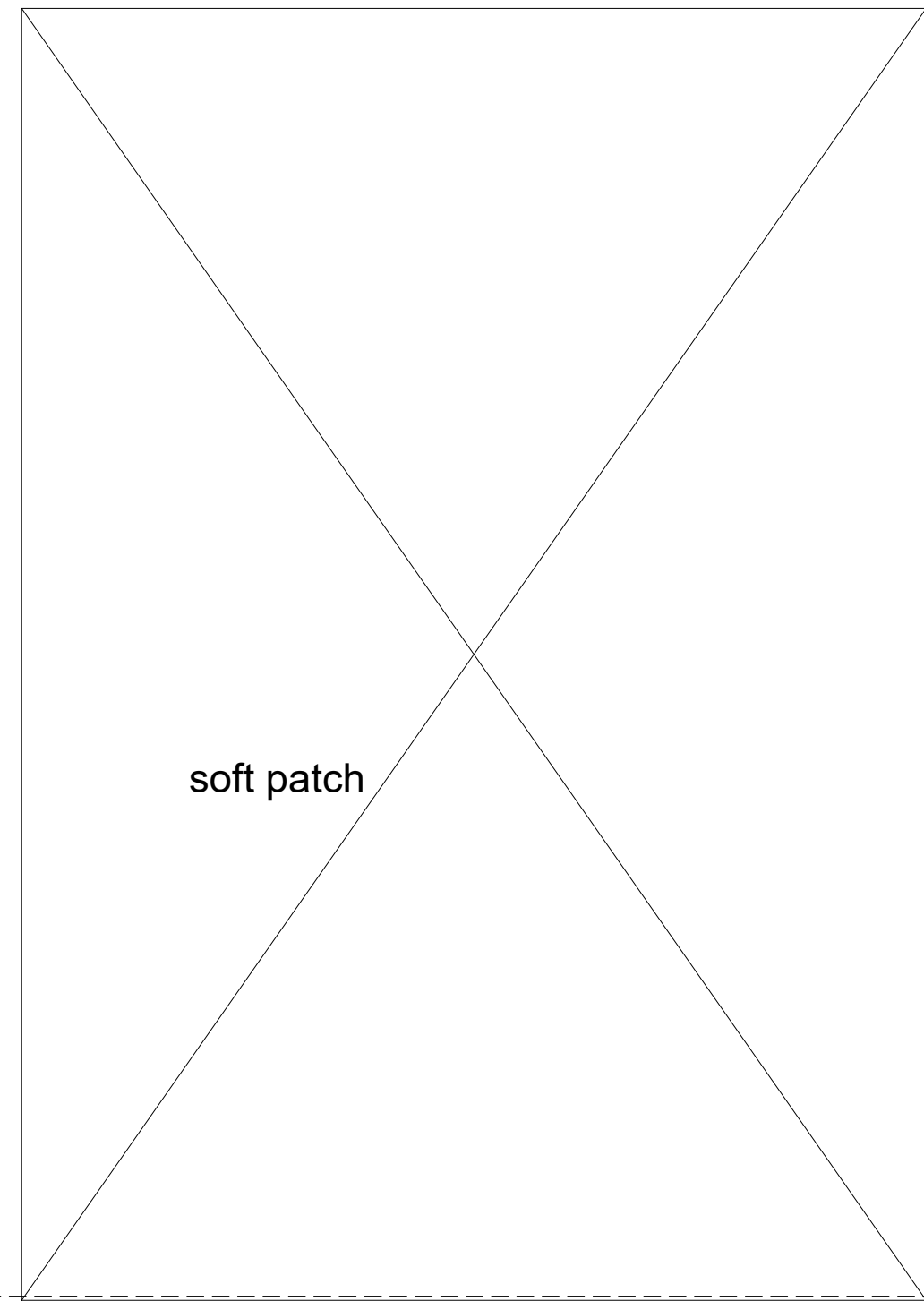
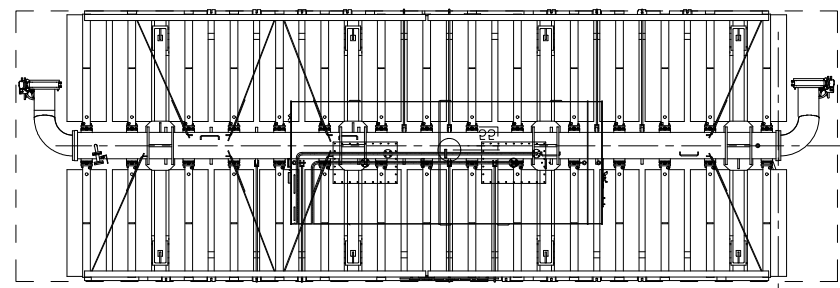
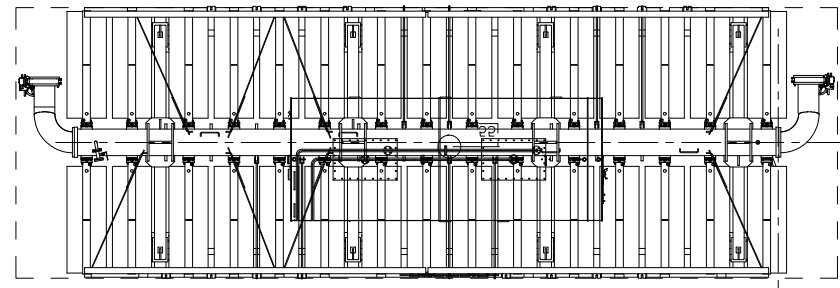
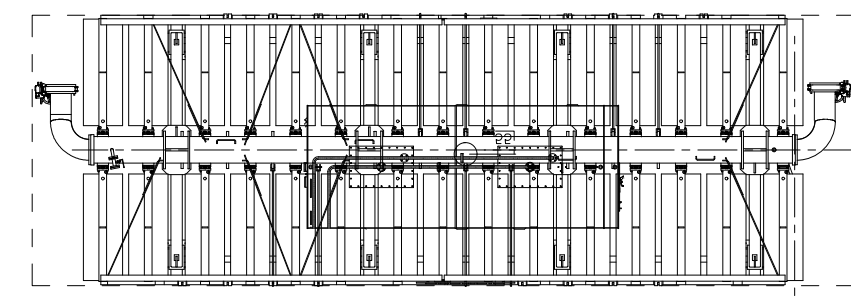
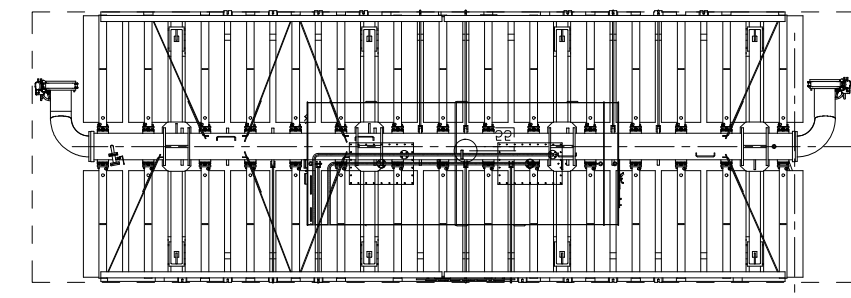
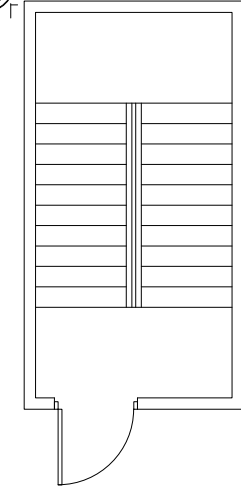
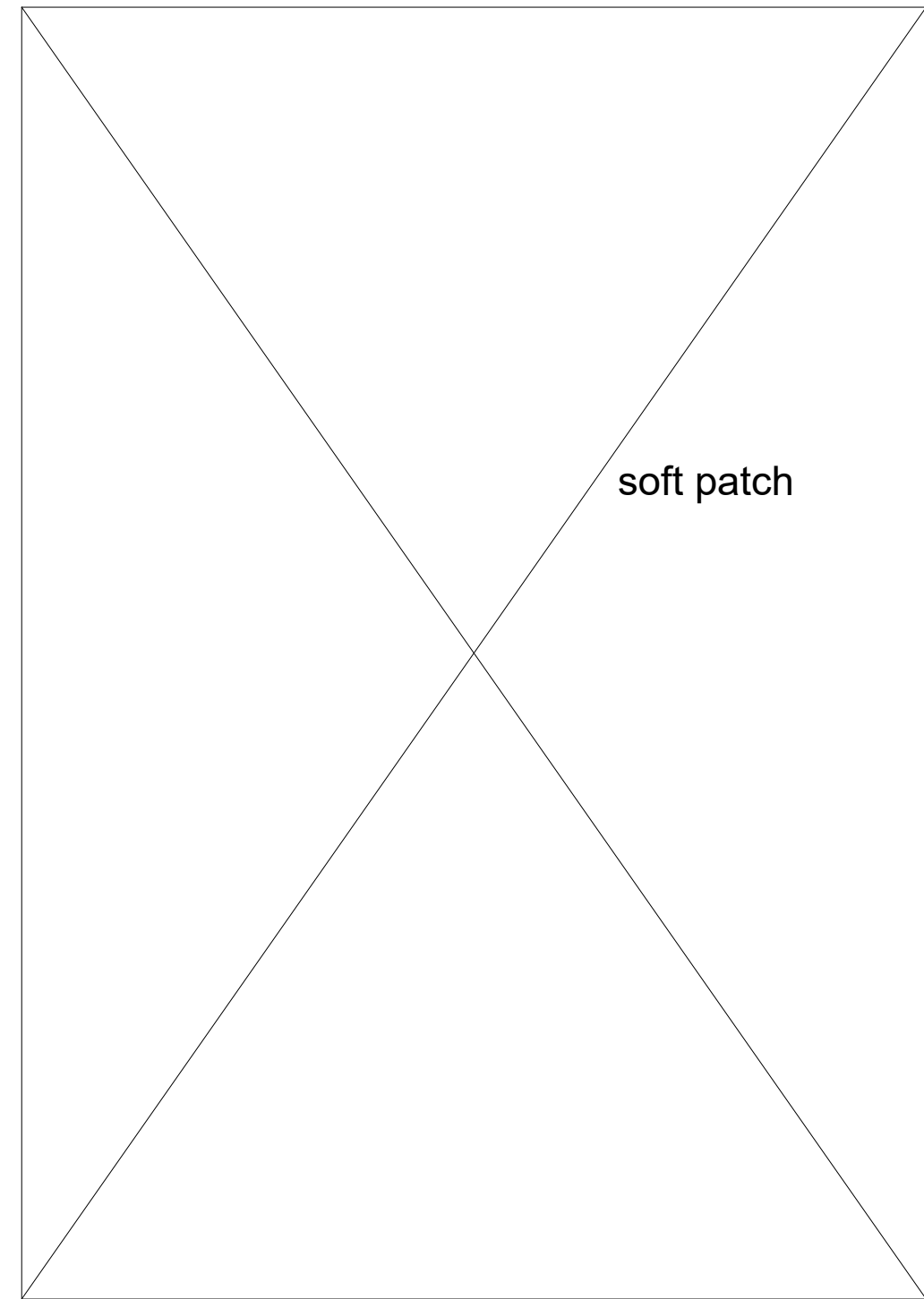
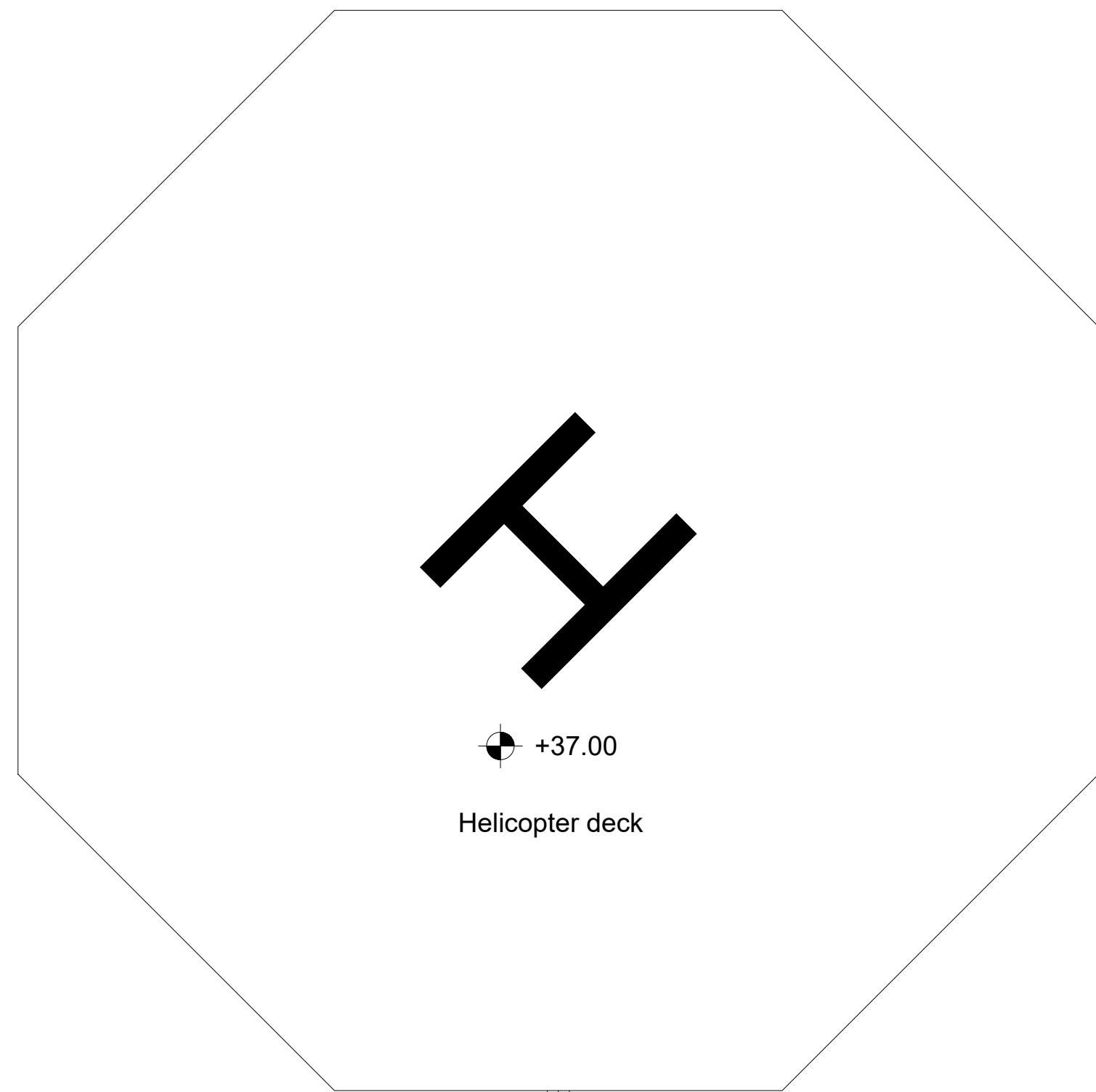
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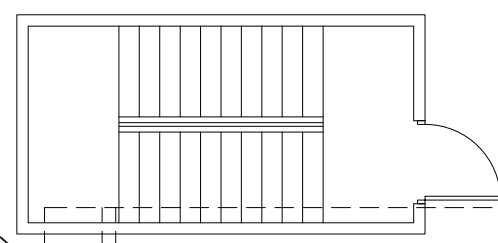
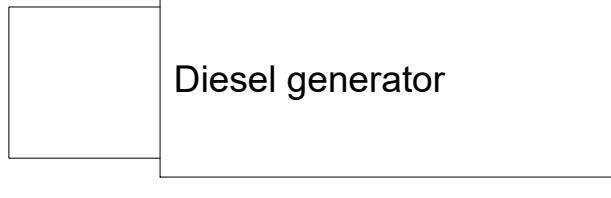
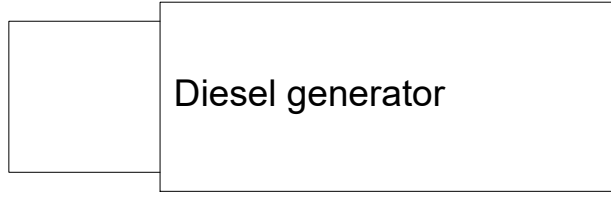
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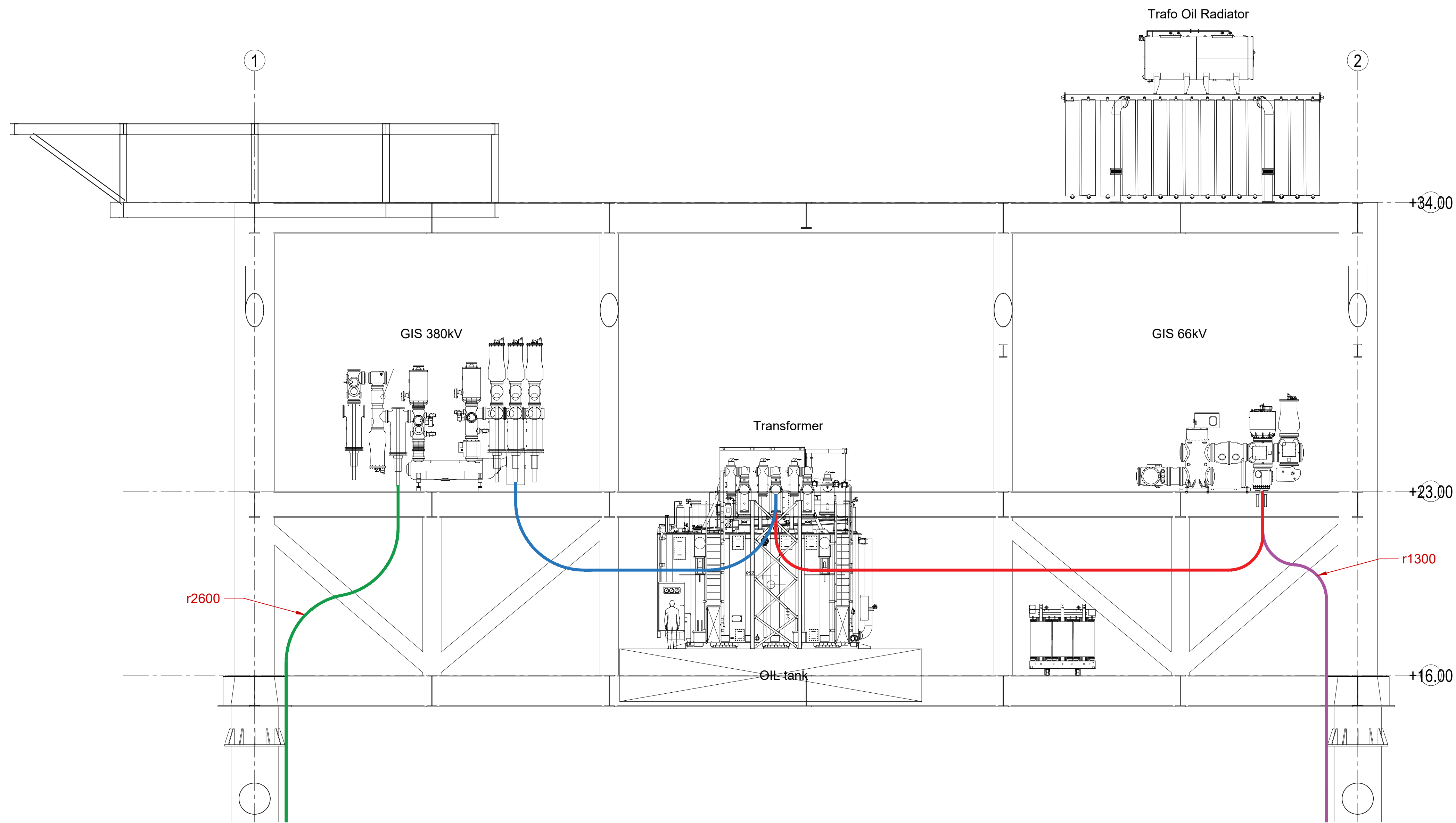
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-		Matteo Corbetta		Mauro Tavola	
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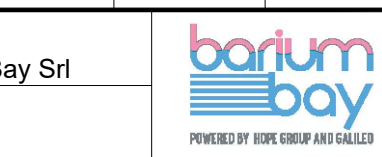
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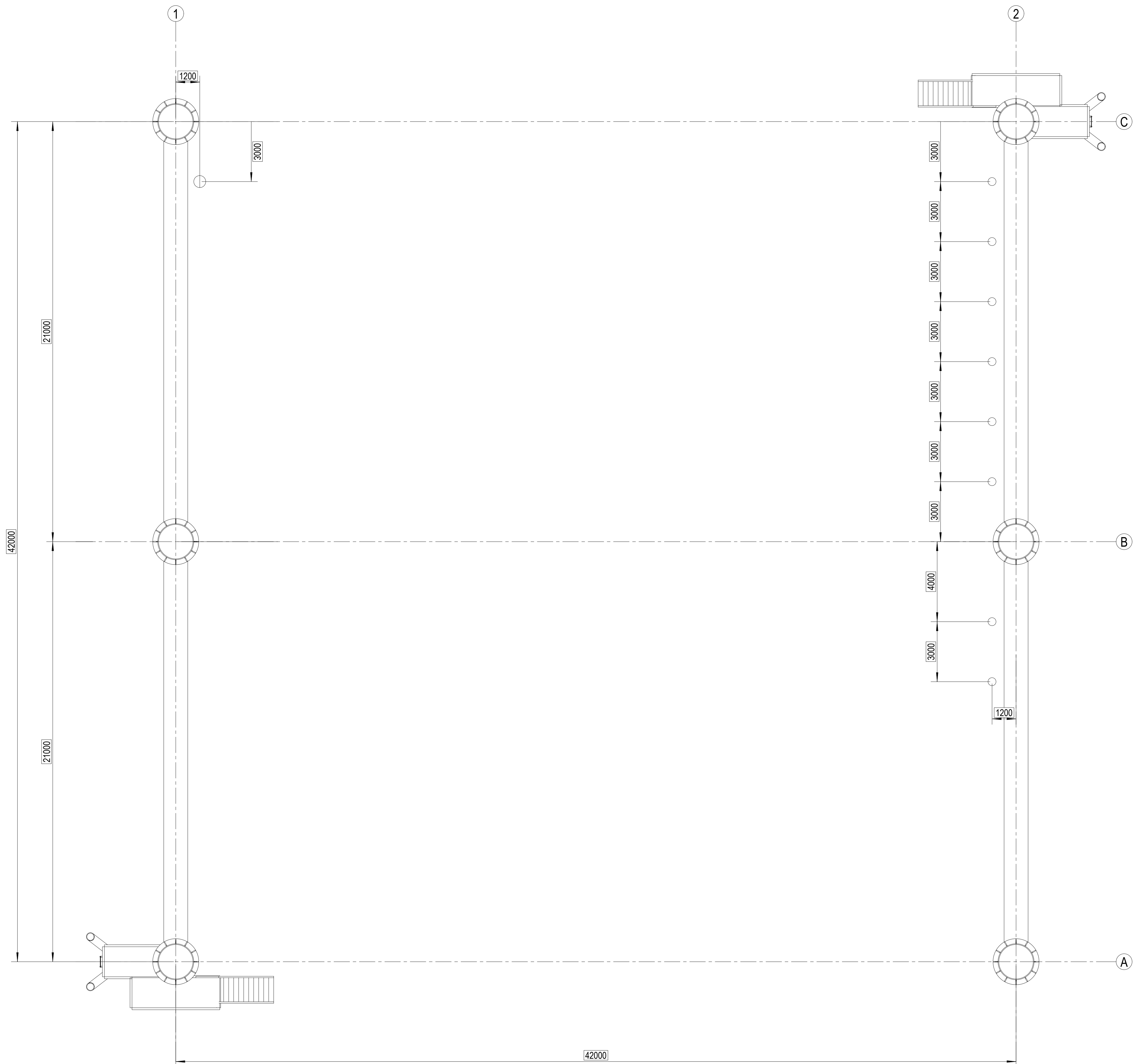


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Title <b>Layout Substation 1</b>		Document ID <b>12085-LDL-001</b>		Page <b>6/6</b>	
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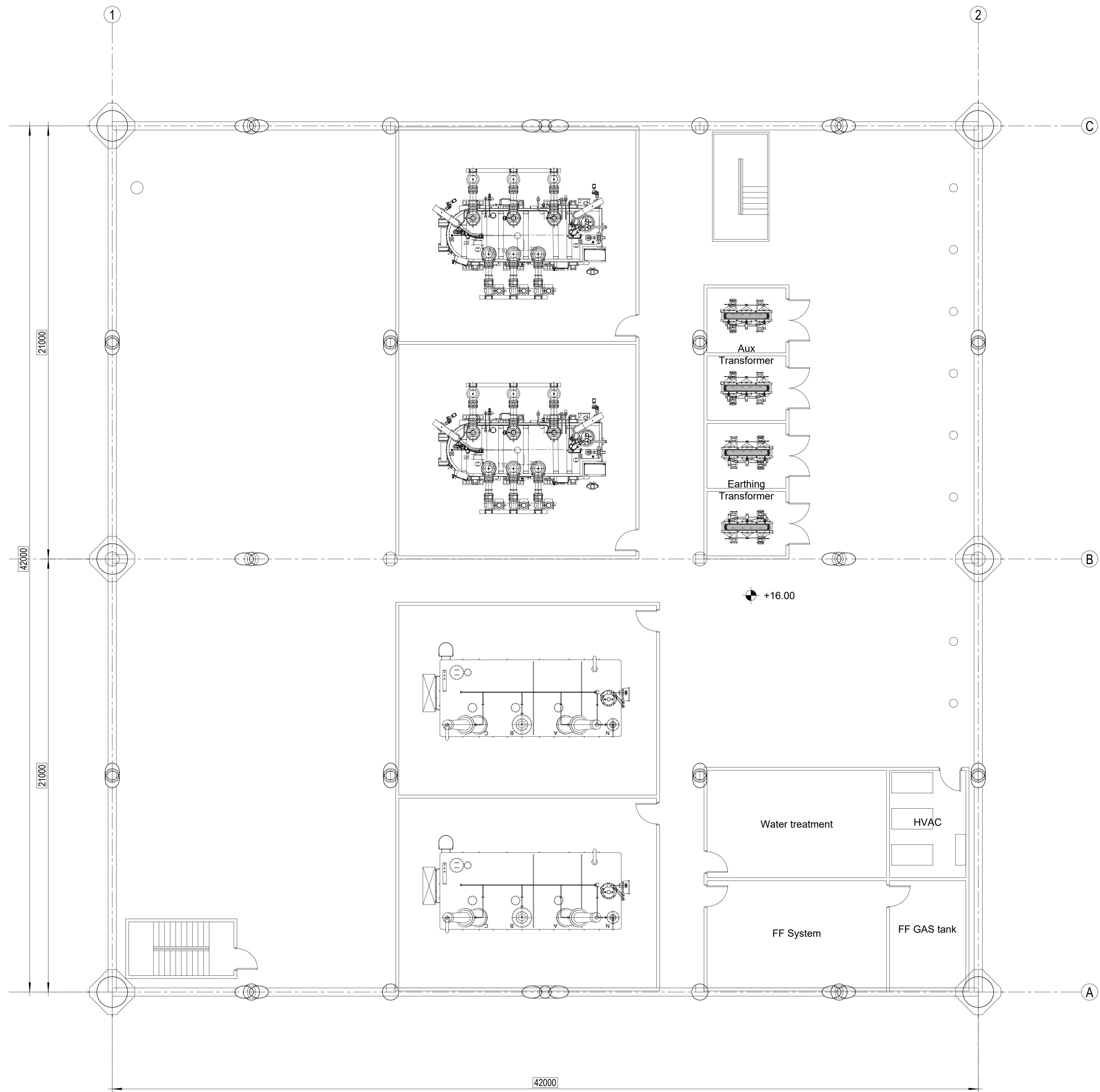


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-		Matteo Corbetta		Mauro Tavola	Mauro Tavola
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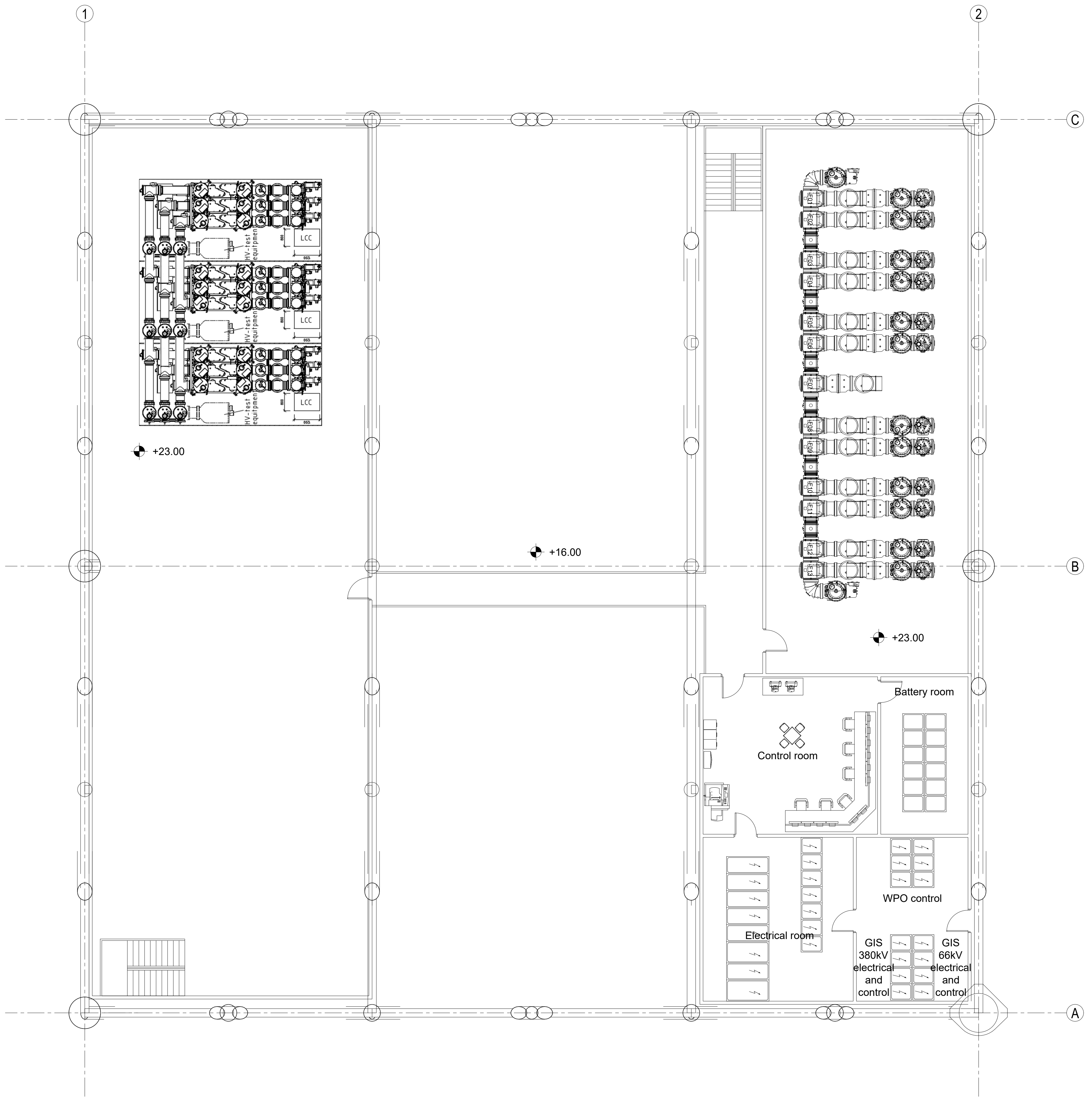
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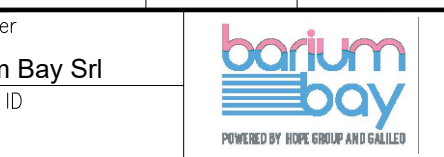


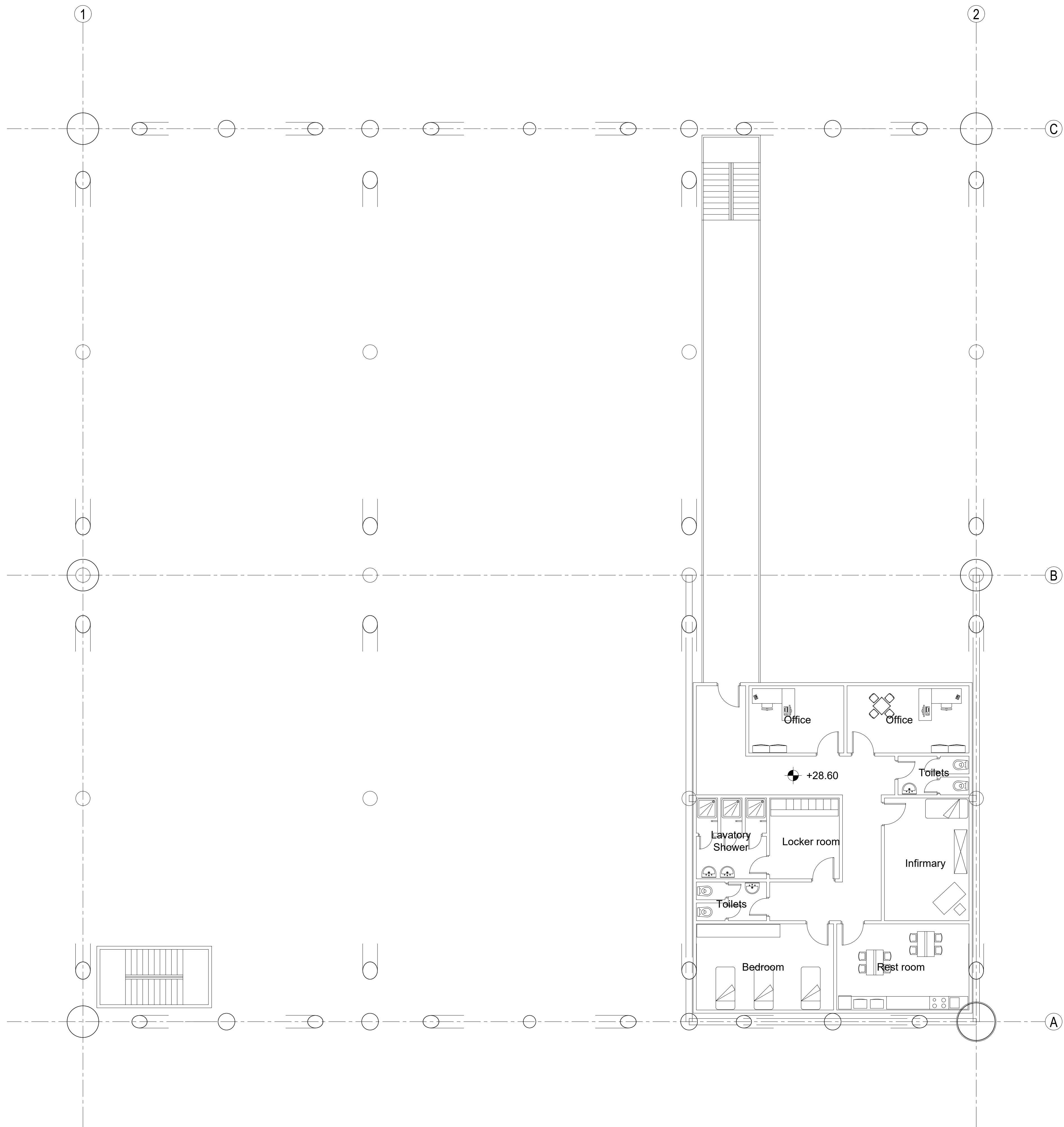


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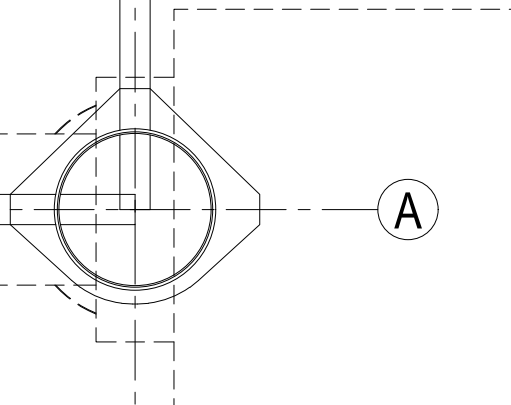
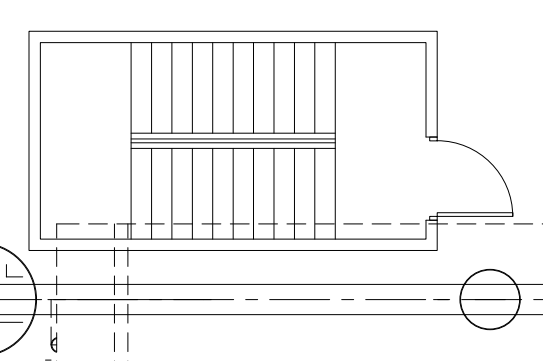
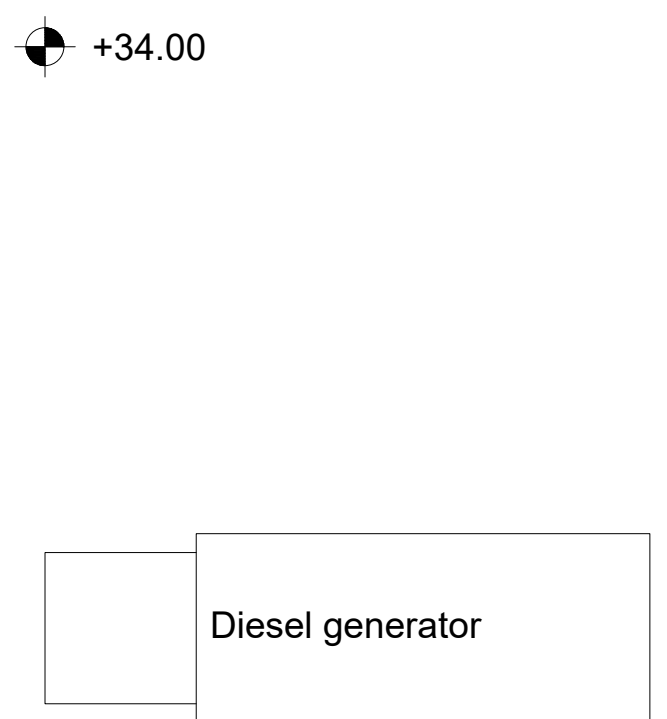
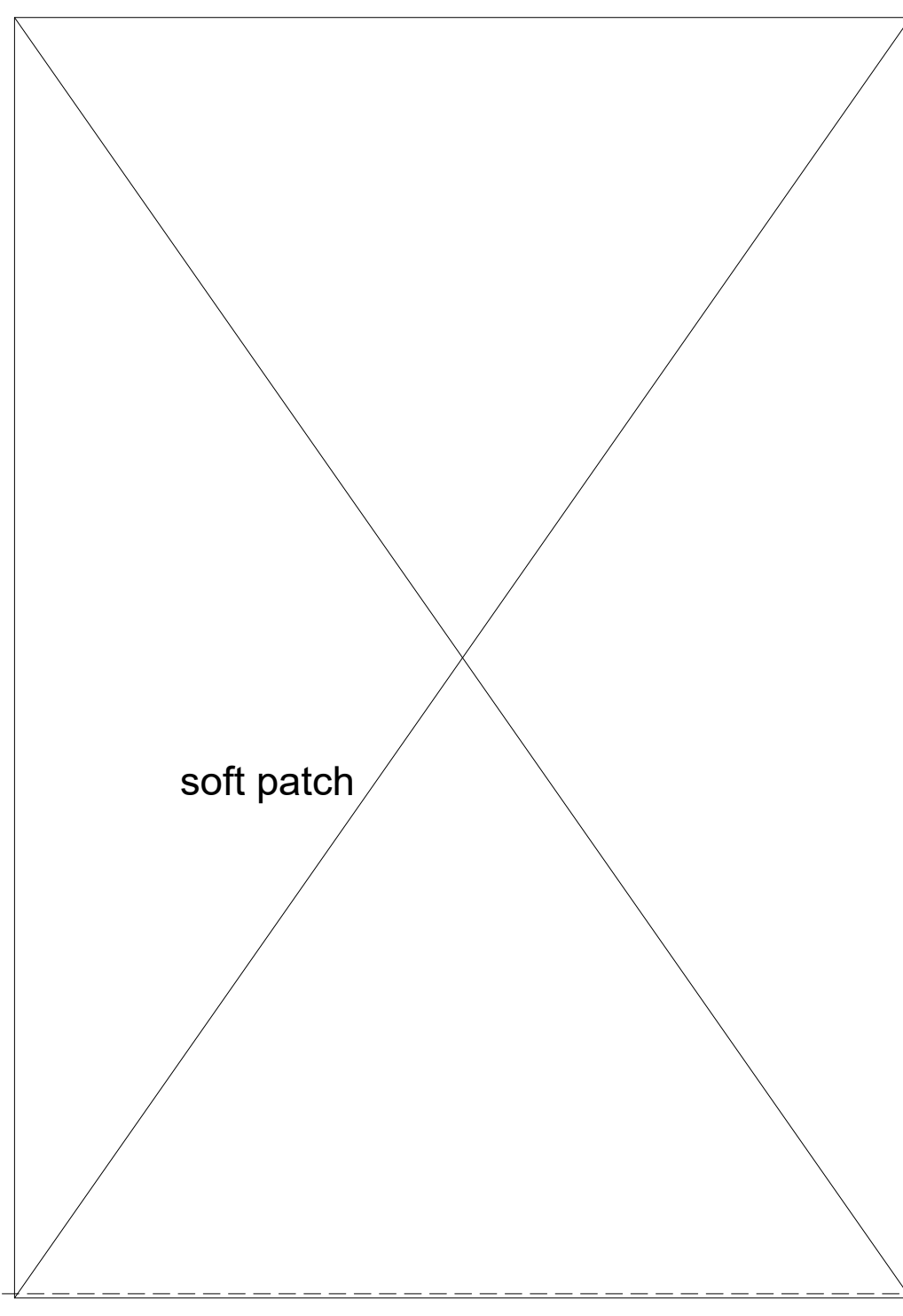
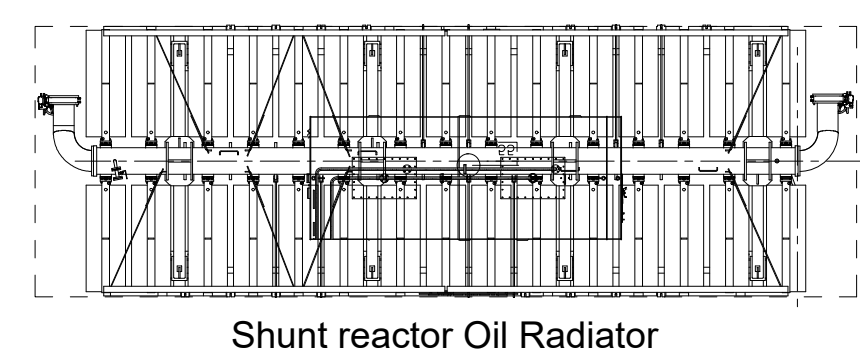
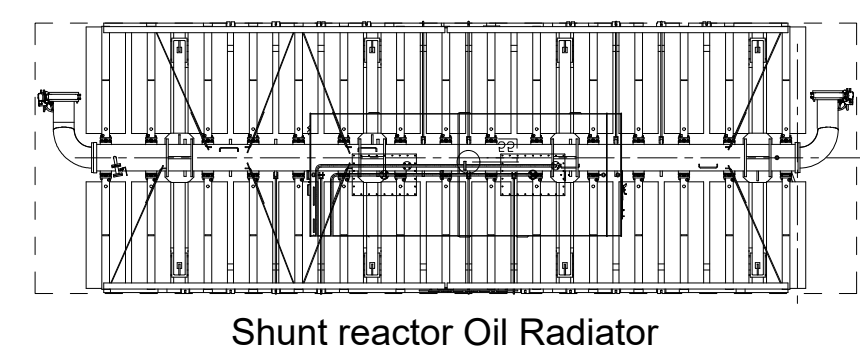
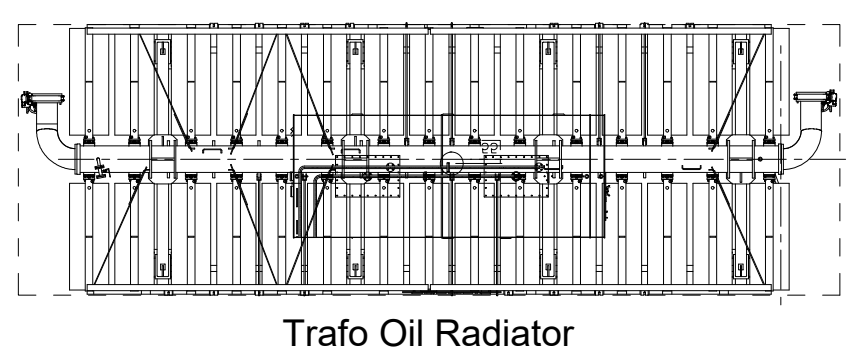
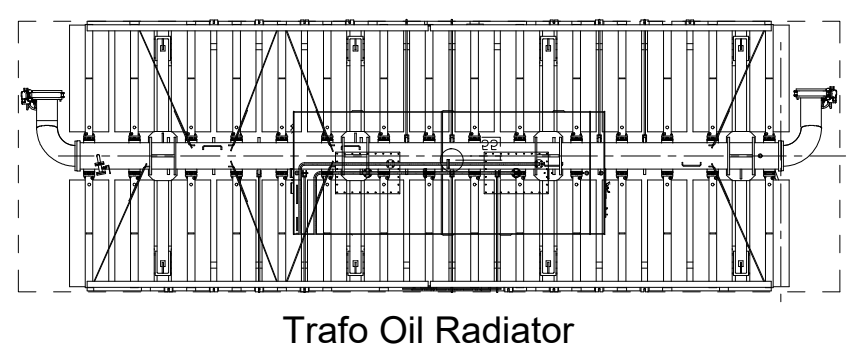
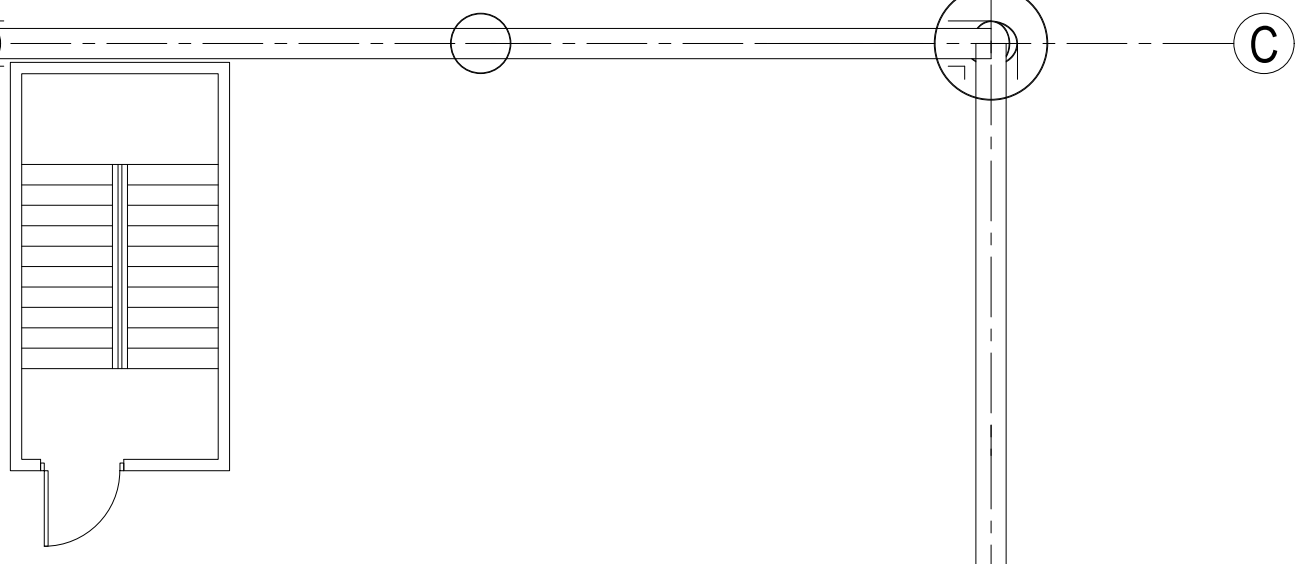
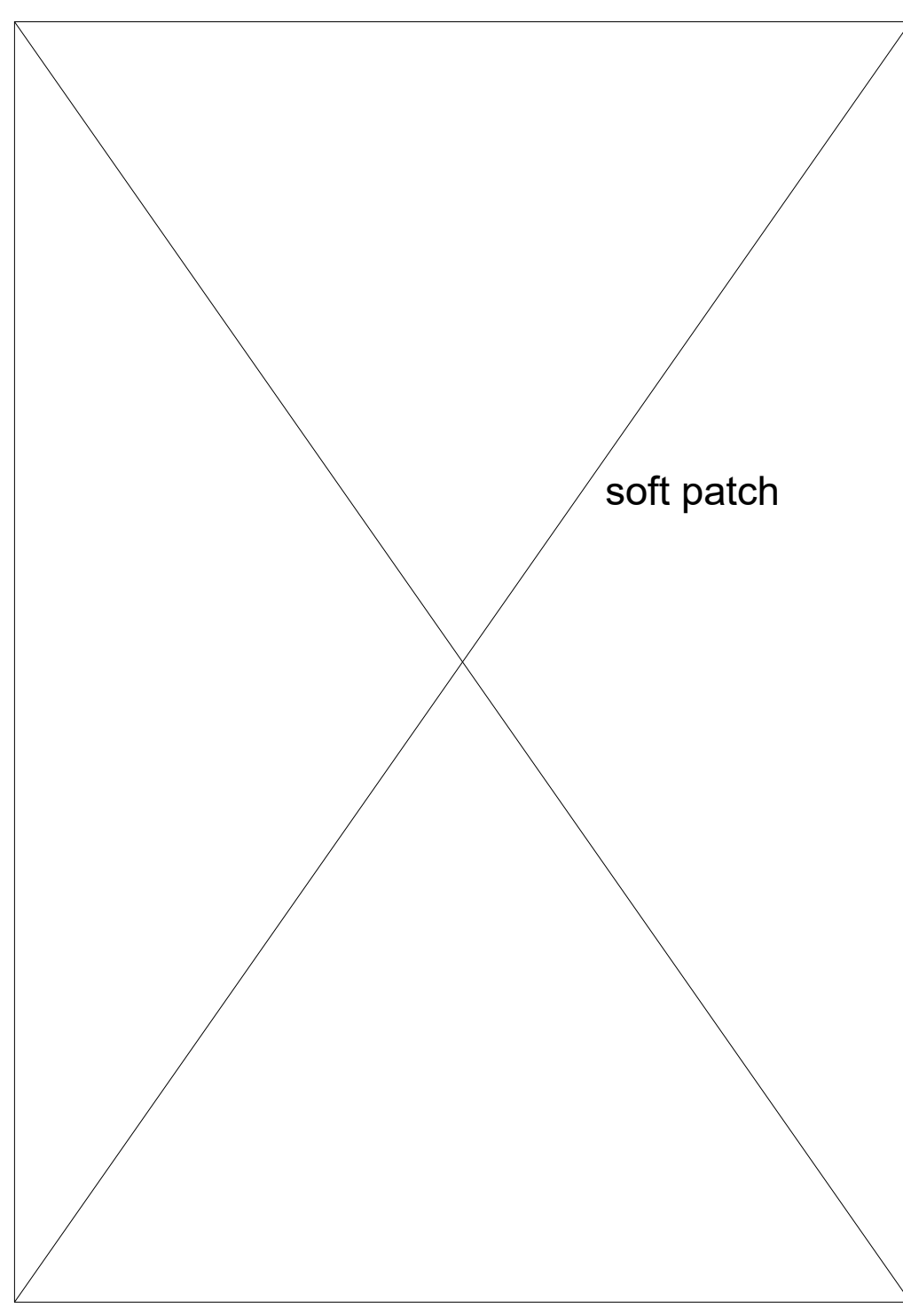
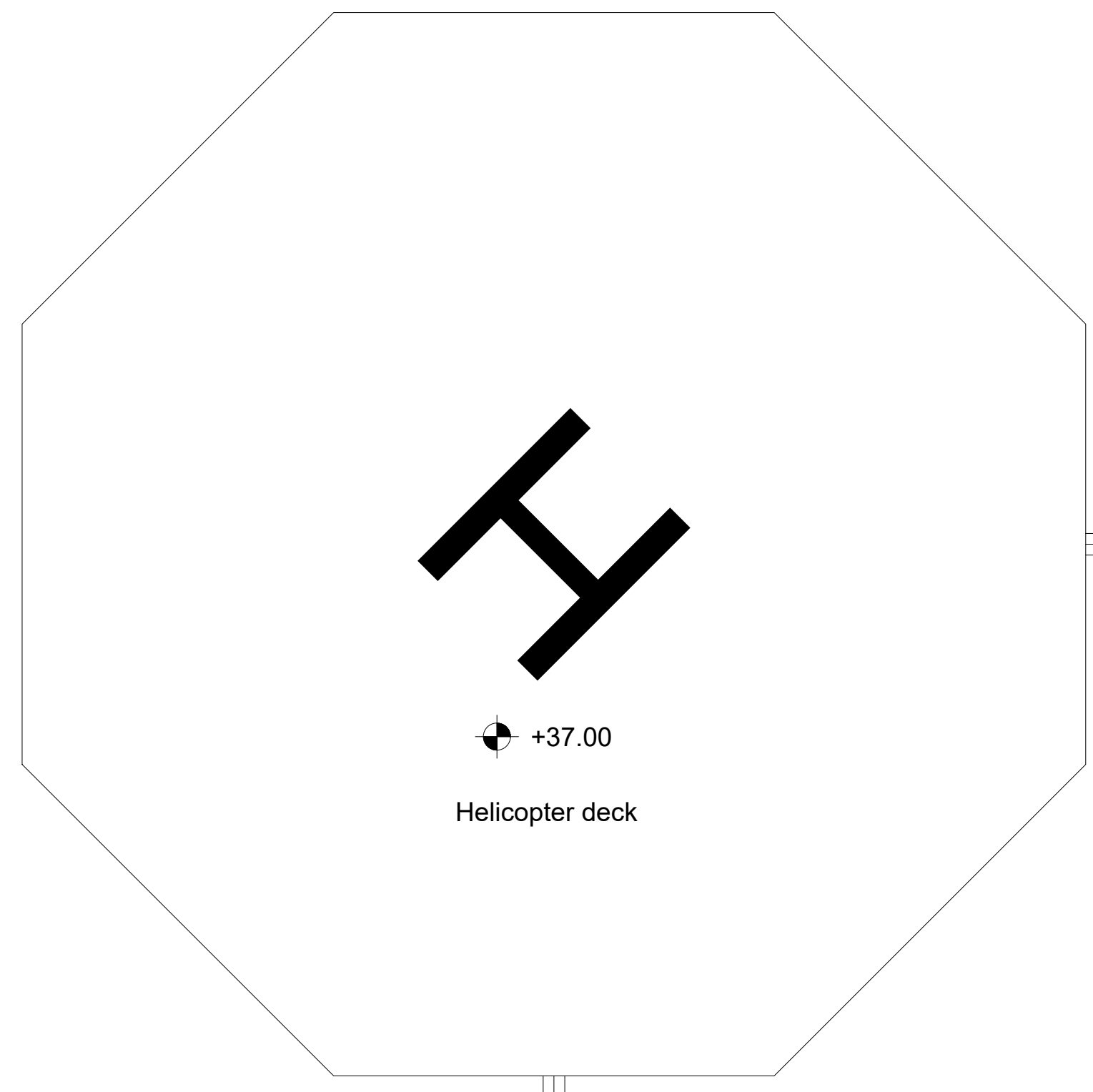
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Responsible Department -		Created by <b>Matteo Corbetta</b>	Checked by <b>Mauro Tavola</b>	Approved by <b>Mauro Tavola</b>	
Title <b>Layout Substation 2</b>		Document ID <b>12085-LDL-002</b>		Rev. <b>00</b>	Page <b>4/6</b>
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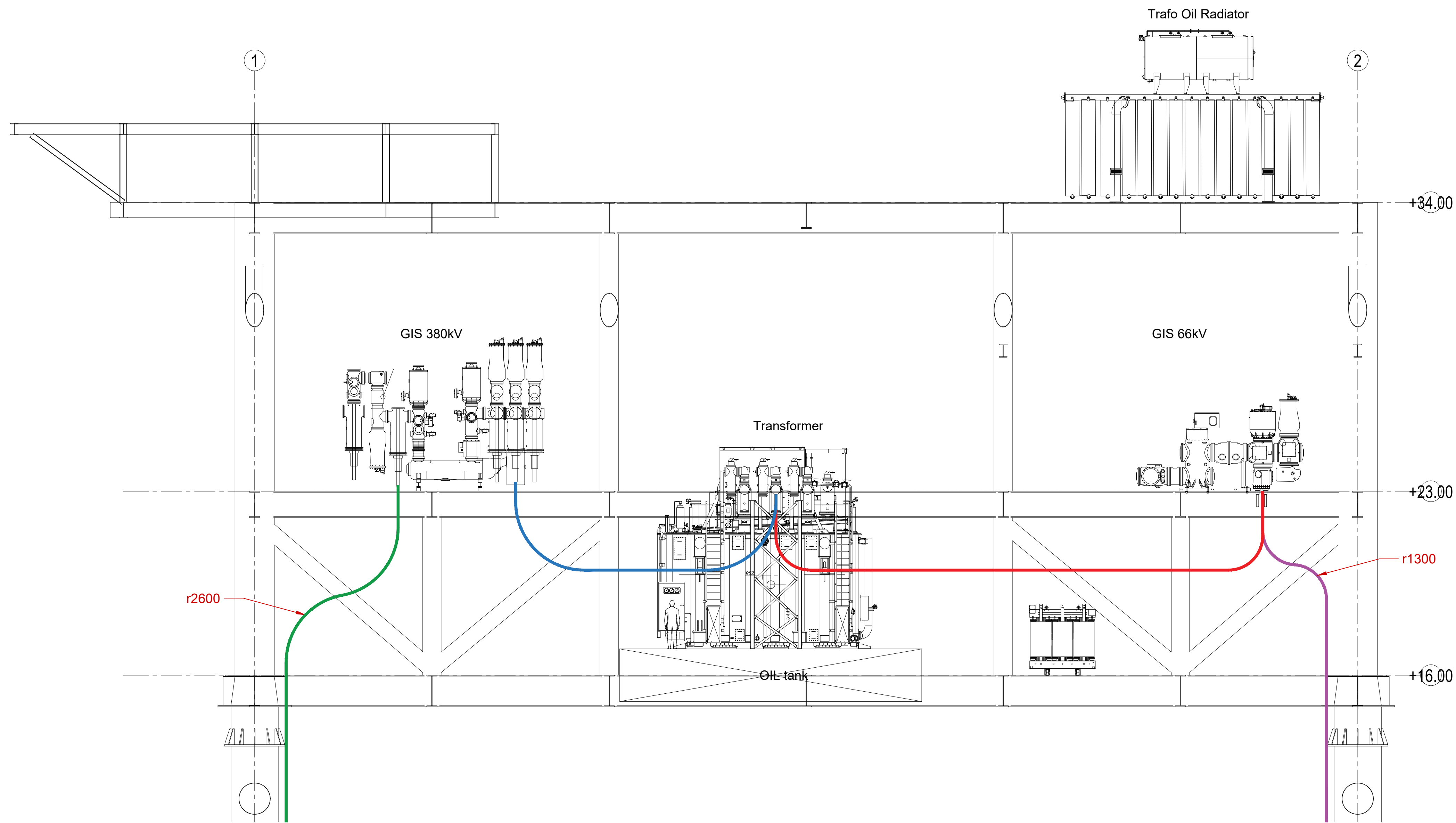
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-		Matteo Corbetta		Mauro Tavola	
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SECTION

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