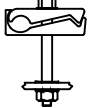
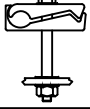
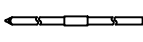
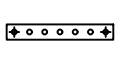
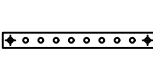


RANFSANJAN 230/33KV SUBSTATION

EARTHING SYSTEM DETAILS

REFERENCE							
REFERENCE. TITLE				REFERENCE. No.			
NOTES							
LEGEND							
KEY PLAN							
01	1404/11/30	IFR-ISSUE FOR REVIEW	H.S.	H.S.	EPC ENGINEERING MANAGER	EPC PROJECT MANAGER	
00	1404/10/28	IFR-ISSUE FOR REVIEW	H.S.	H.S.	EPC ENGINEERING MANAGER	EPC PROJECT MANAGER	
REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHECKED	APPROVED	
Client:			Consultant:				
 			 Monenco Iran				
			 MOHAM SHARGH CO.				
Project: RANFSANJAN 230/33KV SUBSTATION							
Title: EARTHING SYSTEM DETAILS COVER SHEET							
DOC NO.:		28P2-B-3MG-DWG-SUS-460001-EL-055				REV. A	
SCALE		SIZE		SHEET		FORMAT	
-		A3		1 OF 41			

EARTH JOINTS & ACCESSORIES			
ITEM	DESCRIPTION	FIGURE	CODE
1	ONE HOLE CABLE LUG SUITABLE FOR 185mm ² COPPER CONDUCTOR OR N2XSY CABLE (FOR CONNECTING CONDUCTOR TO EQUIPMENT), HOLE SIZE:ø=14mm		C01
2	TWO HOLE CABLE LUG SUITABLE FOR 185mm ² COPPER CONDUCTOR OR N2XSY CABLE (FOR CONNECTING CONDUCTOR ON STRUCTURE), HOLE SIZE:ø=14mm		C02
3	ONE HOLE CABLE LUG SUITABLE FOR 70mm ² COPPER CONDUCTOR OR N2XSY CABLE (FOR CONNECTING CONDUCTOR ON EQUIPMENT), HOLE SIZE:ø=14mm		C03
4	ONE HOLE CABLE LUG SUITABLE FOR 35mm ² COPPER CONDUCTOR OR N2XSY CABLE (FOR CONNECTING CONDUCTOR ON STRUCTURE), HOLE SIZE:ø=10mm		C04
5	TOWER EARTH CLAMP SUITABLE FOR 185mm ² COPPER CONDUCTOR (WITH BIMETAL WASHER) (FOR FIXING CONDUCTOR ON STRUCTURE)		T01
6	TOWER EARTH CLAMP SUITABLE FOR 35mm ² COPPER CONDUCTOR (WITH BIMETAL WASHER) (FOR FIXING CONDUCTOR ON STRUCTURE)		T02
7	WIRE CLIP SUITABLE FOR 185mm ² COPPER CONDUCTOR (FOR FIXING CONDUCTOR ON BRICK WALL)		T03
8	WIRE CLIP SUITABLE FOR 35mm ² COPPER CONDUCTOR (FOR FIXING CONDUCTOR ON BRICK WALL)		T04
9	CABLE SUPPORT CLAMP SUITABLE FOR 185mm ² N2XSY CABLE (FOR FIXING CABLE ON STRUCTURE)		S01
10	CABLE SUPPORT CLAMP SUITABLE FOR 70mm ² N2XSY CABLE (FOR FIXING CABLE ON STRUCTURE)		S02
11	COPPER CLAD STEEL EARTHING ROD (L=3m, ø=20mm)		G01
12	EARTHING EQUIPOTENTIAL MAT (1000*500*30 mm ³ , GALVANIZED STEEL) (FOR DS AND ES OPERATING MECHANISM)		G02
13	FLEXIBLE COPPER EARTH BOND (200*20*3 mm ³)		G03
14	EARTH PIT (WITHOUT EARTH BAR AND LV INSULATORS)		G04
15	350*40*5 mm ³ COPPER EARTH BAR WITH 2 LV INSULATOR		G05
16	500*40*5 mm ³ COPPER EARTH BAR WITH 2 LV INSULATOR		G06

REFERENCE							
REFERENCE. TITLE				REFERENCE. No.			
NOTES							
LEGEND							
KEY PLAN							

ITEM	DESCRIPTION	SYMBOL
1	SINGLE RISER FOR EARTHING STRUCTURE	
2	SINGLE RISER FOR EARTHING EQUIPMENT, FIXED ON STRUCTURE BY TOWER EARTH CLAMPS	

– THE MEANING OF DS, ES, OM & CC ARE AS FOLLOWS:

DS: DISCONNECTING SWITCH

ES: EARTHING SWITCH

OM: OPERATING MECHANISM

3C: CENTRAL CONTROL CUBICLE OF CIRCUIT BREAKER (CB)

NOTES:

1- PVC PIPE SHALL BE CONSIDERED EVERY WHERE EARTH CONDUCTOR CROSSES THE CABLE CHANNEL AND GALVANIZED STEEL PIPE EVERY WHERE IT CROSSES THE ROAD.

2- CALCULATED DISTANCE BETWEEN PARALLEL EARTH GRID CONDUCTORS IS 6 m.

3- BURYING DEPTH OF EARTH GRID CONDUCTOR IS 0.6 m BELOW FINISHED EARTH LEVEL (IN ACCORDANCE WITH EARTHING SYSTEM CALCULATIONS).

4- ALL CONNECTIONS BETWEEN GRID CONDUCTORS AND BETWEEN GRID CONDUCTOR & RISER SHALL BE MADE BY EXOTHERMIC WELDING.

5- FOR CABLE CHANNELS WHICH HAVE LADDERS/TRAYS, AT EVERY 15 METERS PVC PIPE SHALL BE CONSIDERED FOR LADDER/TRAY EARTHING.

6- MINIMUM DISTANCE BETWEEN EARTH RODS SHALL BE 3 METERS.

7- BIMETAL WASHERS SHALL BE CONSIDERED FOR MOUNTING BRASS CLAMPS ON STEEL STRUCTURES.

8- CONNECTING CABLE LUGS TO RISER CONDUCTORS SHALL BE MADE BY PRESSING.

9- MINIMUM THICKNESS OF SURFACE LAYER SHALL BE 0.15 m FOR GRAVEL AND 0.05 m FOR ASPHALT.

10-ALL EARTHING RODS SHALL BE MADE OF COPPER CLAD STEEL.

11-ALL STEEL BOLTS, SCREWS, NUTS AND WASHERS SHALL BE HOT DIP GALVANIZED.

12-SUBSTATION BARBED WIRES SHALL BE EARTHED AT INTERVALS LESS THAN 30 METERS, ESPECIALLY IMMEDIATELY BELOW ANY OVERHEAD LINE ENTERING THE SUBSTATION.

13-TOWER EARTH CLAMPS SHALL BE INSTALLED ON RELATED STRUCTURES AT INTERVALS ABOUT 1 METER.

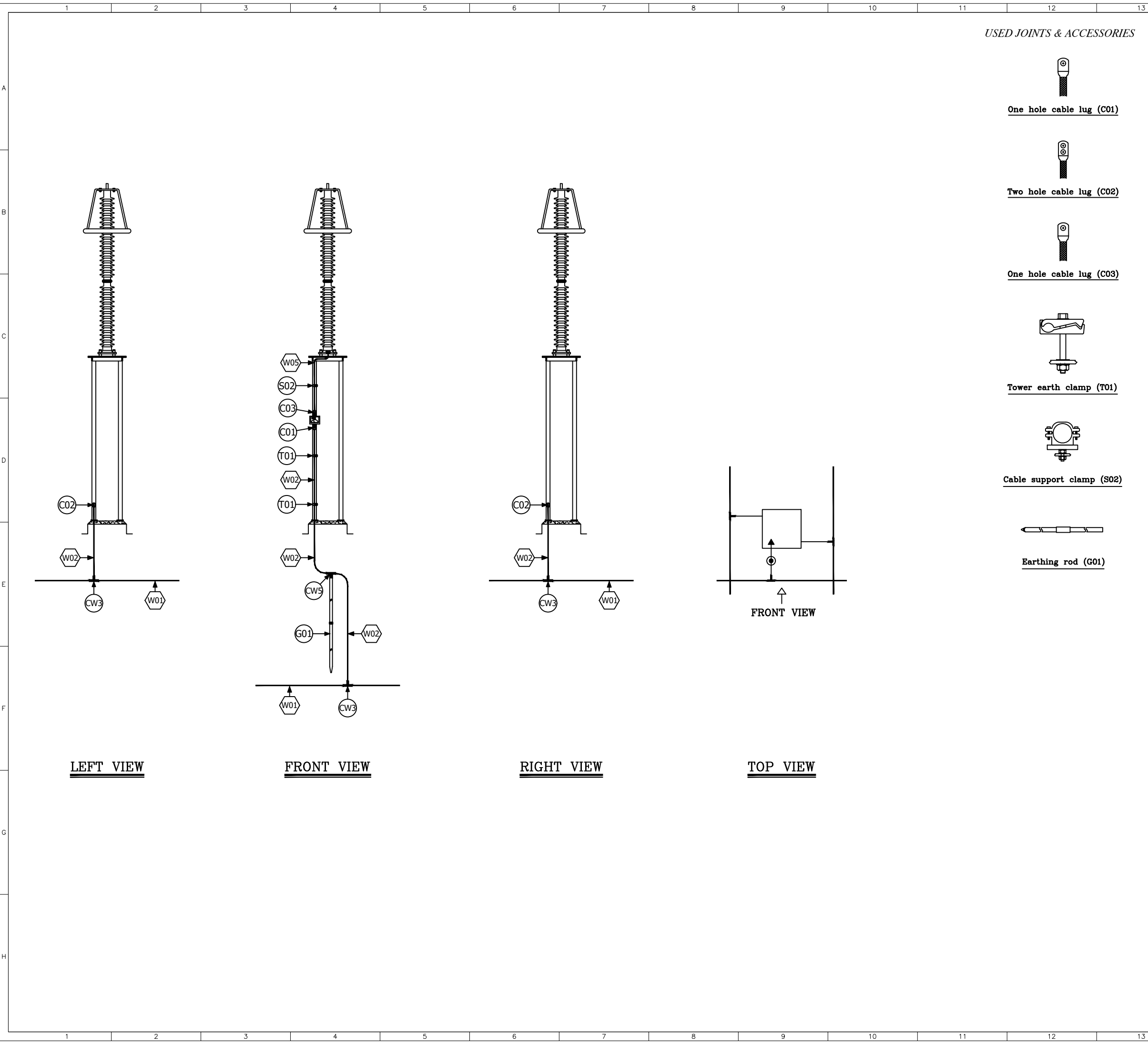
14-COLUMNS OF EACH BUILDING STRUCTURE SHALL BE CONNECTED TO EARTH GRID THROUGH SEPARATE RISERS, AT INTERVALS LESS THAN 20 METERS (AT LEAST 4 COLUMNS).

15-FOUNDATION OF POWER TRANSFORMER & FIRE WALL SHALL BE CONNECTED TO EARTH GRID THROUGH SEPARATE RISERS.

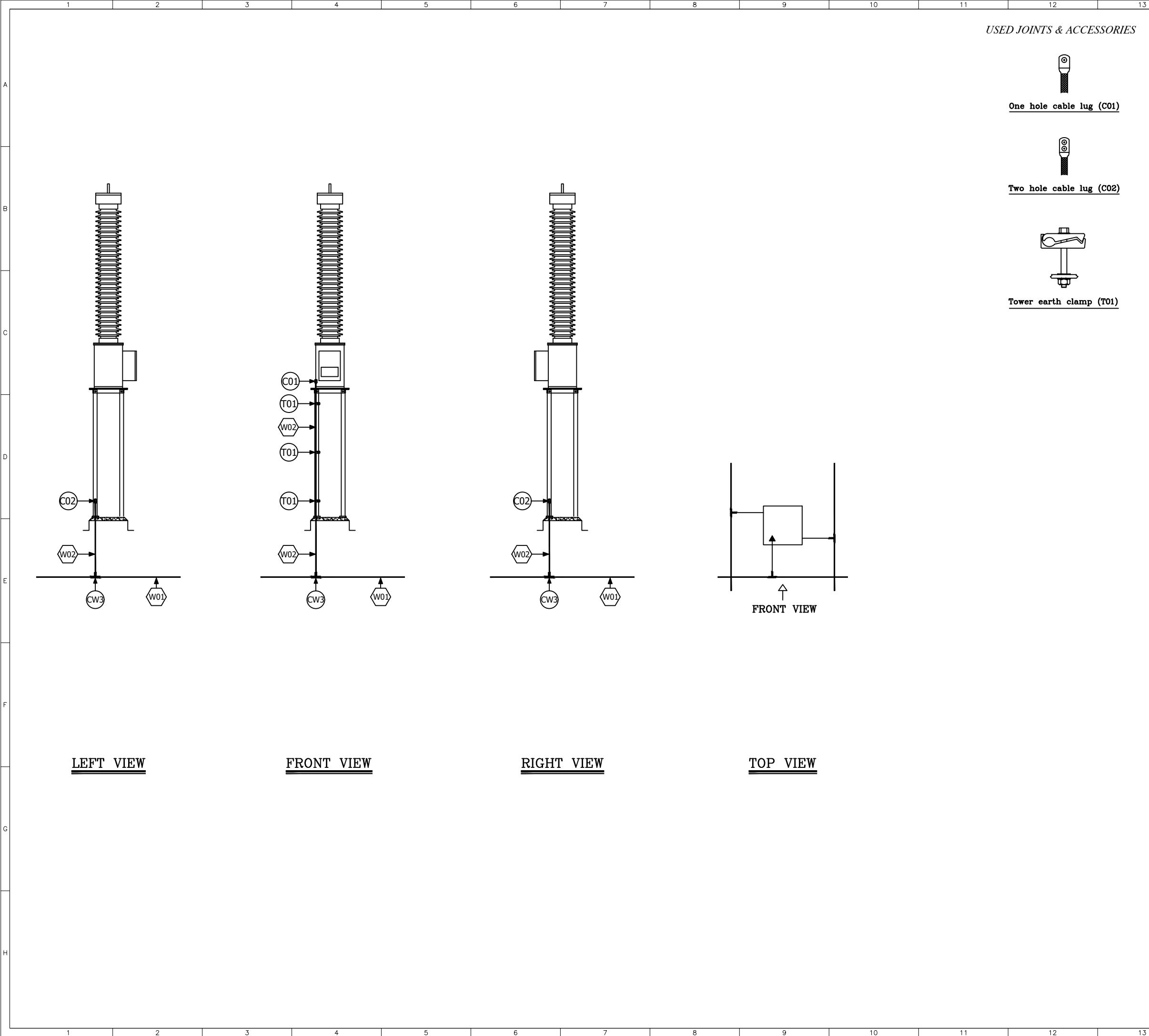
16-SCREEN & ARMOUR OF MV CABLES SHALL BE EARTHED ONLY AT ONE SIDE (IN CABLE BOX OF POWER TRANSFORMER).

17-AFTER COMPLETION OF EARTHING SYSTEM INSTALLATION (INCLUDING EQUI-POTENTIAL BONDING OF FOUNDATIONS), IF MEASURED VALUE OF TOTAL RESISTANCE OF EARTHING SYSTEM IS GREATER THAN 0.2 OHM, ADEQUATE NUMBER OF EARTH WELLS (WITH 500*500*5mm PLATE ELECTRODE & EARTH RESISTANCE LESS THAN 1 OHM, FOR EACH) SHOULD BE ADDED TO SUBSTATION EARTHING SYSTEM AT SUITABLE LOCATIONS, TO LOWER TOTAL RESISTANCE OF EARTHING SYSTEM TO 0.2 OHM OR LESS.

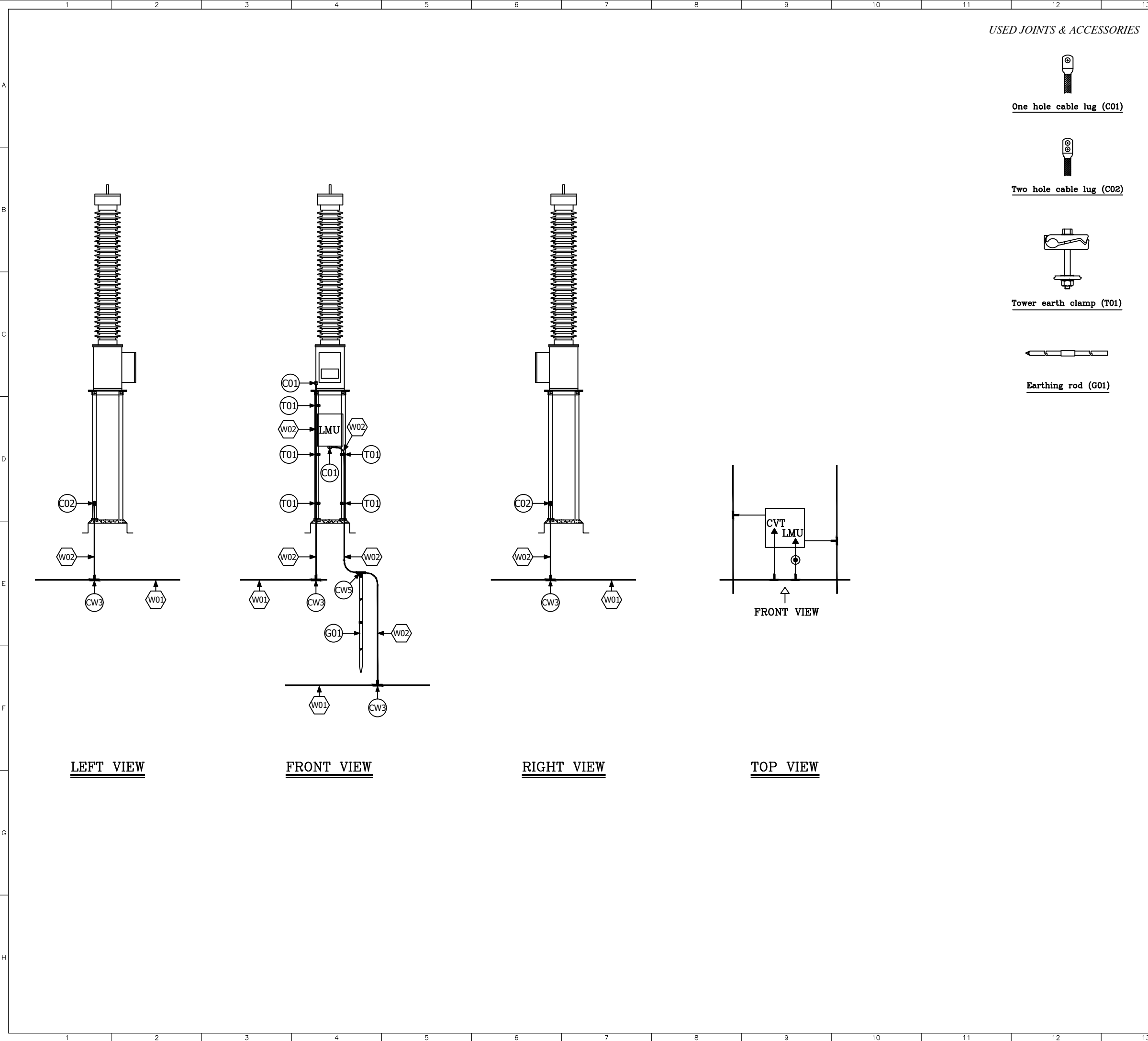
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REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHECKED	APPROVED	
Client:			Consultant:				
			 مولىنكو ايران Monenco Iran				
			Contractor:  MOHAM SHARGH CO.		Sub Contractor:		
Project: RANFSANJAN 230/33KV SUBSTATION							
Title: EARTHING SYSTEM DETAILS SYMBOLS & NOTES							
DOC NO.:		28P2-B-3MG-DWG-SUS-460001-EL-055				REV. A	
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REFERENCE							
REFERENCE. TITLE				REFERENCE. No.			
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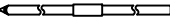


USED JOINTS & ACCESSORIES

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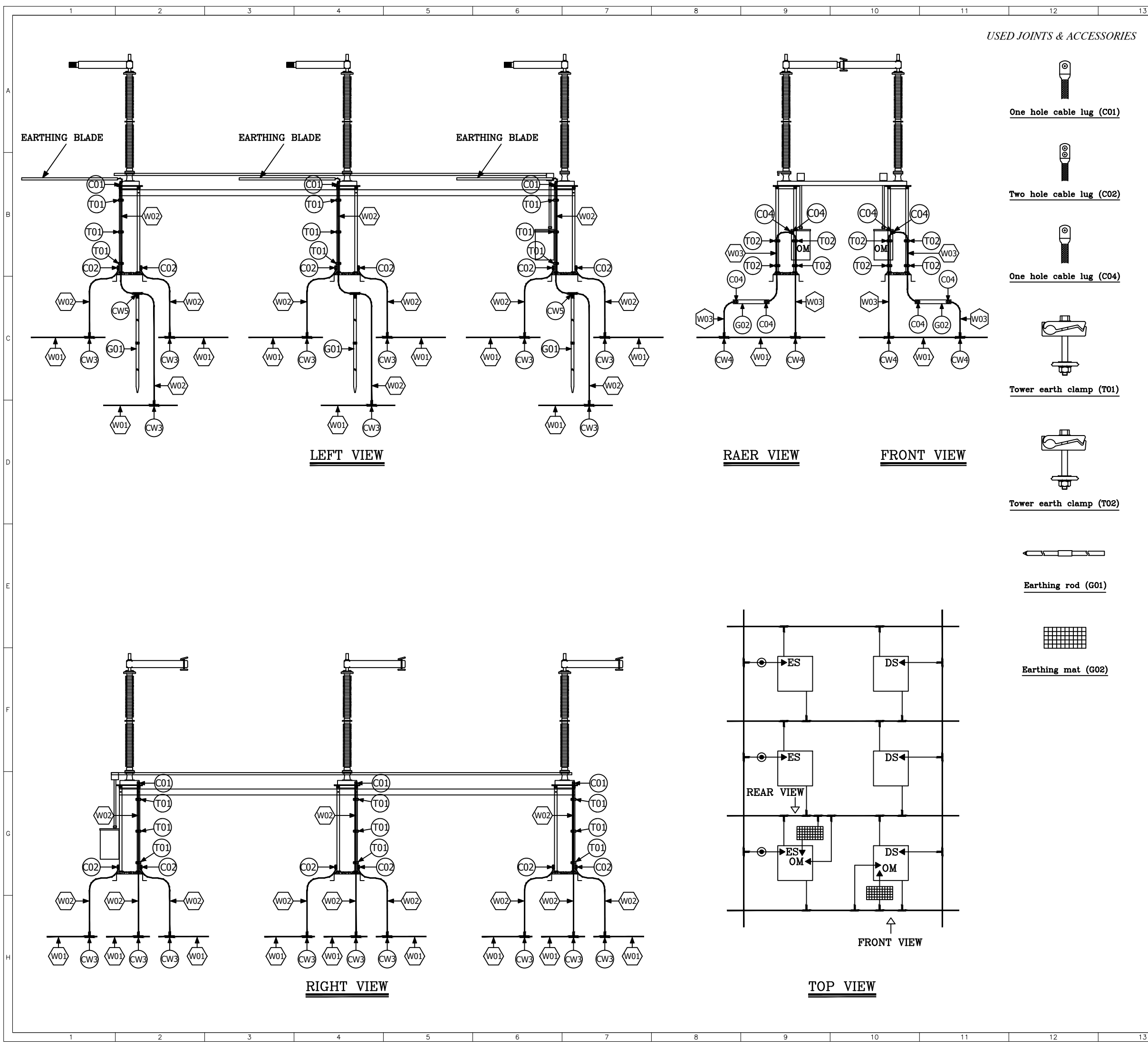
One hole cable lug (C01)
- 

Two hole cable lug (C02)
- 

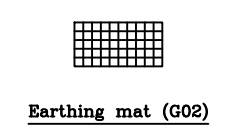
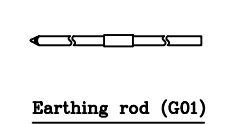
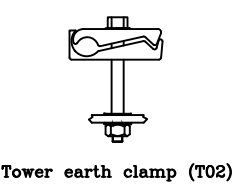
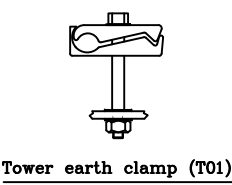
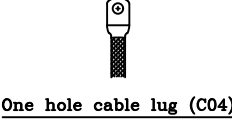
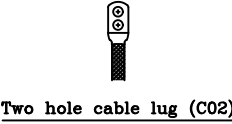
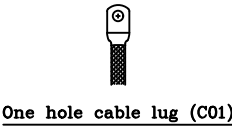
Tower earth clamp (T01)
- 

Earthing rod (G01)

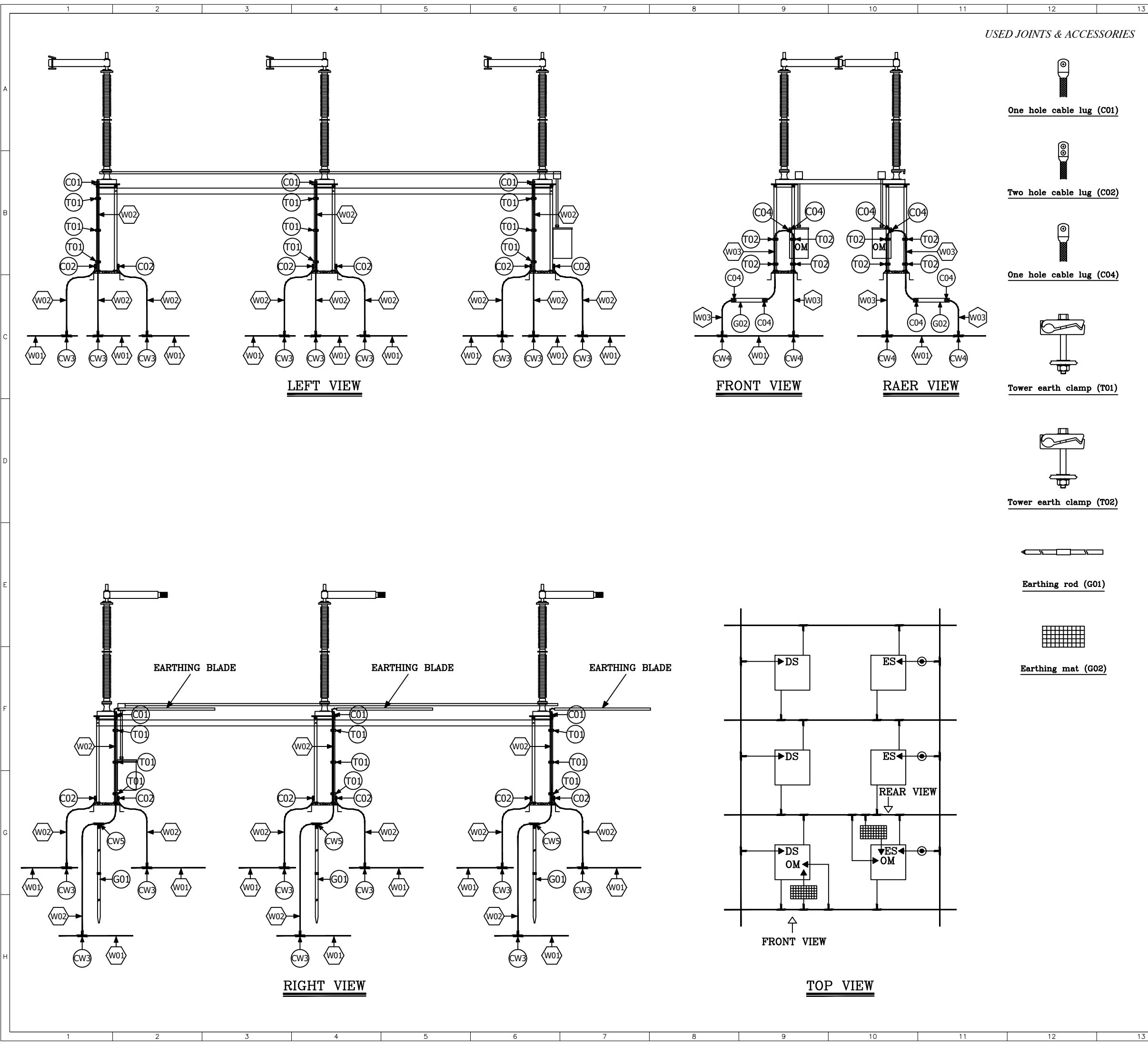
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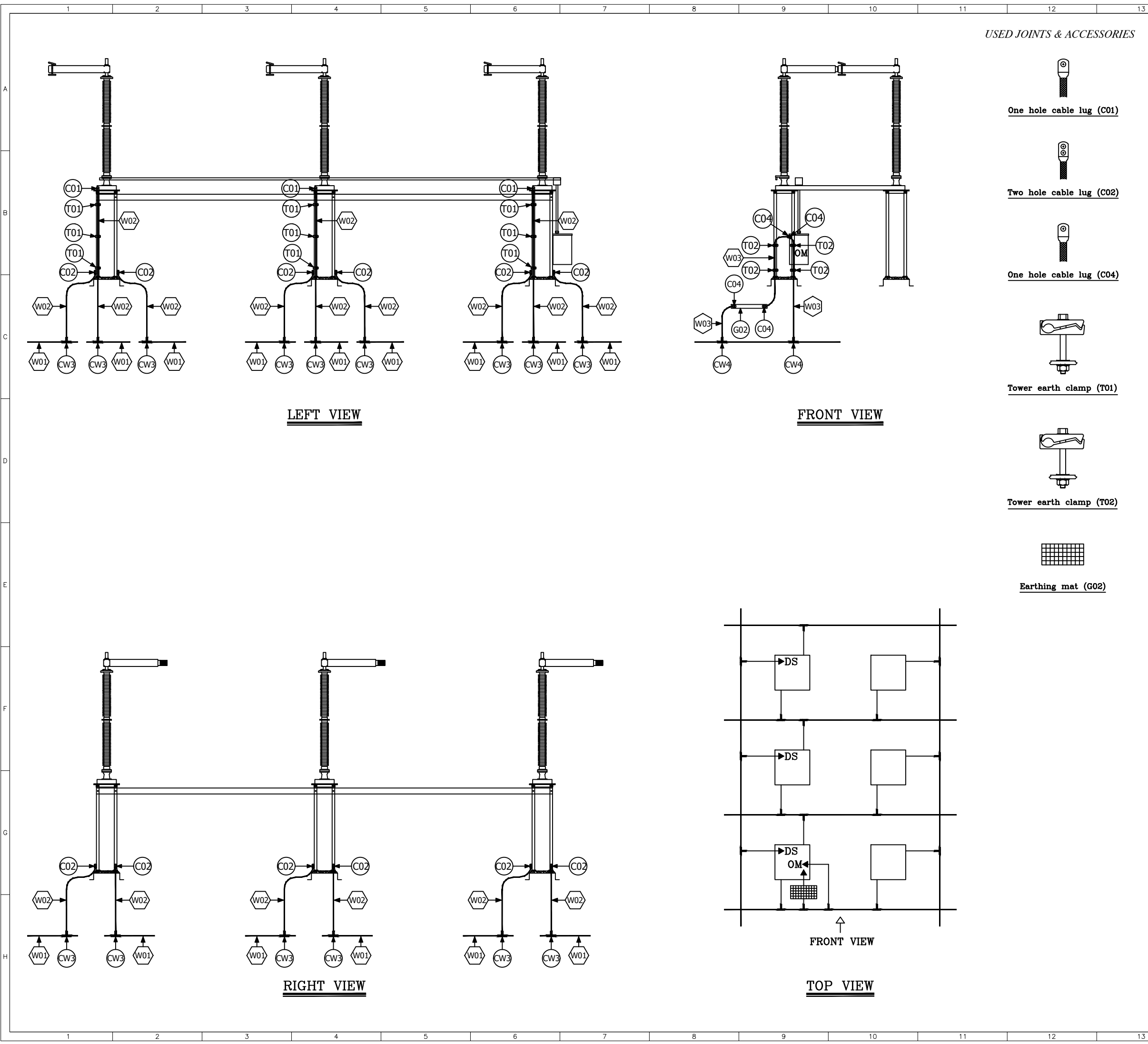
USED JOINTS & ACCESSORIES



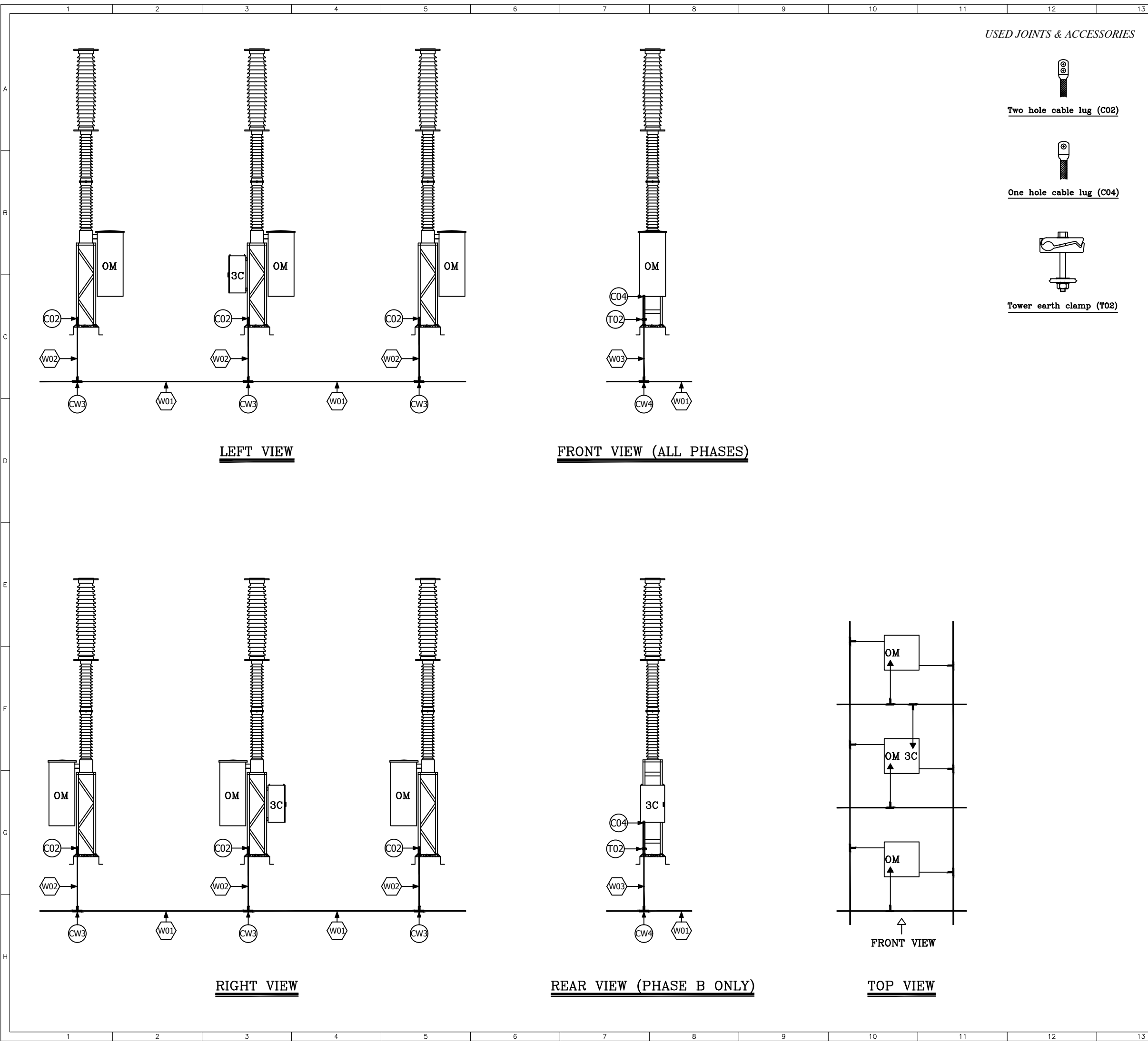
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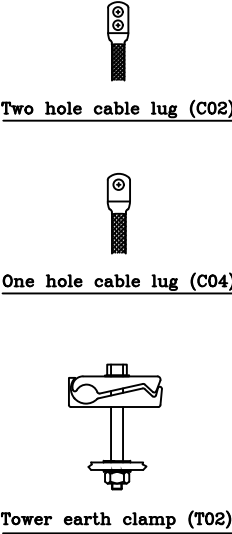
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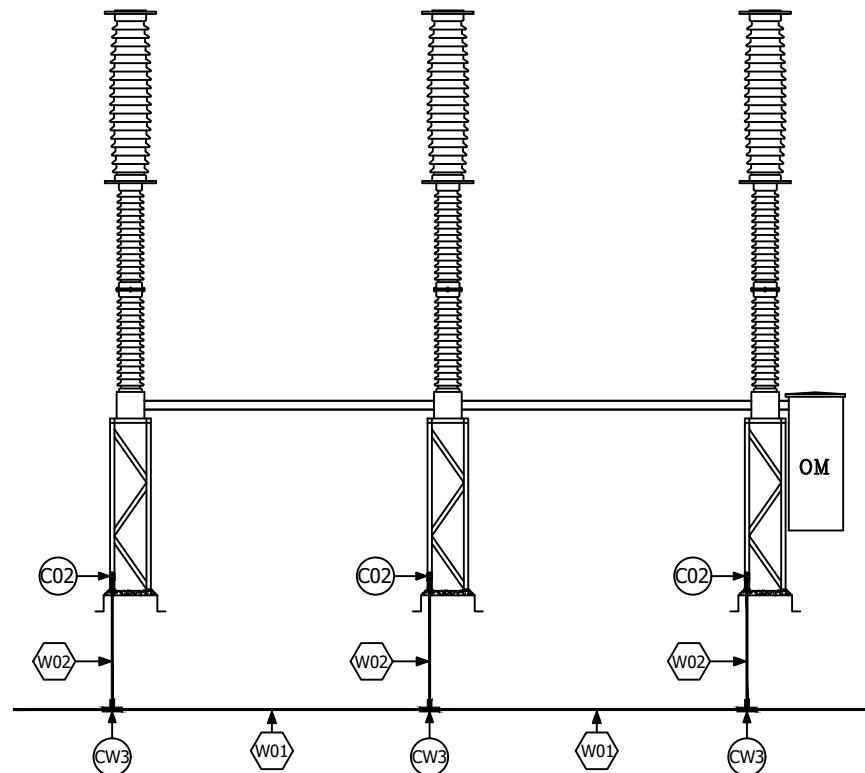
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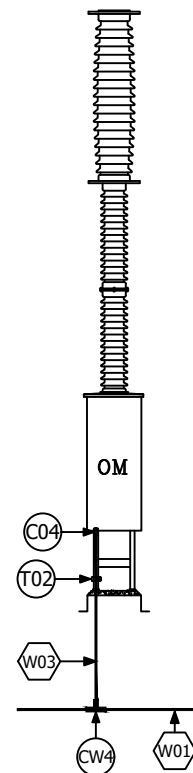
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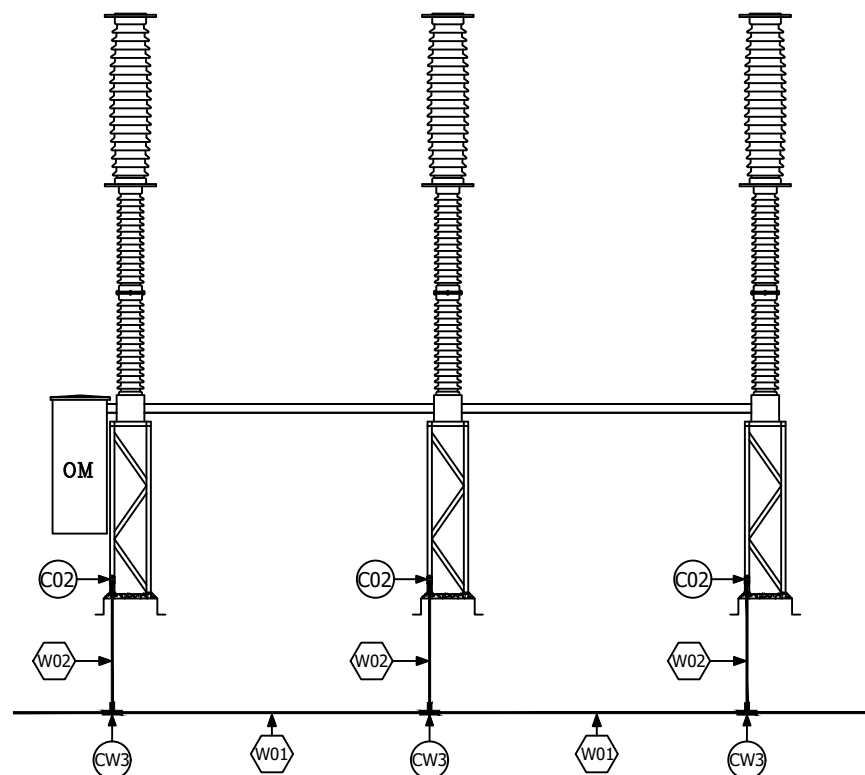
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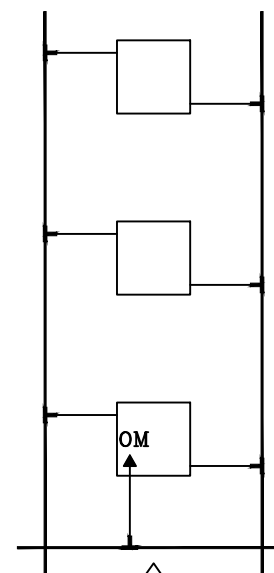
LEFT VIEW



FRONT VIEW



RIGHT VIEW



FRONT VIEW

TOP VIEW

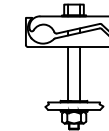
USED JOINTS & ACCESSORIES



Two hole cable lug (C02)

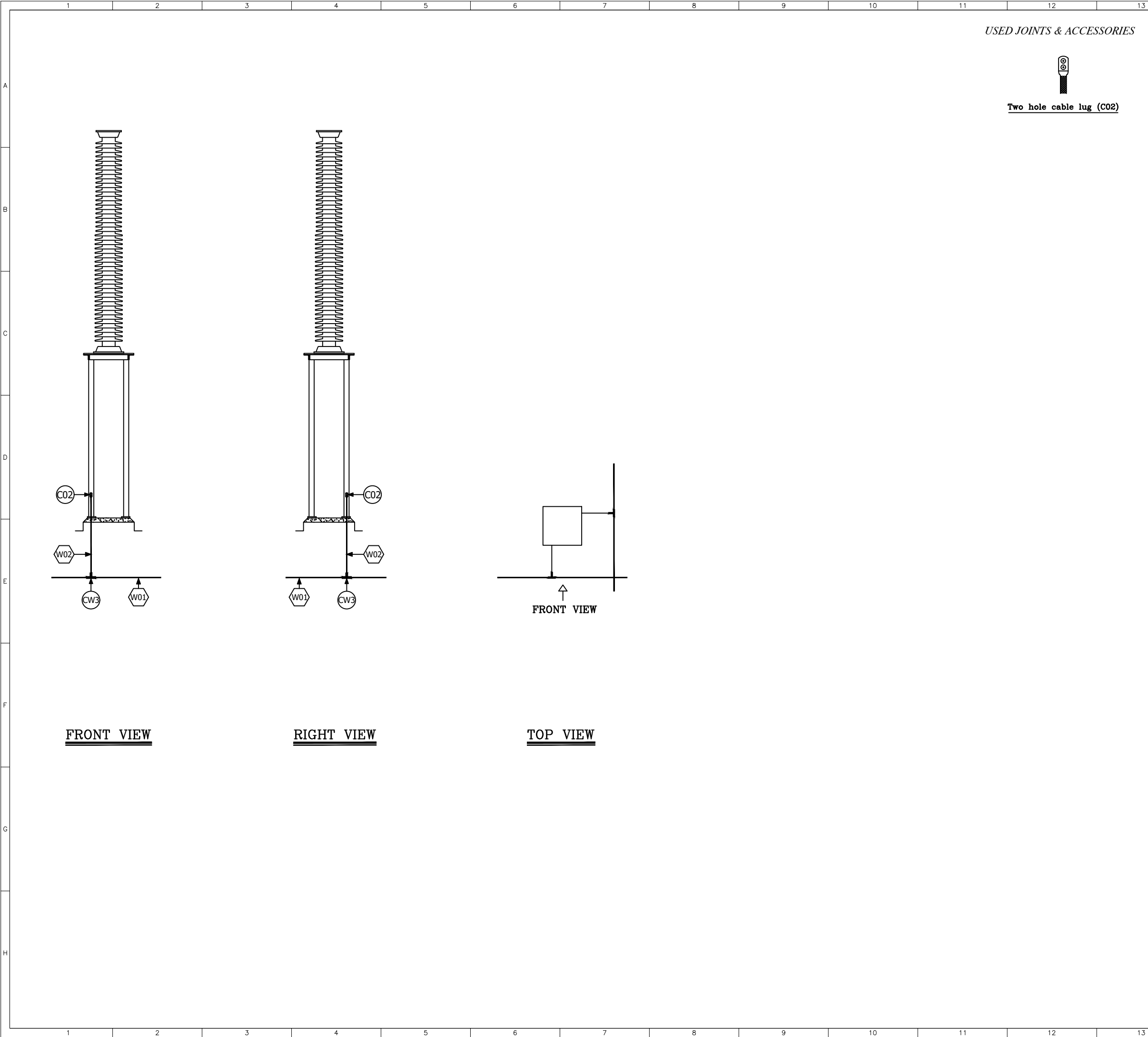


One hole cable lug (C04)



Tower earth clamp (T02)

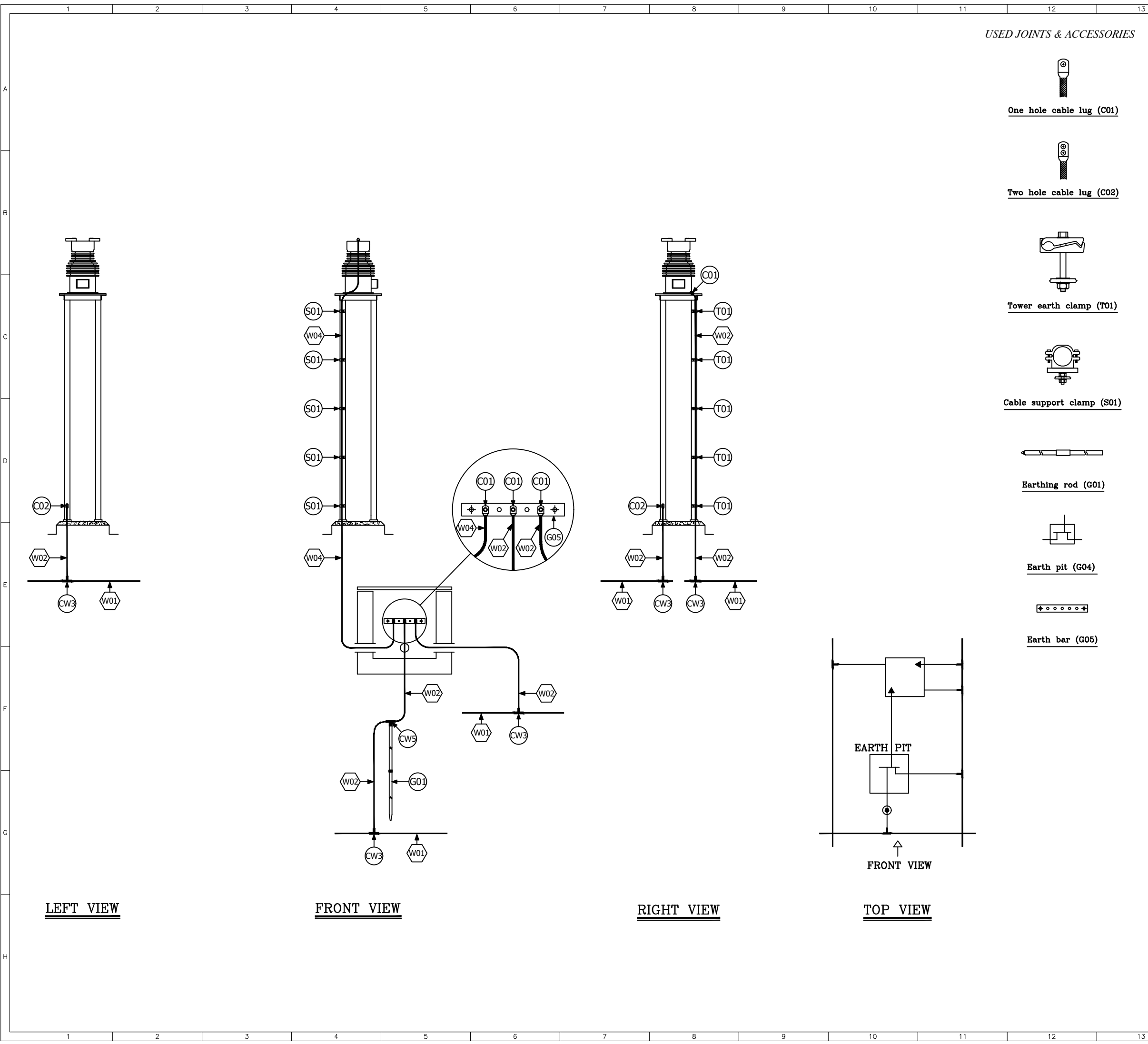
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00	1404/10/28	IFR-ISSUE FOR REVIEW	H.S.	H.S.	EPC ENGINEERING MANAGER	EPC PROJECT MANAGER	
REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHECKED	APPROVED	
Client:			Consultant:				
 NICICO			 موندنکو ایران Monenco Iran				
			Contractor:			Sub Contractor:	
			 MOHAM SHARGH CO.				
Project: RANFSANJAN 230/33KV SUBSTATION							
Title: EARTHING SYSTEM DETAILS 230kV CB (3 POLE) EARTHING DETAILS							
DOC NO.:		28P2-B-3MG-DWG-SUS-460001-EL-055				REV.	
						A	
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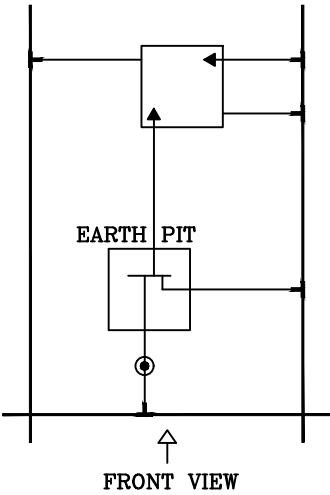
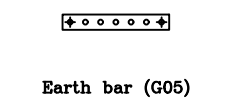
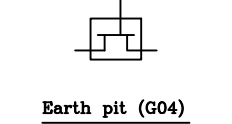
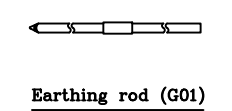
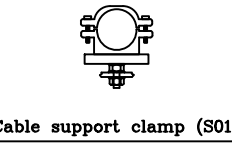
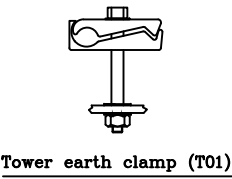
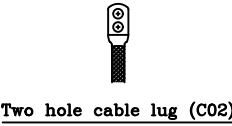
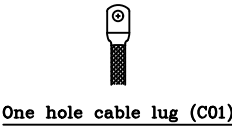
USED JOINTS & ACCESSORIES

Two hole cable lug (C02)

REFERENCE							
REFERENCE. TITLE				REFERENCE. No.			
NOTES							
LEGEND							
KEY PLAN							



USED JOINTS & ACCESSORIES



FRONT VIEW

TOP VIEW

REFERENCE

REFERENCE. TITLE REFERENCE. No.

NOTES

LEGEND

KEY PLAN

01	1404/11/30	IFR-ISSUE FOR REVIEW	H.S.	H.S.	EPC ENGINEERING MANAGER	EPC PROJECT MANAGER
00	1404/10/28	IFR-ISSUE FOR REVIEW	H.S.	H.S.	EPC ENGINEERING MANAGER	EPC PROJECT MANAGER
REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHECKED	APPROVED

Client:



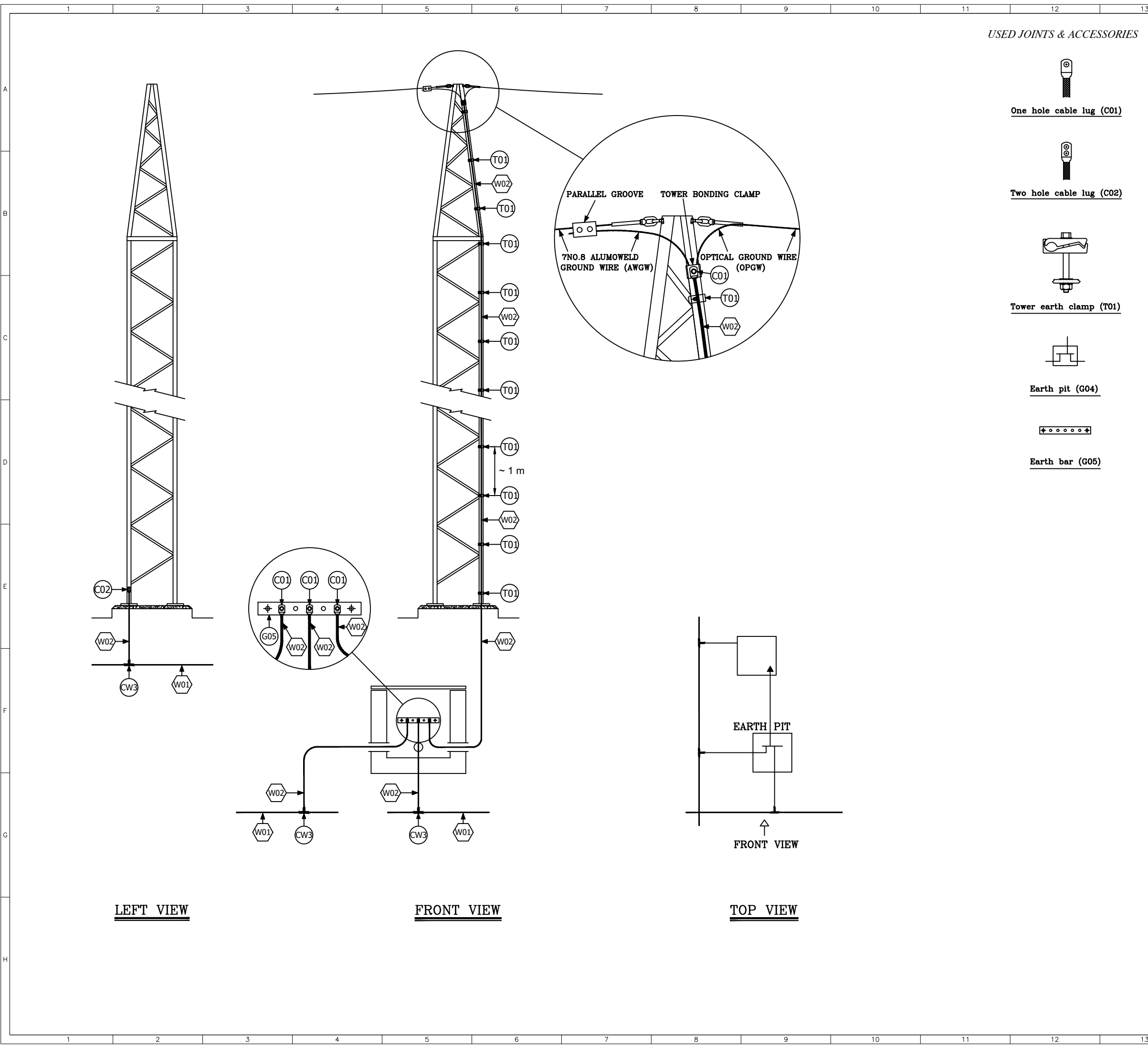
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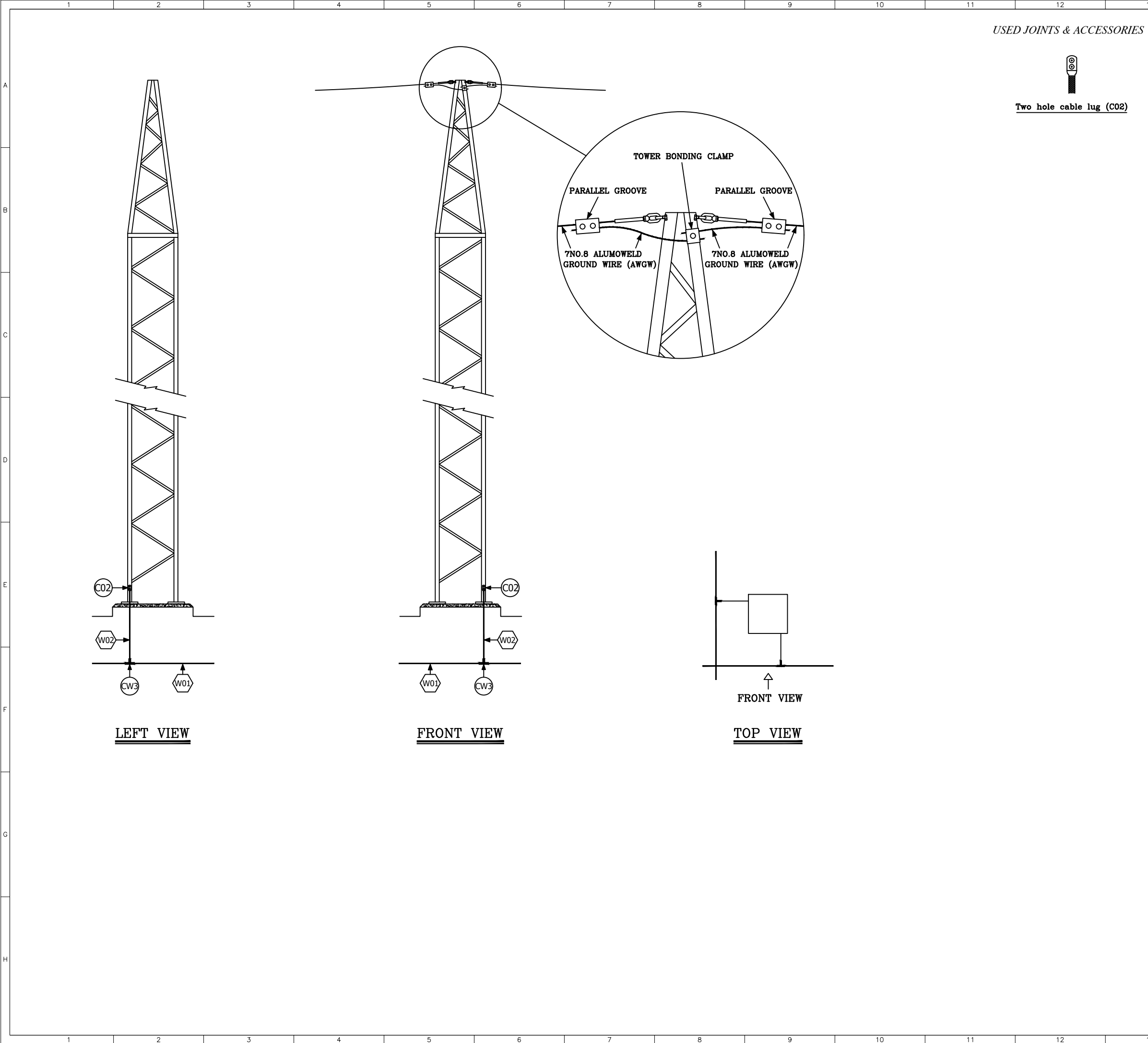
RANFSANJAN 230/33KV SUBSTATION

EARTHING SYSTEM DETAILS
230kV SIDE NCT EARTHING DETAILS

DOC NO.:	28P2-B-3MG-DWG-SUS-460001-EL-055	REV.	A
SCALE	SIZE	SHEET	FORMAT
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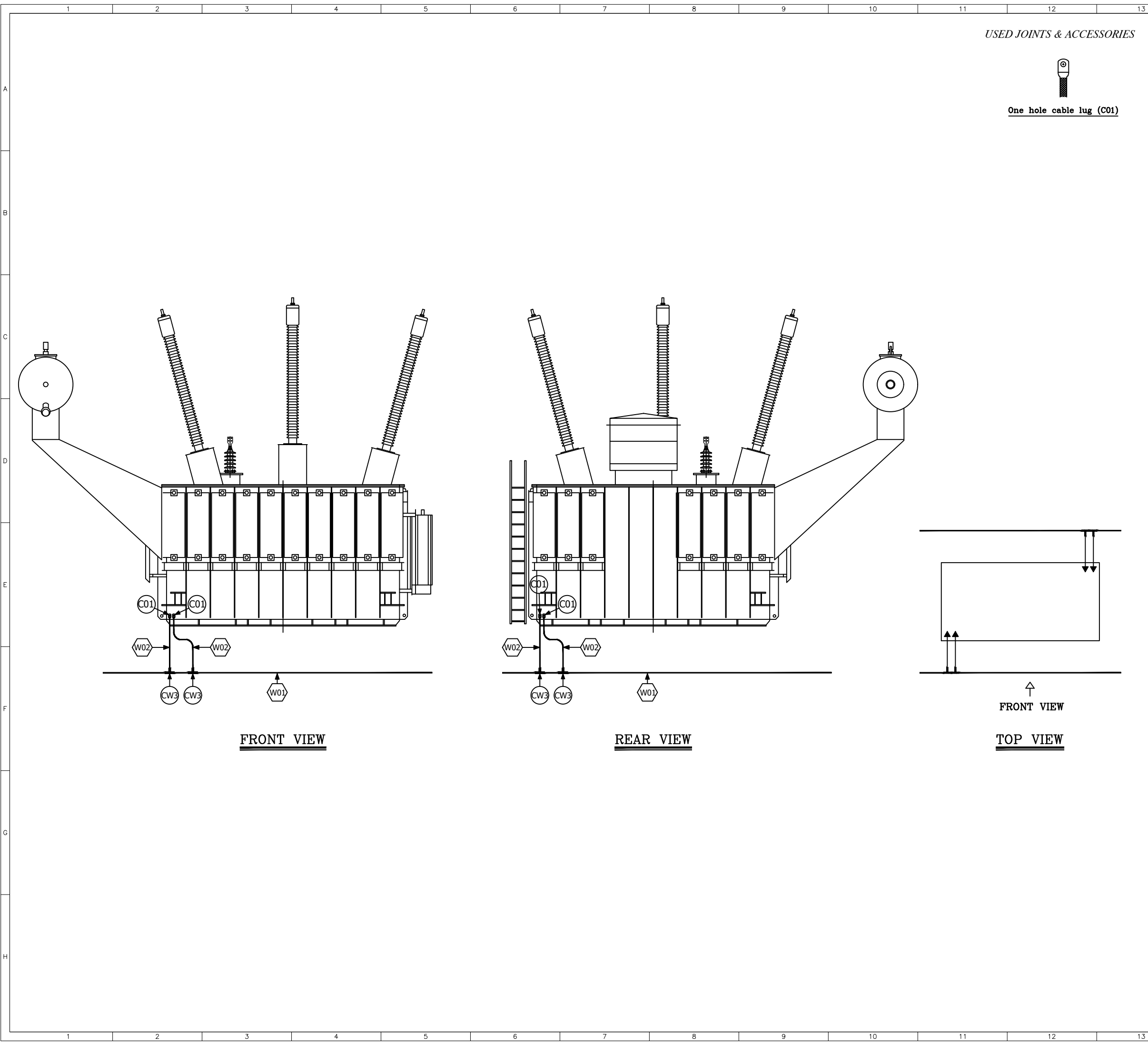
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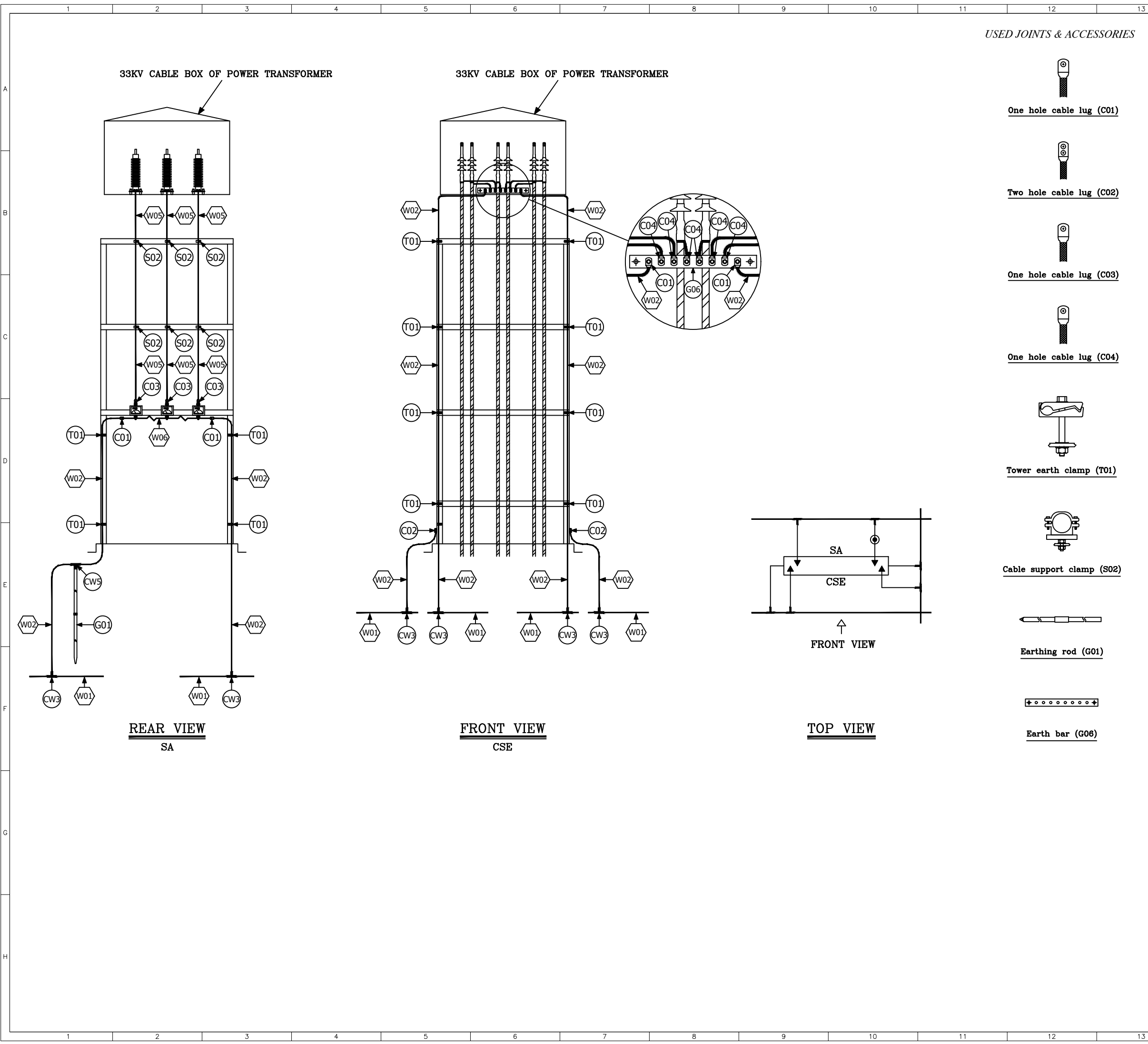
USED JOINTS & ACCESSORIES

Two hole cable lug (C02)

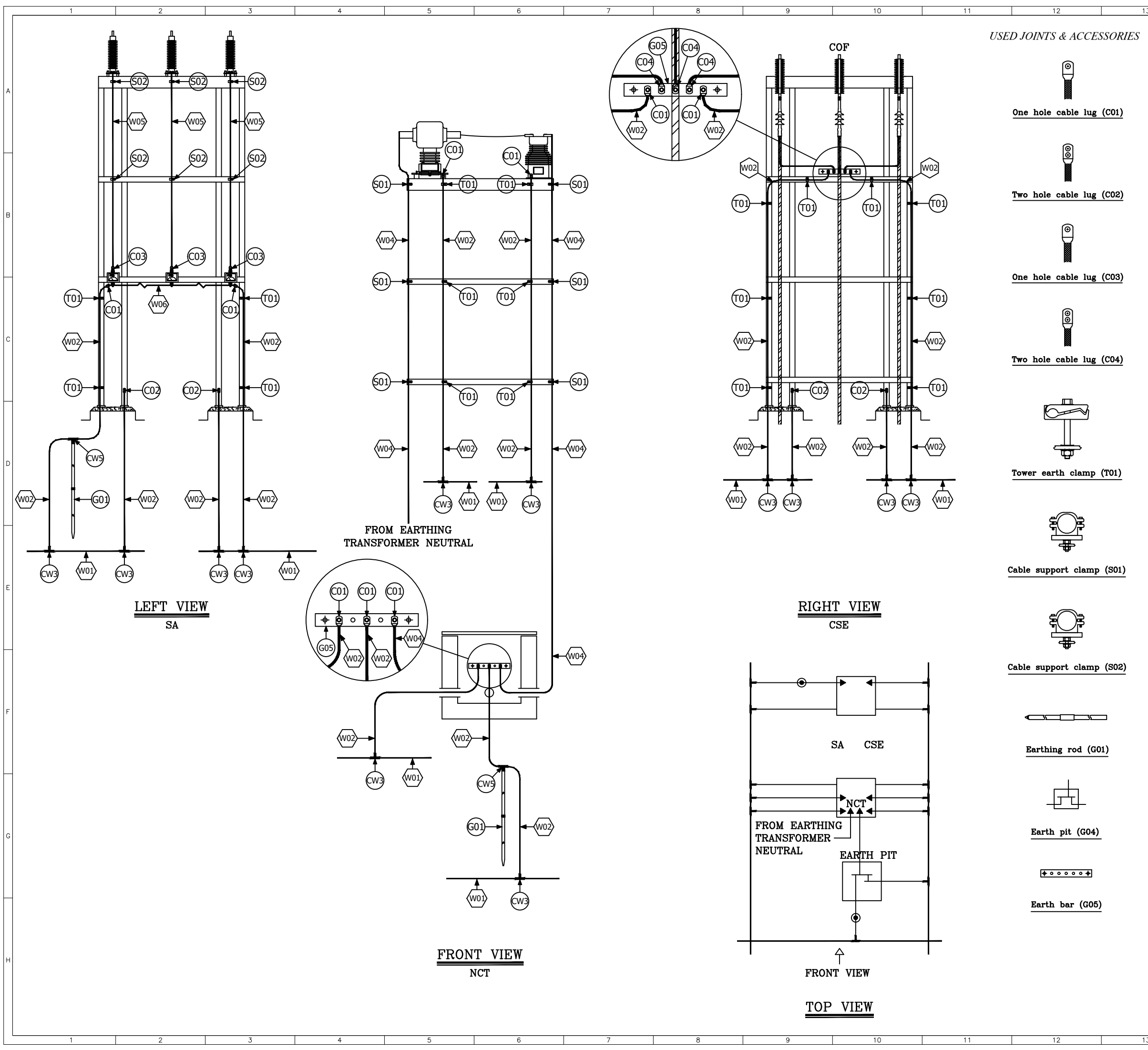
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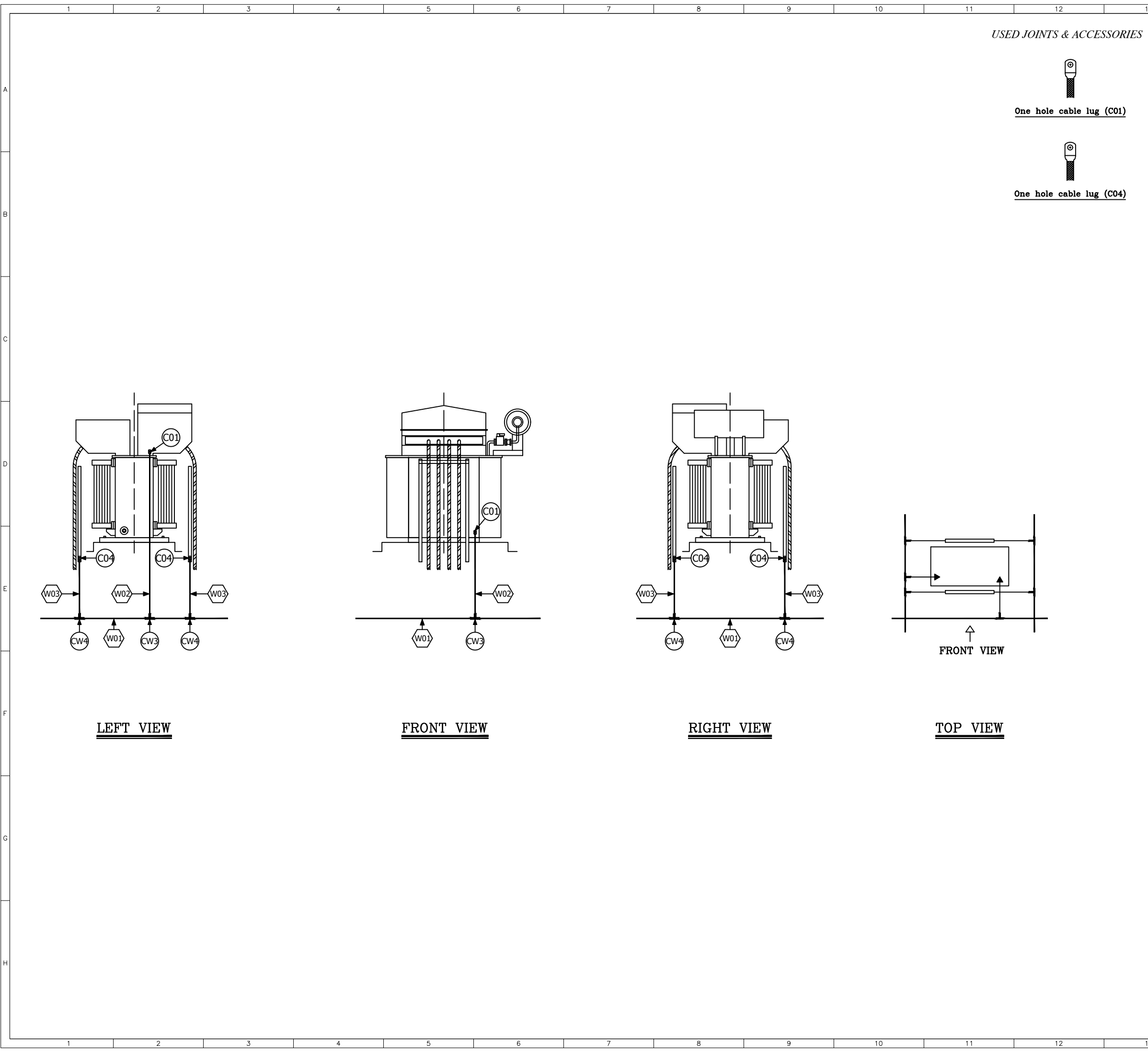
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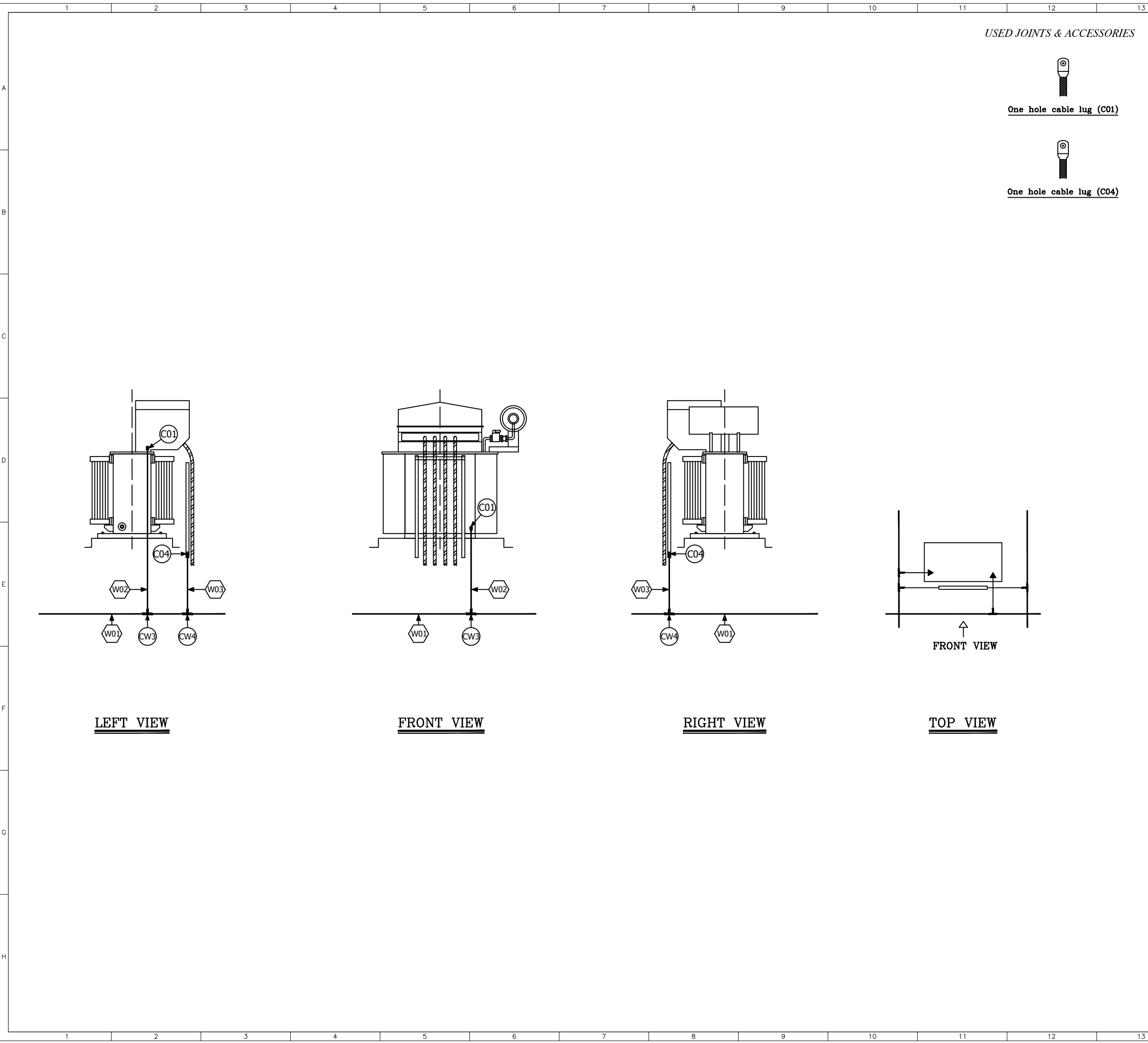
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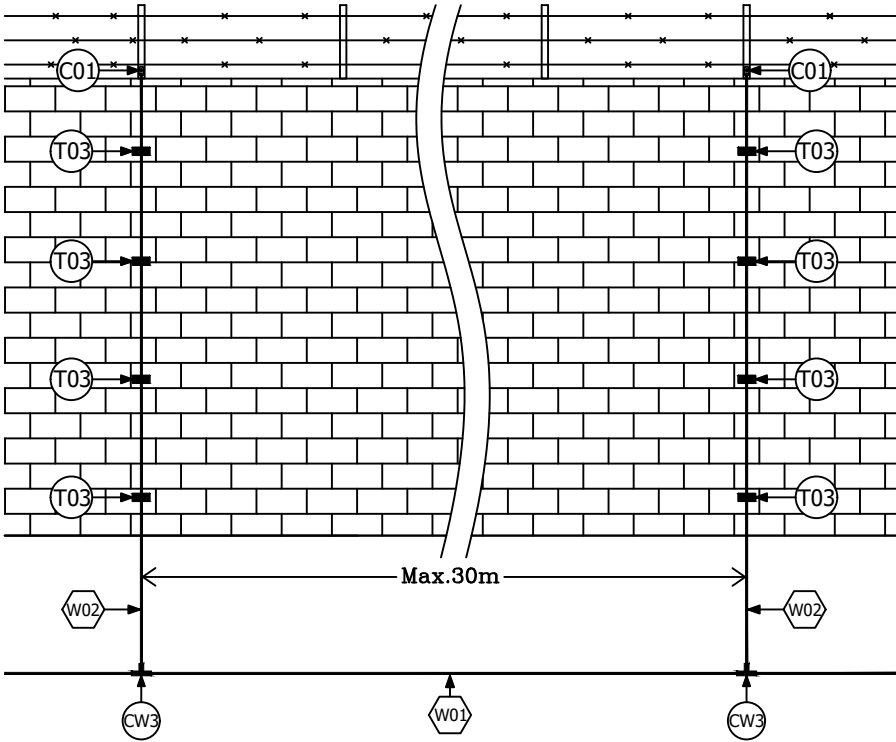
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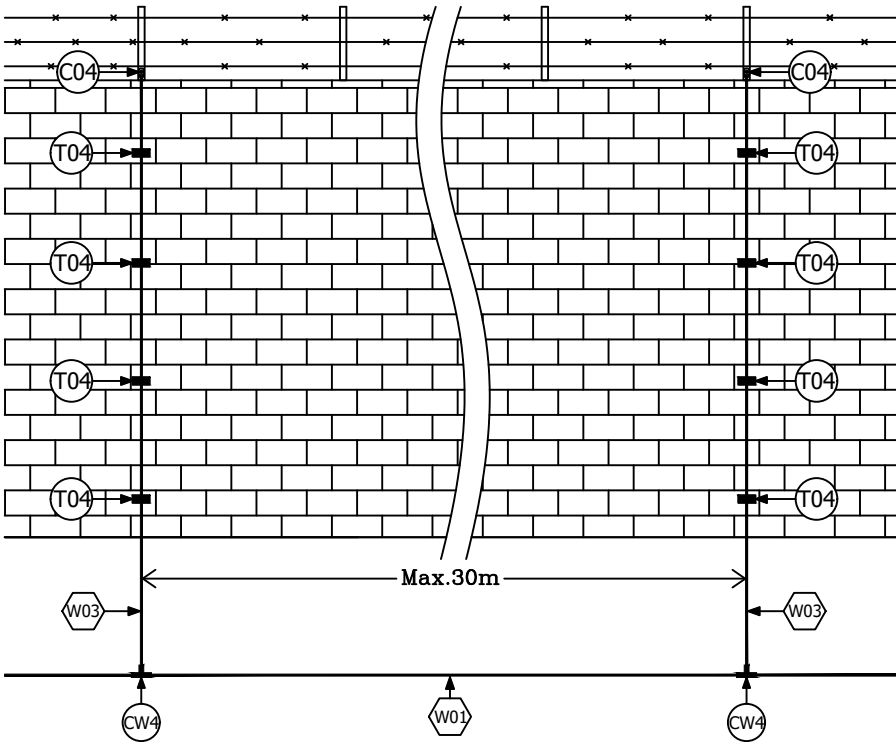
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REFERENCE							
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NOTES							
LEGEND							
KEY PLAN							



BARBED WIRES BELOW OVERHEAD 230KV LINES
(WEST SIDE OF SUBSTATION)



OTHER BARBED WIRES

USED JOINTS & ACCESSORIES

- 
One hole cable lug (C01)
- 
One hole cable lug (C04)
- 
WIRE CLIP (T03)
- 
WIRE CLIP (T04)

REFERENCE

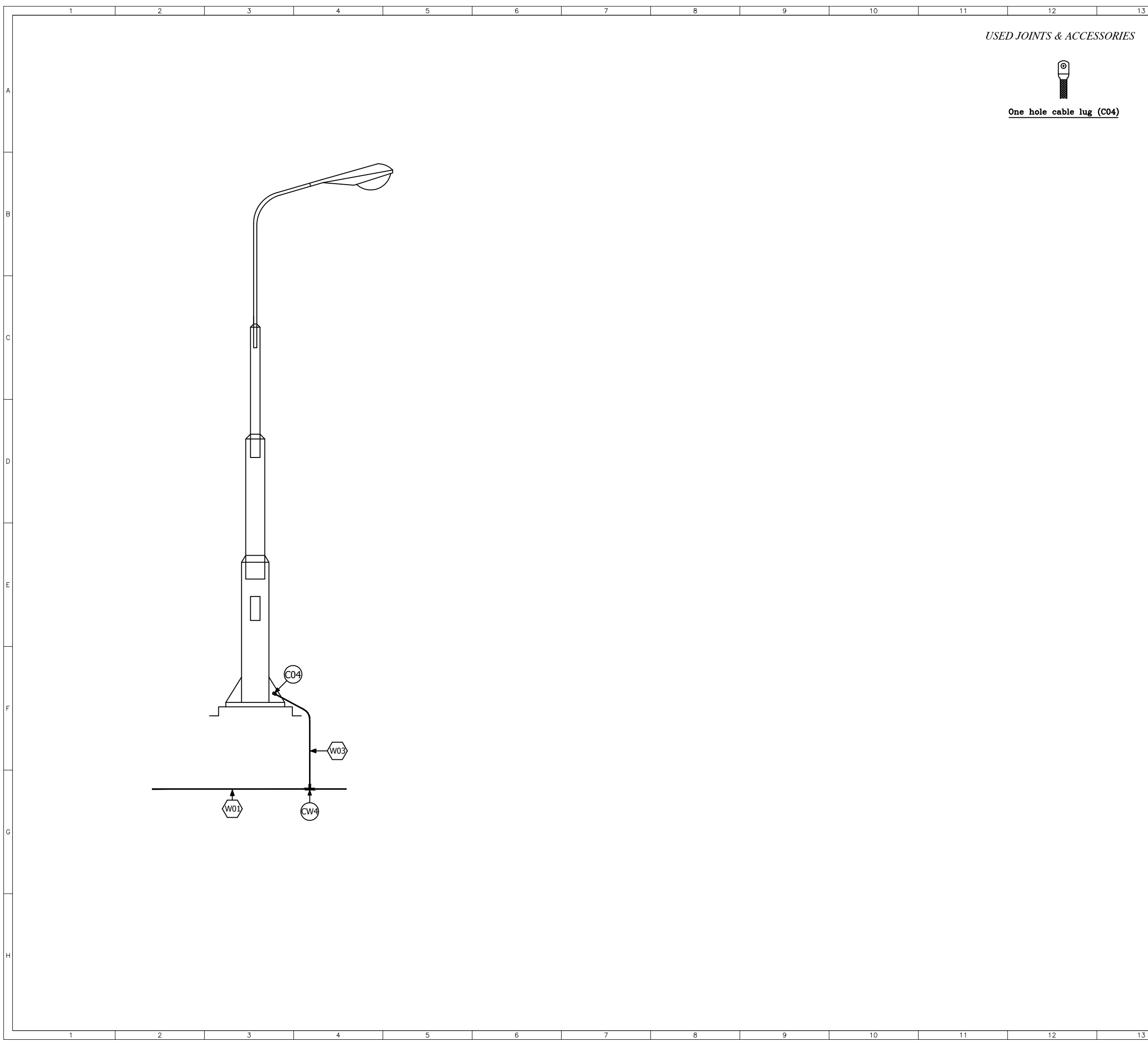
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LEGEND

KEY PLAN

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REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHECKED	APPROVED						
Client:			Consultant:									
												
			Contractor:		Sub Contractor:							
												
Project: RANFSANJAN 230/33KV SUBSTATION												
Title: EARTHING SYSTEM DETAILS BARBED WIRE EARTHING DETAILS												
DOC NO.:		28P2-B-3MG-DWG-SUS-460001-EL-055				REV.						
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SCALE		SIZE		SHEET		FORMAT						
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USED JOINTS & ACCESSORIES

One hole cable lug (C04)

REFERENCE

REFERENCE. TITLE	REFERENCE. No.

NOTES

LEGEND

KEY PLAN

01	1404/11/30	IFR-ISSUE FOR REVIEW	H.S.	H.S.	EPC ENGINEERING MANAGER	EPC PROJECT MANAGER
00	1404/10/28	IFR-ISSUE FOR REVIEW	H.S.	H.S.	EPC ENGINEERING MANAGER	EPC PROJECT MANAGER
REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHECKED	APPROVED

Client:



مشاور مهندسی ایران
Monenco Iran



Contractor:



MOHAM SHARGH CO.

Sub Contractor:

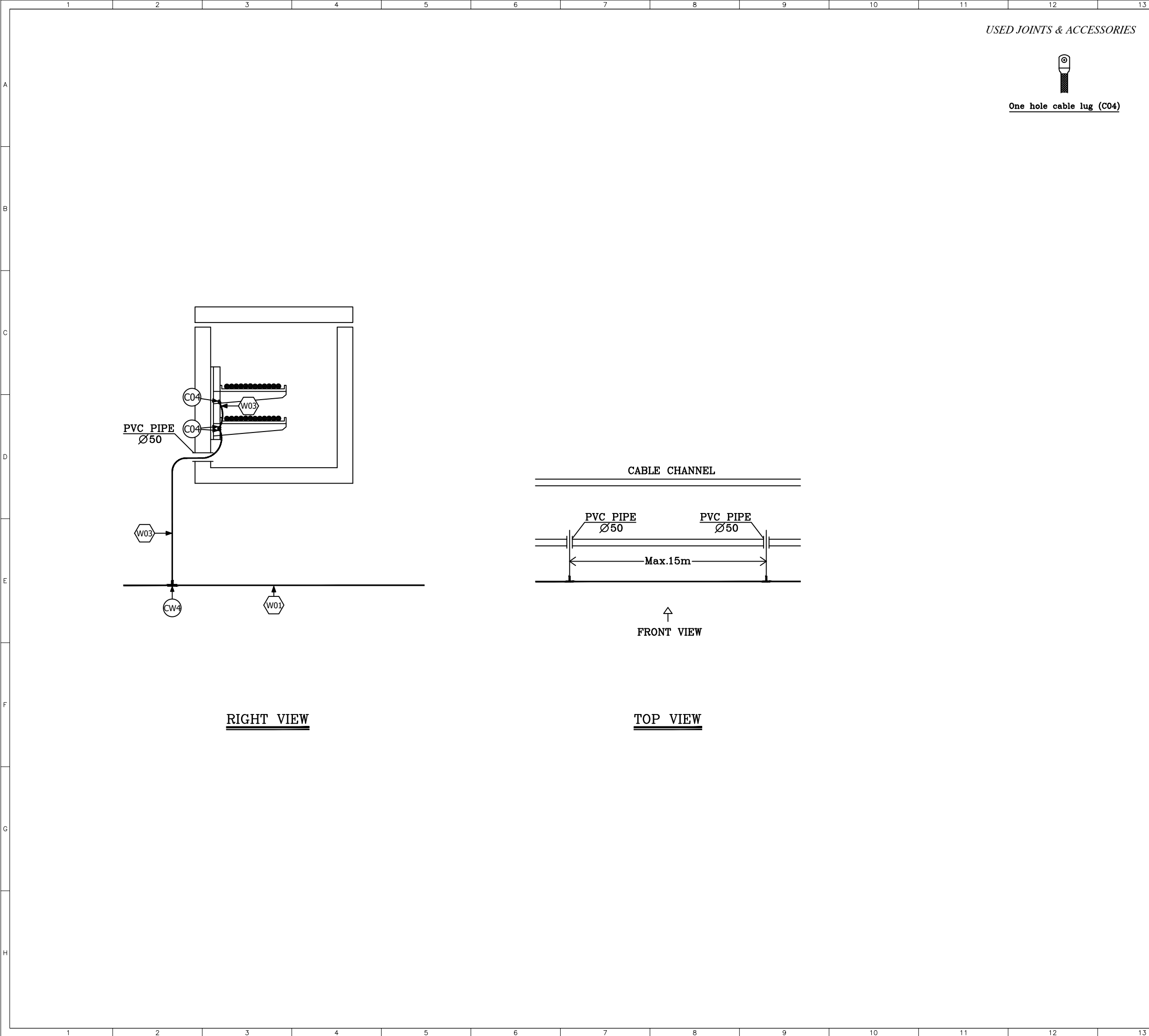
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RANFSANJAN 230/33KV SUBSTATION

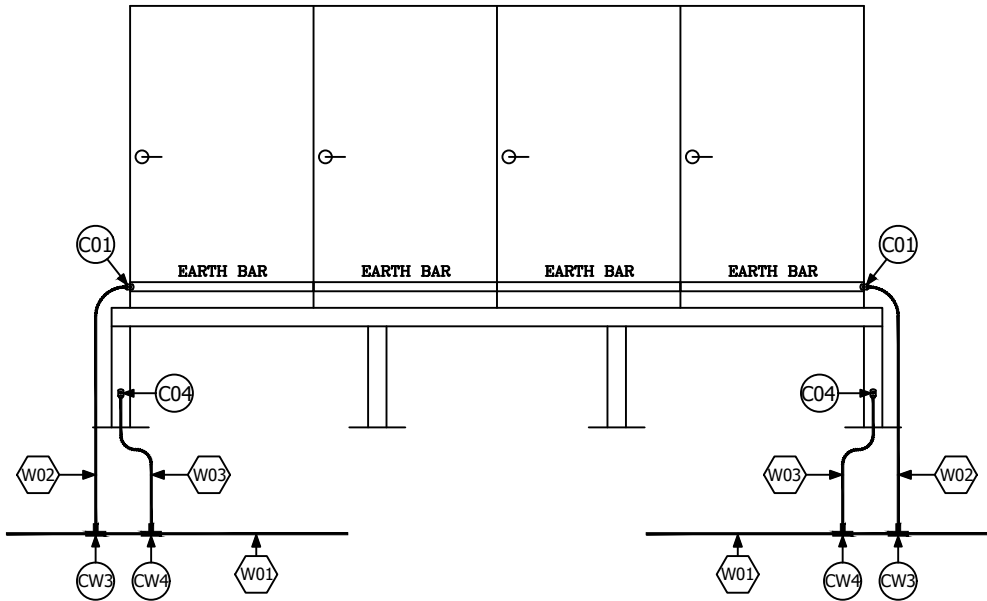
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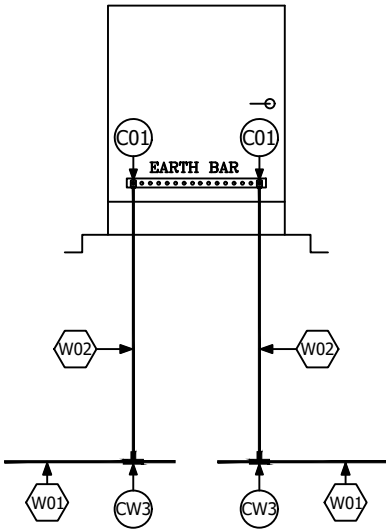
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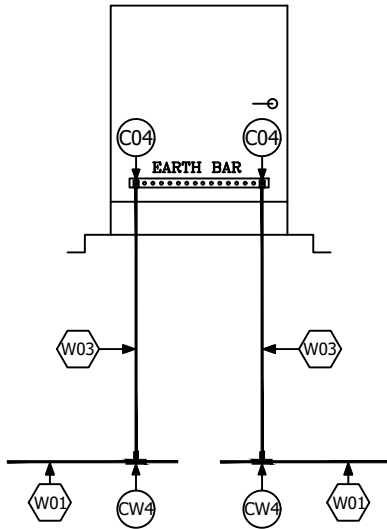
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EARTHING SYSTEM DETAILS							
CABLE LADDER/TRAY EARTHING DETAILS							
DOC NO.:	28P2-B-3MG-DWG-SUS-460001-EL-055				REV.		
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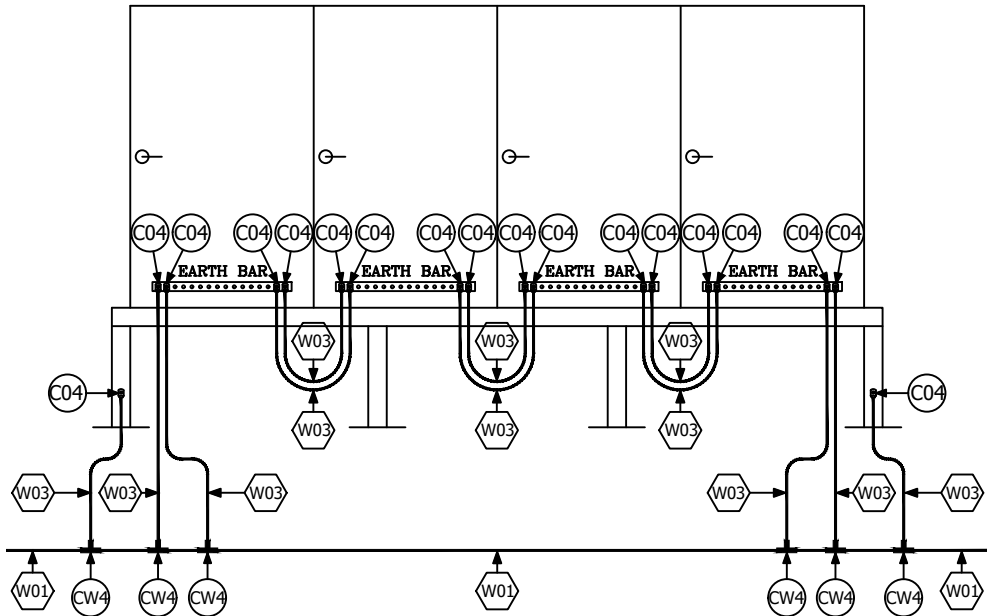
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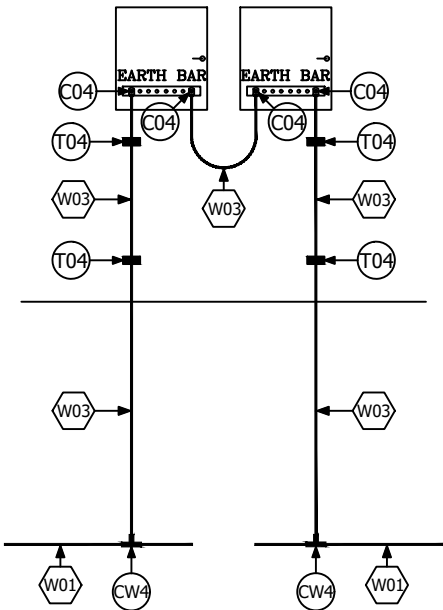
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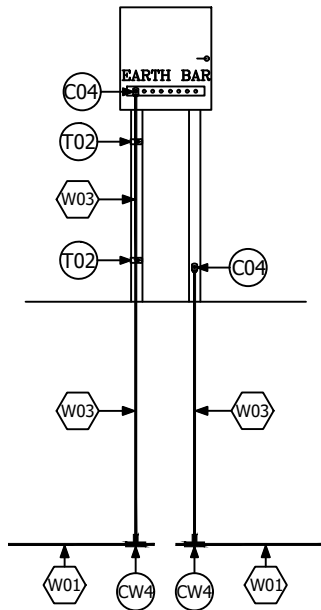
MARSHALING BOX



CONTROL, PROTECTION, AC & DC PANELS

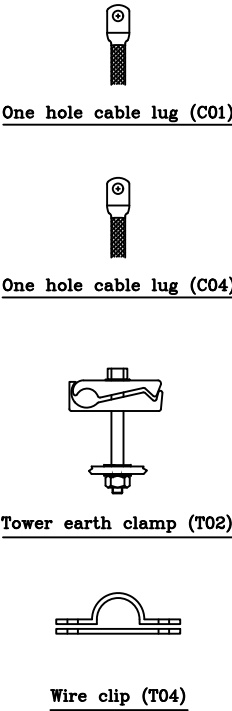


INDOOR DISTRIBUTION PANEL

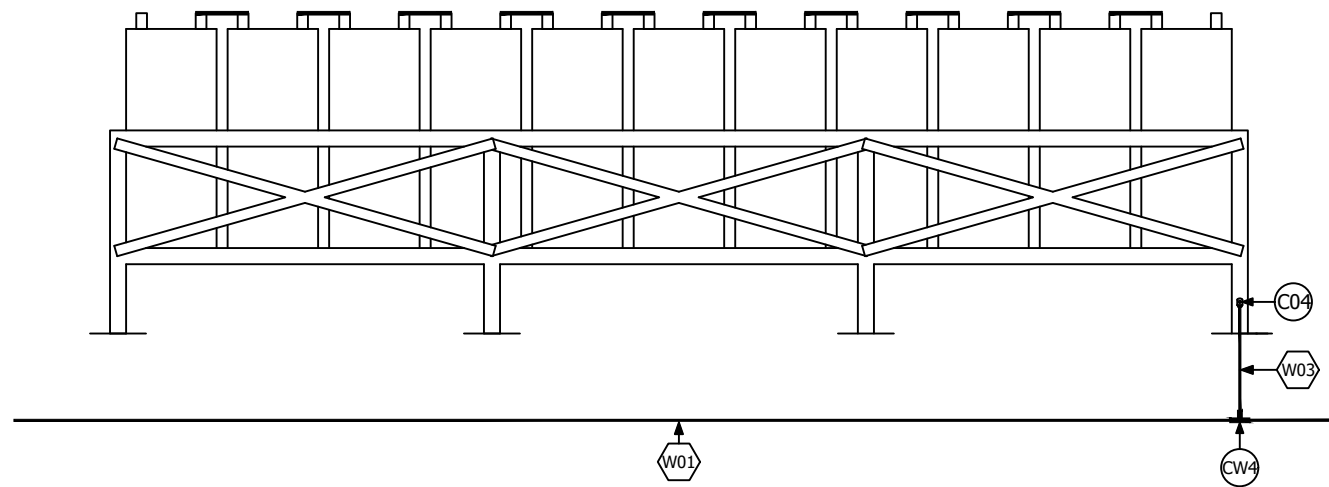


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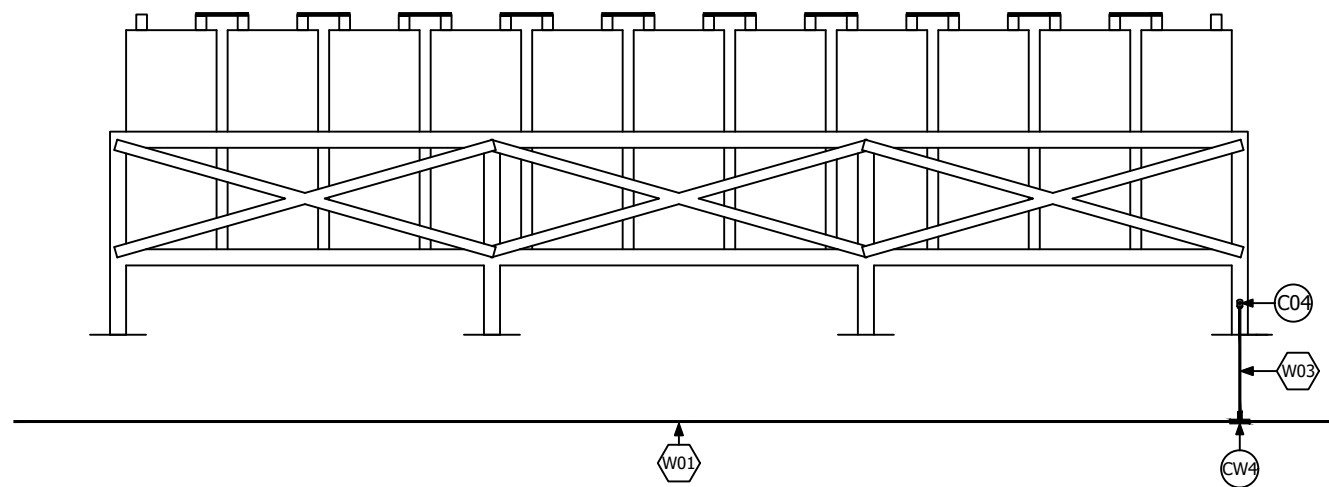
USED JOINTS & ACCESSORIES



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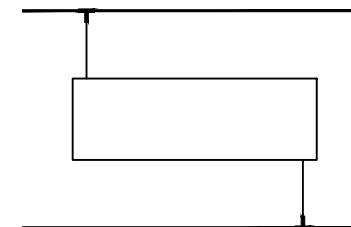


REAR VIEW



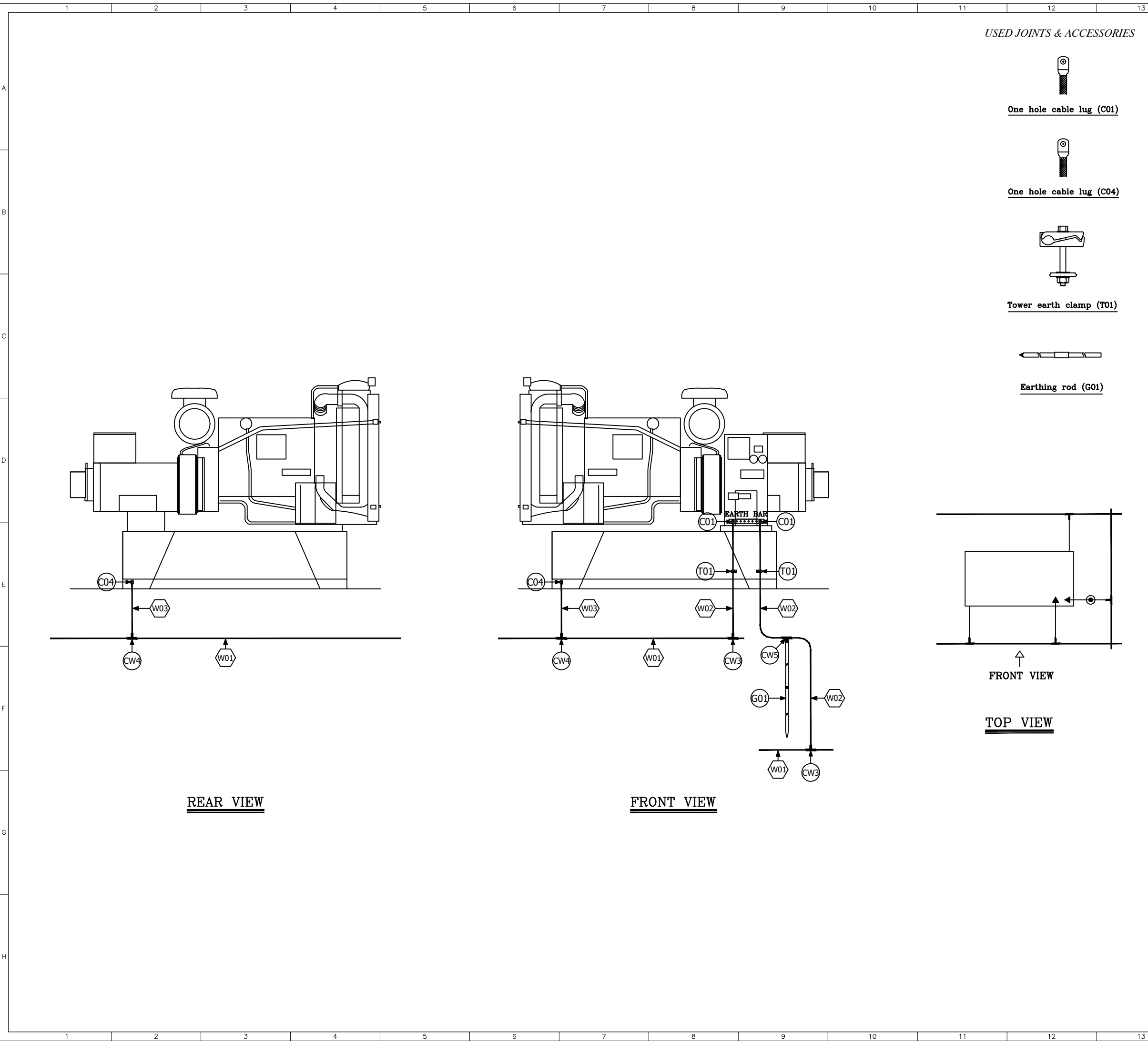
FRONT VIEW

USED JOINTS & ACCESSORIES

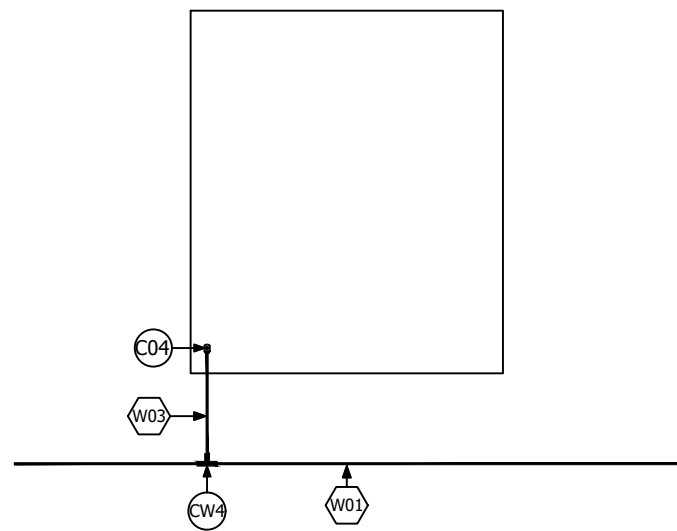
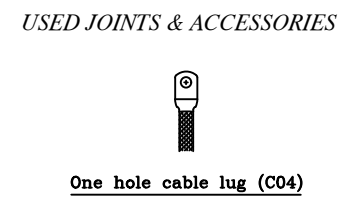


TOP VIEW

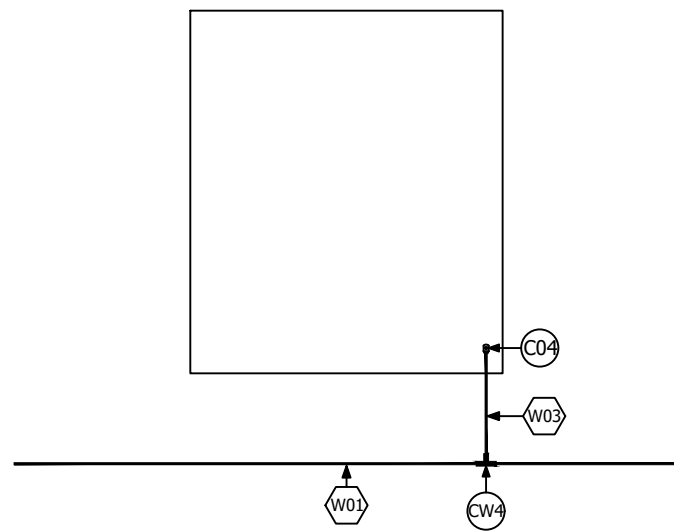
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REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHECKED	APPROVED	
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 NICICO			 موندنکو ایران Monenco Iran				
			Contractor:			Sub Contractor:	
			 MOHAM SHARGH CO.				
Project: RANFSANJAN 230/33KV SUBSTATION							
Title: EARTHING SYSTEM DETAILS BATTERY SUPPORT EARTHING DETAILS							
DOC NO.:		28P2-B-3MG-DWG-SUS-460001-EL-055				REV.	
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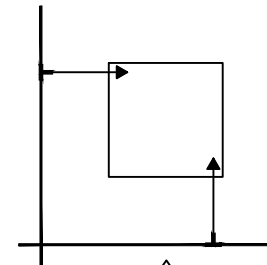
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LEFT VIEW



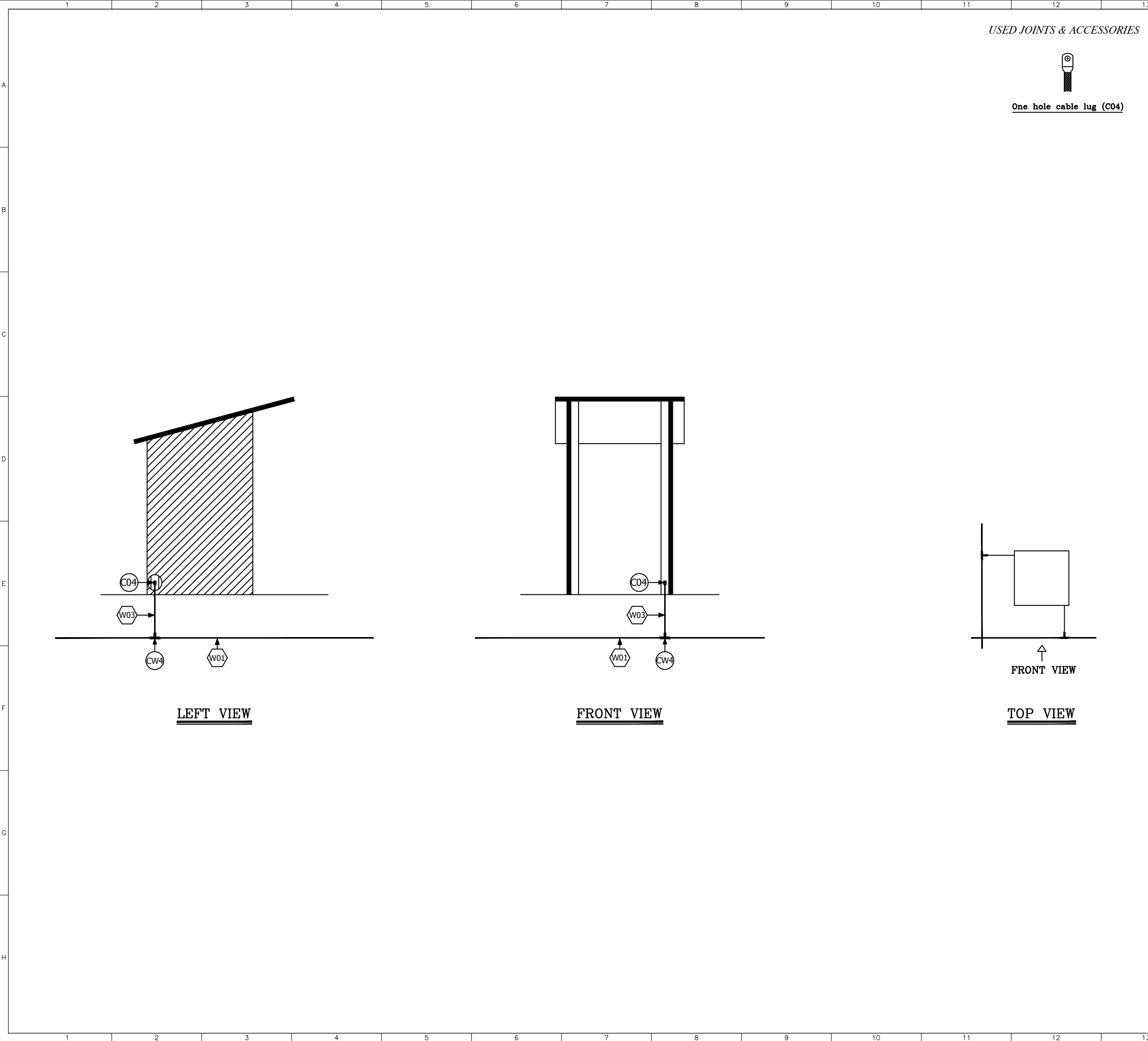
FRONT VIEW



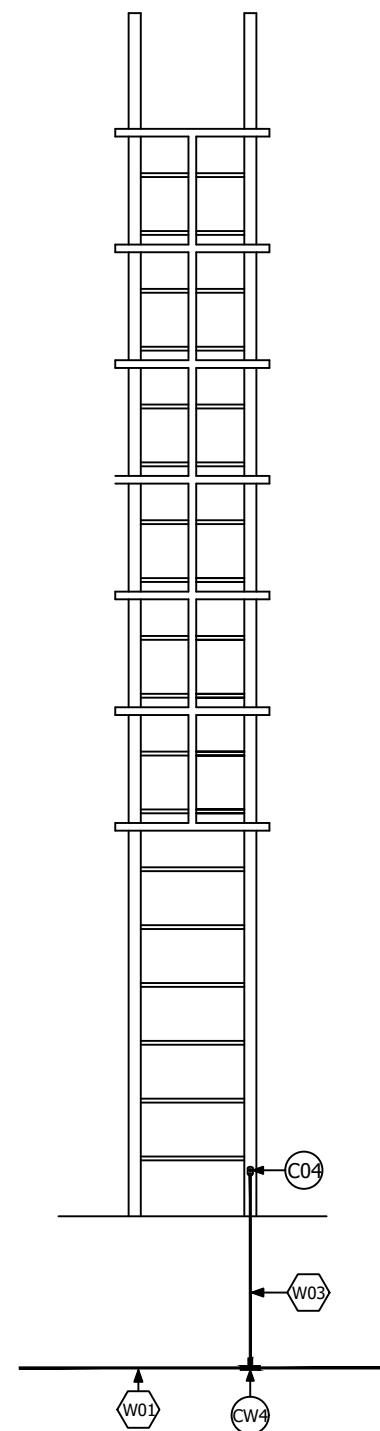
FRONT VIEW

TOP VIEW

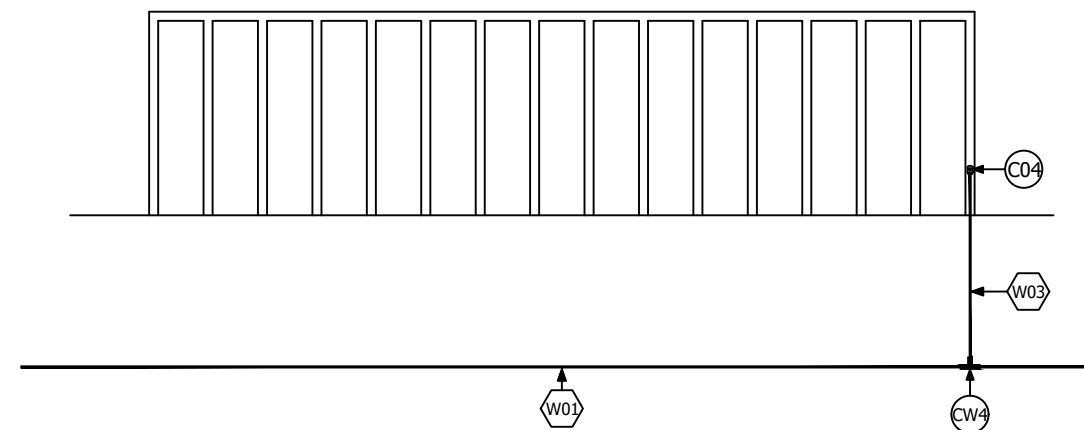
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REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHECKED	APPROVED	
Client:			Consultant:				
 NICICO			 موانکو ایران Monenco Iran				
			Contractor:  MOHAM SHARGH CO.			Sub Contractor:	
Project: RANFSANJAN 230/33KV SUBSTATION							
Title: EARTHING SYSTEM DETAILS MAIN DIESEL TANK EARTHING DETAILS							
DOC NO.:		28P2-B-3MG-DWG-SUS-460001-EL-055				REV. A	
SCALE		SIZE	SHEET			FORMAT	
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REFERENCE. TITLE				REFERENCE. No.			
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LEGEND							
KEY PLAN							



METAL LADDER



METAL HANDRAIL

USED JOINTS & ACCESSORIES



One hole cable lug (C04)

REFERENCE

REFERENCE. TITLE	REFERENCE. No.

NOTES

Case No.	Case Name	Case Address	Case City	Case State	Case Zip	Case Phone	Case Email	Case Date	Case Time	Case Status	Case Notes
1	John Doe	123 Main St	New York	NY	10001	212-555-1234	john.doe@example.com	2023-10-27	14:30	Completed	Initial assessment and data collection.
2	Jane Smith	456 Elm St	Los Angeles	CA	90001	310-555-5678	jane.smith@example.com	2023-10-28	10:00	In Progress	Interview with subject and review of records.
3	Robert Johnson	789 Oak St	Chicago	IL	60601	312-555-9012	robert.johnson@example.com	2023-10-29	09:00	Pending	Awaiting further information from the subject.
4	Emily White	101 Pine St	San Francisco	CA	94101	415-555-3456	emily.white@example.com	2023-10-30	11:00	Completed	Final report and analysis completed.
5	Michael Brown	202 Cedar St	Phoenix	AZ	85001	602-555-7890	michael.brown@example.com	2023-10-31	13:00	In Progress	Interview with subject and review of records.
6	Sarah Green	303 Birch St	Philadelphia	PA	19101	215-555-2345	sarah.green@example.com	2023-11-01	10:00	Pending	Awaiting further information from the subject.
7	David Black	404 Maple St	San Diego	CA	92101	619-555-6789	david.black@example.com	2023-11-02	14:00	Completed	Final report and analysis completed.
8	Lisa Gray	505 Elm St	Seattle	WA	98101	206-555-0123	lisa.gray@example.com	2023-11-03	11:00	In Progress	Interview with subject and review of records.
9	James Hall	606 Oak St	Portland	OR	97201	503-555-4567	james.hall@example.com	2023-11-04	09:00	Pending	Awaiting further information from the subject.
10	Amanda King	707 Pine St	Denver	CO	80201	303-555-8901	amanda.king@example.com	2023-11-05	13:00	Completed	Final report and analysis completed.
11	Christopher Lee	808 Cedar St	San Jose	CA	95101	408-555-2345	christopher.lee@example.com	2023-11-06	10:00	In Progress	Interview with subject and review of records.
12	Michelle Taylor	909 Birch St	San Antonio	TX	78201	214-555-6789	michelle.taylor@example.com	2023-11-07	14:00	Pending	Awaiting further information from the subject.
13	Kevin Wilson	1010 Maple St	San Diego	CA	92101	619-555-0123	kevin.wilson@example.com	2023-11-08	11:00	Completed	Final report and analysis completed.
14	Nicole Adams	1111 Elm St	San Jose	CA	95101	408-555-4567	nicole.adams@example.com	2023-11-09	09:00	In Progress	Interview with subject and review of records.
15	Brandon Baker	1212 Oak St	San Jose	CA	95101	408-555-8901	brandon.baker@example.com	2023-11-10	13:00	Pending	Awaiting further information from the subject.
16	Stephanie Carter	1313 Pine St	San Jose	CA	95101	408-555-2345	stephanie.carter@example.com	2023-11-11	10:00	Completed	Final report and analysis completed.
17	Jonathan Davis	1414 Cedar St	San Jose	CA	95101	408-555-6789	jonathan.davis@example.com	2023-11-12	14:00	In Progress	Interview with subject and review of records.
18	Karen Evans	1515 Birch St	San Jose	CA	95101	408-555-0123	karen.evans@example.com	2023-11-13	11:00	Pending	Awaiting further information from the subject.
19	Gregory Foster	1616 Maple St	San Jose	CA	95101	408-555-4567	gregory.foster@example.com	2023-11-14	09:00	Completed	Final report and analysis completed.
20	Heather Gibson	1717 Elm St	San Jose	CA	95101	408-555-8901	heather.gibson@example.com	2023-11-15	13:00	In Progress	Interview with subject and review of records.
21	Timothy Hill	1818 Oak St	San Jose	CA	95101	408-555-2345	timothy.hill@example.com	2023-11-16	10:00	Pending	Awaiting further information from the subject.
22	Rebecca King	1919 Pine St	San Jose	CA	95101	408-555-6789	rebecca.king@example.com	2023-11-17	14:00	Completed	Final report and analysis completed.
23	Scott Lewis	2020 Cedar St	San Jose	CA	95101	408-555-0123	scott.lewis@example.com	2023-11-18			

LEGEND

Case No.	Case Name	Case Type	Case Status	Case Date	Case Time	Case Location	Case Description	Case Notes	Case Comments
1	John Doe	Medical	Open	2023-01-01	10:00	Room 101	John Doe, 45 years old, male, presented with chest pain and shortness of breath. Vital signs: BP 120/80, HR 90, RR 20, SpO2 98%.	ECG showed sinus tachycardia. Chest X-ray showed clear lung fields.	Admitted to the medical ward for further observation and treatment.
2	Jane Smith	Medical	Closed	2023-01-02	14:30	Room 202	Jane Smith, 60 years old, female, presented with abdominal pain and nausea. Vital signs: BP 110/70, HR 75, RR 18, SpO2 95%.	ECG showed normal sinus rhythm. Abdominal ultrasound showed no abnormalities.	Discharged home with oral painkillers and instructions to return if symptoms worsen.
3	Michael Brown	Medical	Open	2023-01-03	08:15	Room 303	Michael Brown, 30 years old, male, presented with dizziness and lightheadedness. Vital signs: BP 90/60, HR 100, RR 16, SpO2 92%.	ECG showed sinus bradycardia. Blood tests showed low hemoglobin levels.	Admitted to the medical ward for further evaluation and treatment.
4	Sarah Johnson	Medical	Closed	2023-01-04	11:45	Room 404	Sarah Johnson, 55 years old, female, presented with headache and blurred vision. Vital signs: BP 130/90, HR 85, RR 17, SpO2 96%.	ECG showed normal sinus rhythm. Blood pressure remained elevated.	Discharged home with antihypertensive medication and instructions to monitor blood pressure.
5	David Wilson	Medical	Open	2023-01-05	09:30	Room 505	David Wilson, 70 years old, male, presented with confusion and disorientation. Vital signs: BP 140/100, HR 110, RR 22, SpO2 94%.	ECG showed sinus tachycardia. Blood tests showed elevated glucose levels.	Admitted to the medical ward for further evaluation and treatment.
6	Emily Davis	Medical	Closed	2023-01-06	13:00	Room 606	Emily Davis, 25 years old, female, presented with fever and cough. Vital signs: BP 100/70, HR 95, RR 20, SpO2 97%.	ECG showed normal sinus rhythm. Chest X-ray showed clear lung fields.	Discharged home with oral antibiotics and instructions to rest and hydrate.
7	Robert Miller	Medical	Open	2023-01-07	10:45	Room 707	Robert Miller, 65 years old, male, presented with chest pain and sweating. Vital signs: BP 150/100, HR 120, RR 24, SpO2 93%.	ECG showed ST-segment elevation. Blood tests showed elevated troponin levels.	Admitted to the medical ward for further evaluation and treatment.
8	Lisa Anderson	Medical	Closed	2023-01-08	12:15	Room 808	Lisa Anderson, 40 years old, female, presented with abdominal pain and diarrhea. Vital signs: BP 115/75, HR 80, RR 18, SpO2 96%.	ECG showed normal sinus rhythm. Abdominal ultrasound showed no abnormalities.	Discharged home with oral painkillers and instructions to monitor symptoms.
9	James Taylor	Medical	Open	2023-01-09	07:30	Room 909	James Taylor, 50 years old, male, presented with dizziness and lightheadedness. Vital signs: BP 95/65, HR 105, RR 16, SpO2 91%.	ECG showed sinus bradycardia. Blood tests showed low hemoglobin levels.	Admitted to the medical ward for further evaluation and treatment.
10	Amanda White	Medical	Closed	2023-01-10	11:00	Room 1010	Amanda White, 35 years old, female, presented with headache and blurred vision. Vital signs: BP 135/95, HR 85, RR 17, SpO2 96%.	ECG showed normal sinus rhythm. Blood pressure remained elevated.	Discharged home with antihypertensive medication and instructions to monitor blood pressure.

KEY PLAN

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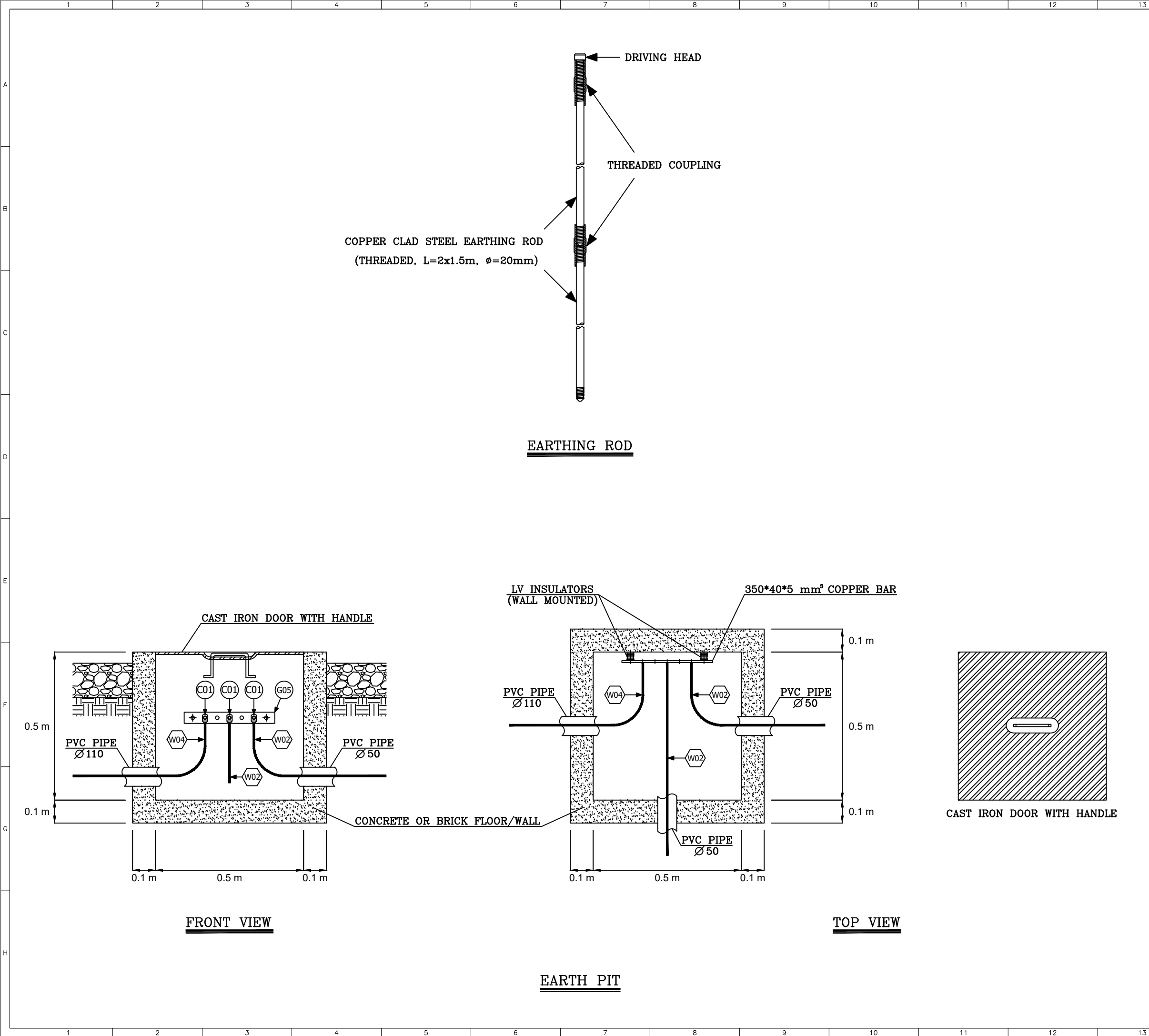
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Client:   نیکو شرکت ملی صنایع پتروشیمی	Consultant: مونسکو ایران Monoco Iran 
Contractor:  مoham SHARGH CO.	Sub Contractor:

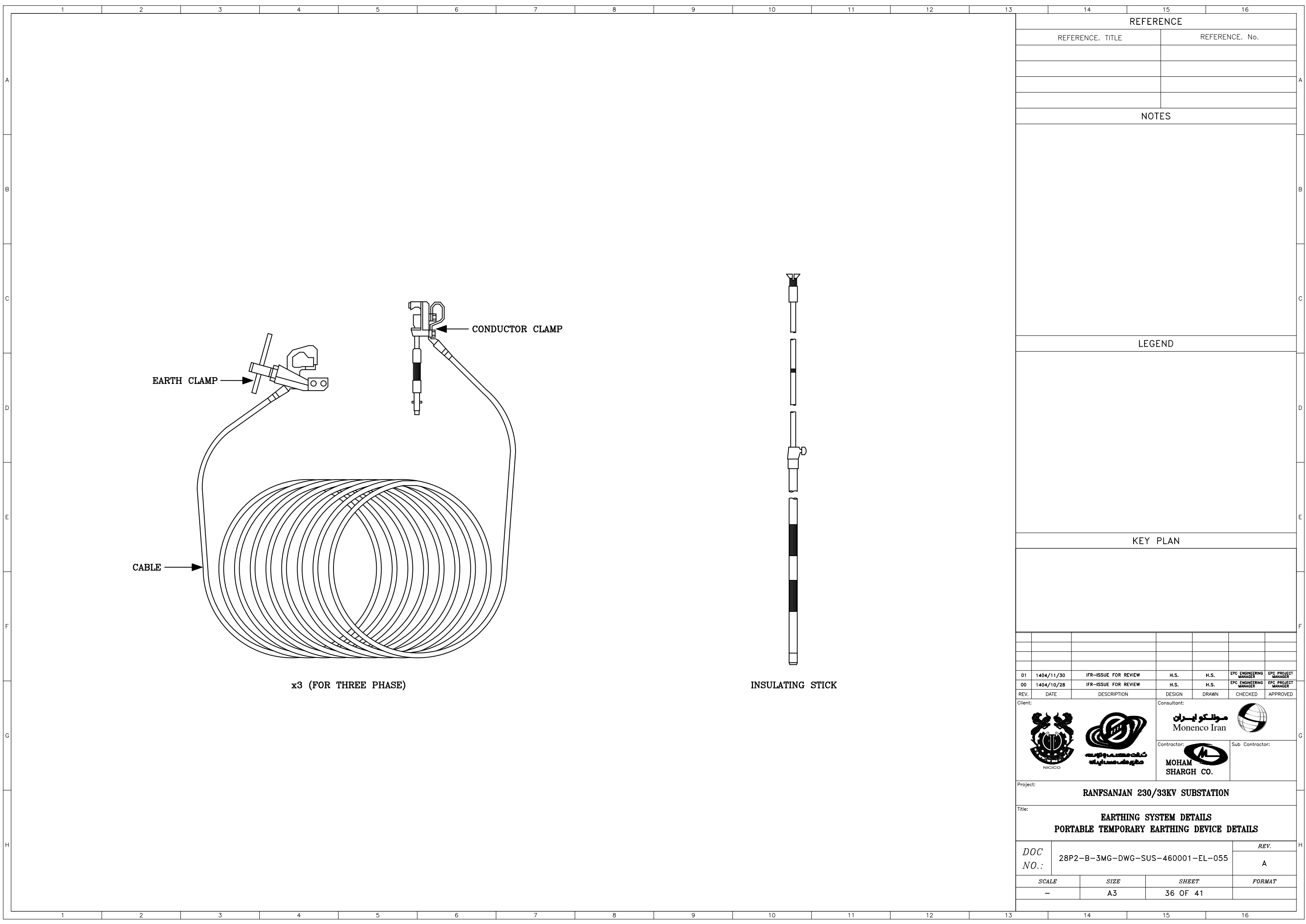
Project:	RANFSANJAN 230/33KV SUBSTATION
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Title: **EARTHING SYSTEM DETAILS**
METAL LADDER & HANDRAIL EARTHING DETAILS

<i>DOC NO.:</i>	28P2-B-3MG-DWG-SUS-460001-EL-055			<i>REV.</i>
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<i>SCALE</i>	<i>SIZE</i>	<i>SHEET</i>	<i>FORMAT</i>	
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REFERENCE

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LEGEND

KEY PLAN

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REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHECKED	APPROVED

Client:



موندکو ایران
Monenco Iran

Contractor:



MOHAM SHARGH CO.

Sub Contractor:

Project:

RANFSANJAN 230/33KV SUBSTATION

Title:

EARTHING SYSTEM DETAILS
PORTABLE TEMPORARY EARTHING DEVICE DETAILS

LEGEND	
	EARTH GRID EXOTHERMIC CROSS JOINT (120mm ² TO 120mm ²)
	EARTH GRID EXOTHERMIC TEE JOINT (120mm ² TO 120mm ²)
	RISER FROM EARTH GRID TO SUPPORTING STRUCTURE/EQUIPMENT EXOTHERMIC TEE JOINT (185 OR 35mm ² TO 120mm ²)
	EXOTHERMIC CONNECTION OF EARTHING ROD TO EARTH GRID
	EXOTHERMIC CONNECTION OF EARTHING ROD TO RISER
	EARTHING ROD, COPPER CLAD STEEL (20mm DIAMETER, 3m LENGTH)
-----	GRID CONDUCTOR (COPPER, 120mm ²)
————	RISER CONDUCTOR (COPPER, 185 OR 35mm ²)
- · - · -	HORIZONTAL EQUIPOTENTIAL BONDING REBAR (STEEL, TYPE AI, MINIMUM DIAMETER: 10mm)
	WELDED CONNECTION BETWEEN 2 HORIZONTAL EQUIPOTENTIAL BONDING REBARS
- ⊗ -	WELDED CONNECTION BETWEEN HORIZONTAL EQUIPOTENTIAL BONDING REBAR & VERTICAL REBAR OR BUILDING STRUCTURE COLUMN



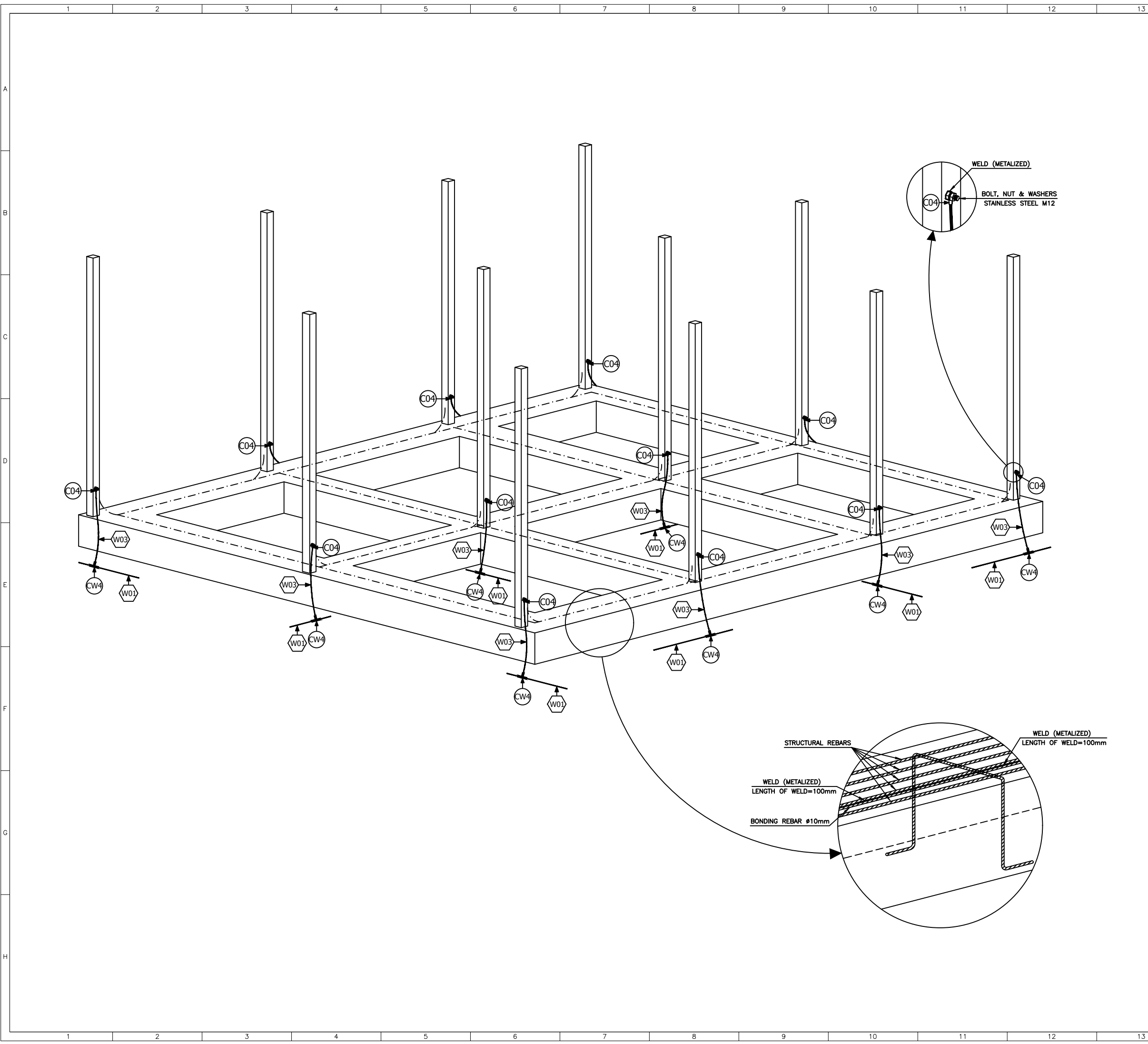
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Project: **RANFSANJAN 230/33KV SUBSTATION**

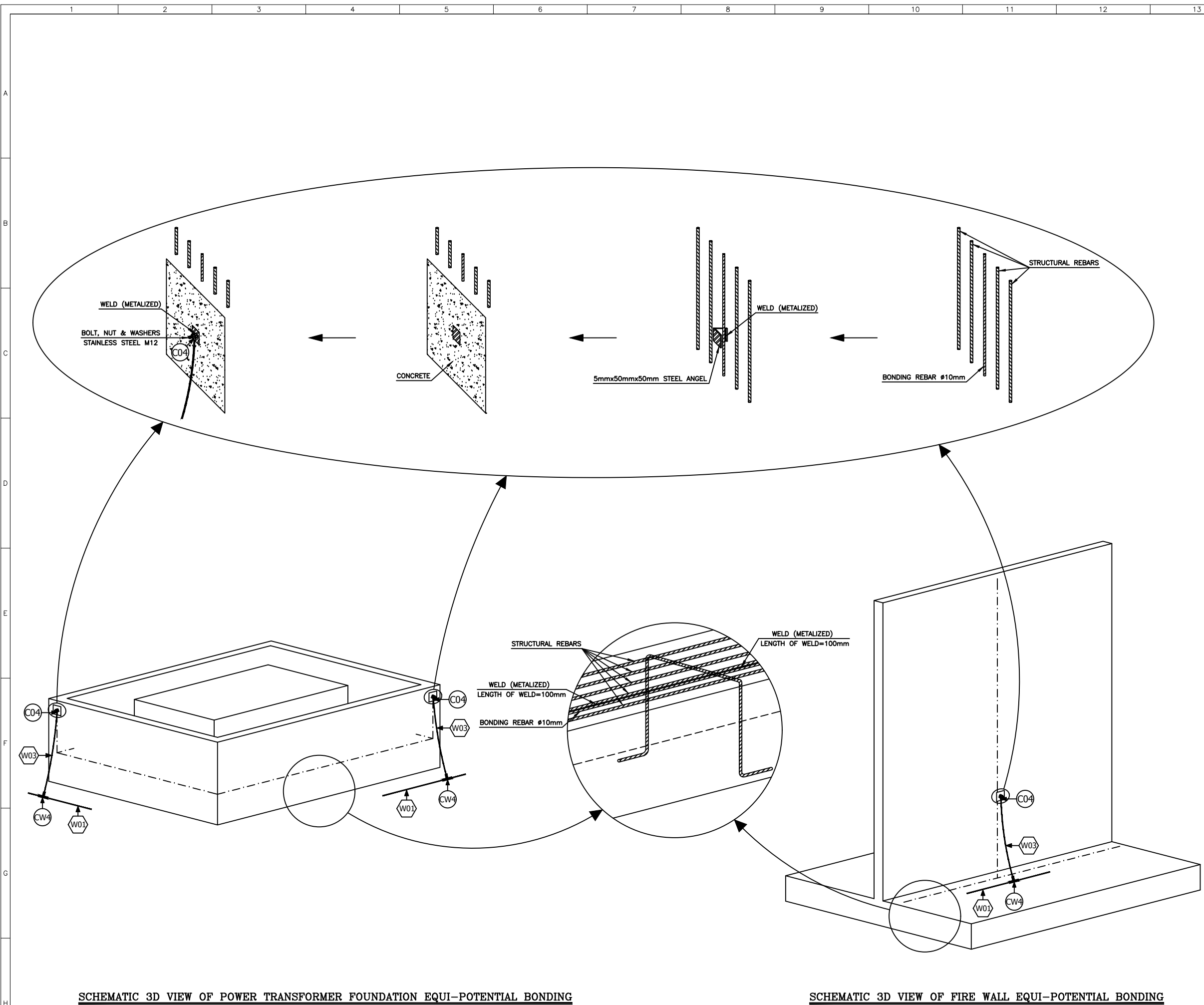
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SCHEMATIC EQUI-POTENTIAL BONDING PLANS**

DOC No.:	28P2-B-3MG-DWG-SUS-460001-EL-055
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<i>SCALE</i>	<i>SIZE</i>	<i>SHEET</i>
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LEGEND							
KEY PLAN							



SCHEMATIC 3D VIEW OF POWER TRANSFORMER FOUNDATION EQUI-POTENTIAL BONDING

SCHEMATIC 3D VIEW OF FIRE WALL EQUI-POTENTIAL BONDING

REFERENCE							
REFERENCE. TITLE				REFERENCE. No.			
NOTES							