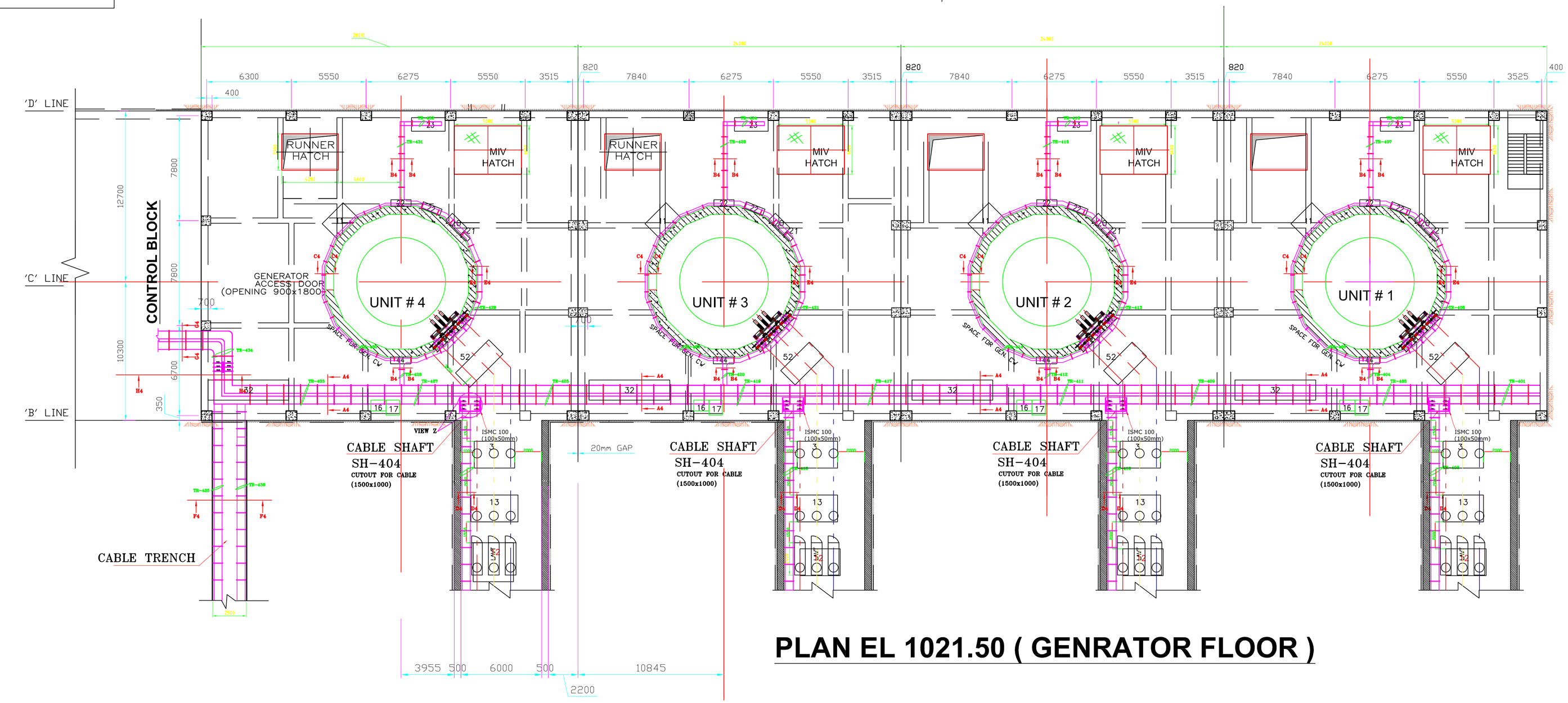
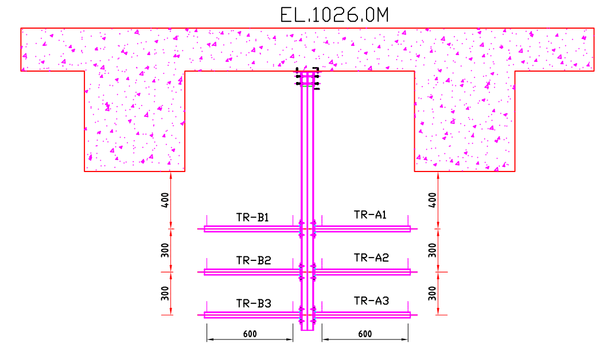
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

DRG. NO. 02920050001



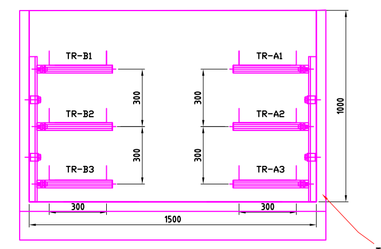
PLAN EL 1021.50 (GENRATOR FLOOR)



TR-A1,B1,B2 = LADDER TRAY
TR-A2,A3,B3 = PERFORATED TRAY

VIEW G4-G4 (TYP.)

(SCALE-1:6)

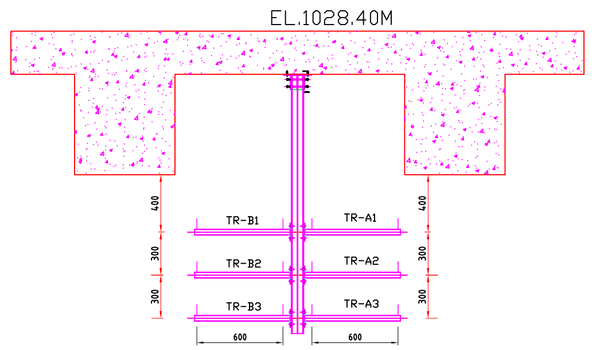


ISMC 100 (100x50mm)

TR-A1,B1 = LADDER TRAY
TR-A2,A3,B2,B3 = PERFORATED TRAY

VIEW Z
CABLE SHAFT (TYP.)

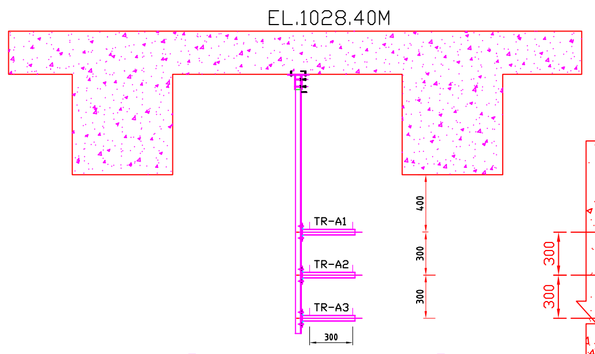
(SCALE-1:8)



TR-A1,B1,B2 = LADDER TRAY
TR-A2,A3,B3 = PERFORATED TRAY

VIEW A4-A4 (TYP.)

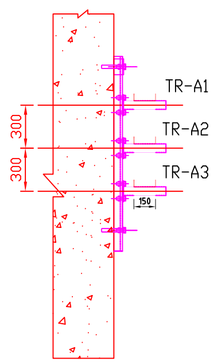
(SCALE-1:6)



TR-A1 = LADDER TRAY
TR-A2,A3 = PERFORATED TRAY

VIEW B4-B4 (TYP.)

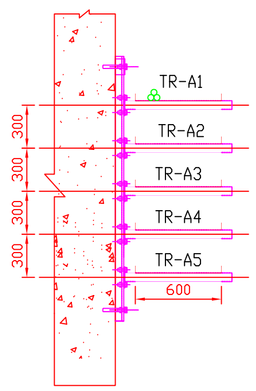
(SCALE-1:6)



TR-A1 = LADDER TRAY
TR-A2,A3 = PERFORATED TRAY

VIEW C4-C4

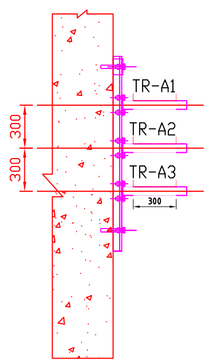
(SCALE-1:6)



TR-A1,A2,A3 = LADDER TRAY
TR-A4,A5 = PERFORATED TRAY

VIEW D4-D4

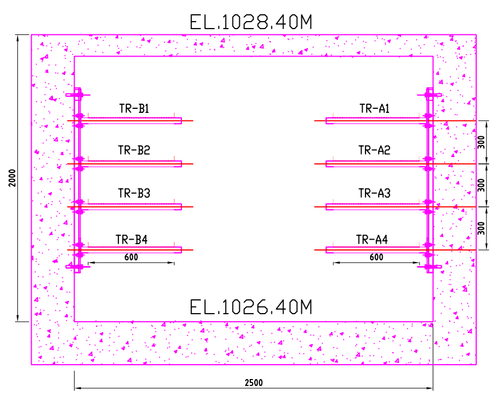
(SCALE-1:6)



TR-A1 = LADDER TRAY
TR-A2,A3 = PERFORATED TRAY

VIEW E4-E4

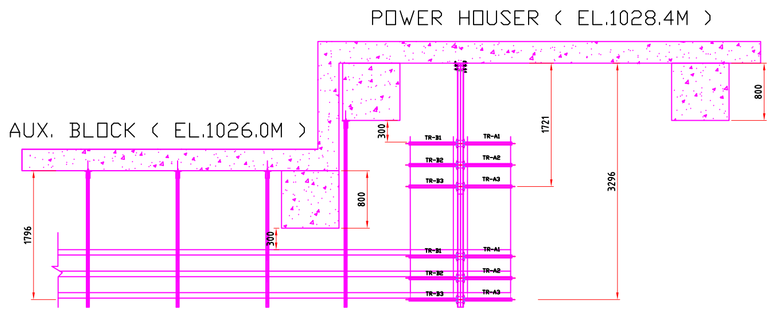
(SCALE-1:6)



TR-A1,A2,A3 = LADDER TRAY
TR-B1,B2,B3 = PERFORATED TRAY

VIEW F4-F4

(SCALE-1:6)



VIEW H4-H4 (TYP.)

(SCALE-1:3)

FOR NOTES REFER SHEET NO. 1

TABLE FOR DIMENSIONS OF EQUIPMENTS AT GENERATOR FLOOR:-

S.No	DESCRIPTION	APPROX. SIZE (mm) LENGTH	WIDTH	HEIGHT	LOCATED AT EL()	WEIGHT (KgS.)	QUANTITY PER UNIT	TOTAL QUANTITY	REMARKS
3	UNIT AUXILIARY TRANSFORMER	2900	2000	2600	1021.5	5000	1	4	JHANSI
9	BRAKE & JACK PANEL	1100	350	1200	1021.5	600	1	4	HGE
10	BRAKE DUST COLLECTOR & PANEL	1200+600	1200	2500	1021.5	400	1	4	HGE
11	N G CUBICLE	2200	1600	2000	1021.5	1400	1	4	JHS
12	LAVT CUBICLE	2400	2250	(2450+350)	1021.5	500	1	4	JHS
13	EXCITATION TRANSFORMER	3500	2000	2600	1021.5	5500	1	4	EDN
16	HYDRO MECHANICAL CABINET	1125	800	2800	1021.5	1700	1	4	HTE(GOV.)
17	NEEDLE CONTROL MECHANISM	1000	1100	2000	1021.5	1200	1	4	HTE(GOV.)
20	H.S LUBRICATION UNIT	1550	700	700		600	1	4	HGE
21	H.S LUB. STARTER PANEL	700	300	800			1	4	HSE
22	MARSHALLING BOX(WALL MOUNTED)	1500	200	1200	1021.5	200	1	4	HGE
23	SPRINKLER SYSTEM PANEL	2500	1000	2320	1021.5	4000	2	8	HGE
32	UNIT AUXILIARY BOARD(UAB)	6000	1500	2450	1021.5	1500	1	4	HSE
38	INVERTER	2000	1000	2000	1021.5	–	–	2	HSE
39	INVERTER DISTRIBUTION BOARD	1000	800	2000	1021.5	–	–	1	HSE
44	GENERATOR SPACE HEATER PANEL	1000	600	600	1021.5		1	4	HGE
47	MLDB	3000	1000	2300	1021.5		–	2	HSE
48	ELDB	3000	1000	2300	1021.5		–	2	HSE
49	RECEPTABLE DB	1200	800	2300	1021.5		–	2	HSE
52	DYNAMIC BRAKING CUBICLE	3500	1500	2350	1021.5	2000	1	4	EDN

REV.	DATE	ALTERED	CHECKED	APPD.	ZONE	
03	12.10.2016					-DRAWING REVISED IN LINE WITH MHPA COMMENTS DATED 16/03/2016 (MHPA/E&M/EM-1/17/PCC/2016/847)
02	08.01.2016					-DRAWING REVISED IN LINE WITH MHPA COMMENTS DATED 7/1/2016
01	22.12.2015					-DRAWING REVISED IN LINE WITH STATION LAYOUT DRAWING

ADDITIONAL INFORMATION

STATUS OF DRAWING

DISTRIBUTION OF PRINTS

	NAME	SIGN	DATE	NO.OF VAR.
DRN	CLARA	-SD-	23.04.15	
CKD	R EKKA	-SD-	23.04.15	
APPD	R EKKA	-SD-	23.04.15	

SUB-SUPPLIER/VENDOR

PROJECT: 4X180MW MANGDECHHU HEP

CUSTOMER: MHPA, BHUTAN

MHPA DRG.NO. MHP-PCC01L00010 3

CONSULTANT: NHPC LIMITED (A GOVT. OF INDIA ENTERPRISE)

CONTRACTOR: BHARAT HEAVY ELECTRICALS LTD. BHOPAL

DEPT. HPE | CODE 415 | UNTOL. DIMS. GR. | SCALE | WEIGHT (K.G.) | REF.TO ASSY.DRG. | ITEM NO. | NO.OF ITEM

TITLE: CABLE TRAY LAYOUT DRAWING POWER HOUSE PLAN AT EL 1021.5M

DRAWING NO. 02920050001 | REV. 03

SHT. NO. 04 | NO. OF SHT. 07

A0 SIZE

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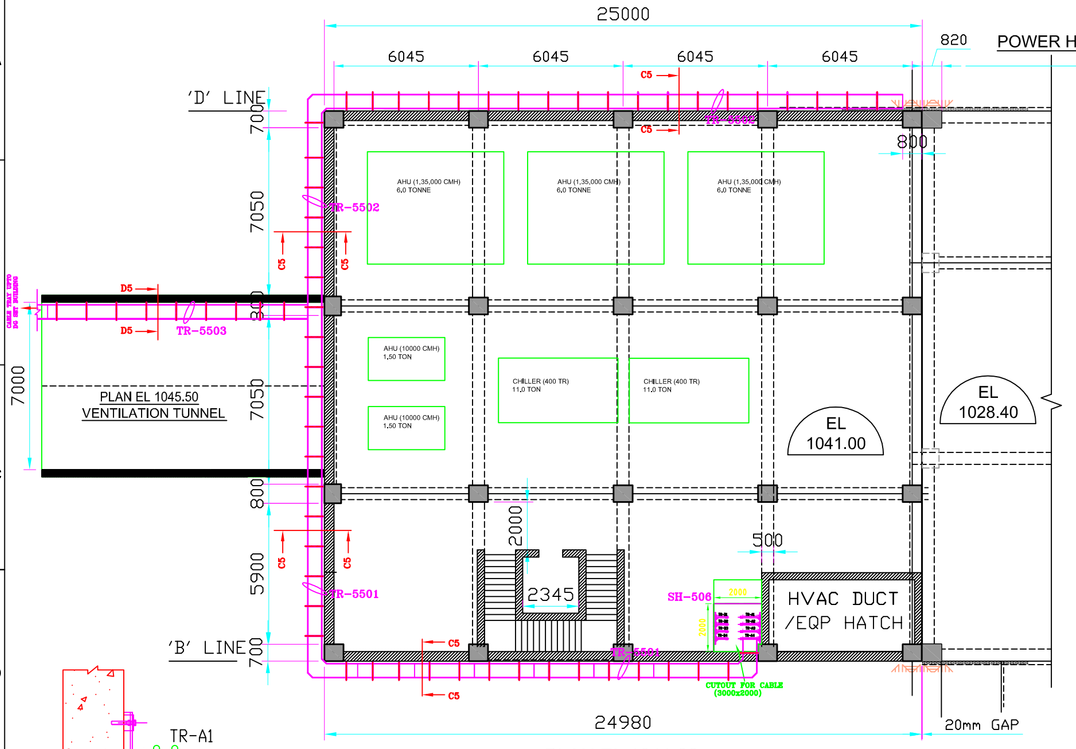
SIGN. & DATE | REF. DRG. NO. | INVENTORY NO.

FIRST ANGLE PROJECTION

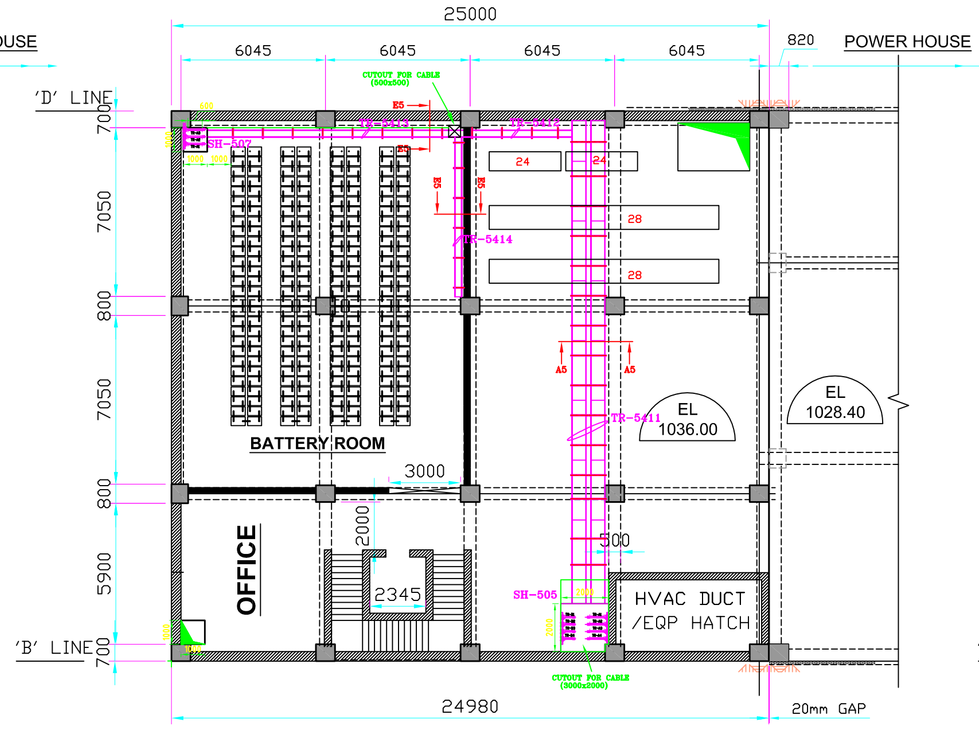
(ALL DIMENSIONS ARE IN mm)

DRG. NO. 02920050001



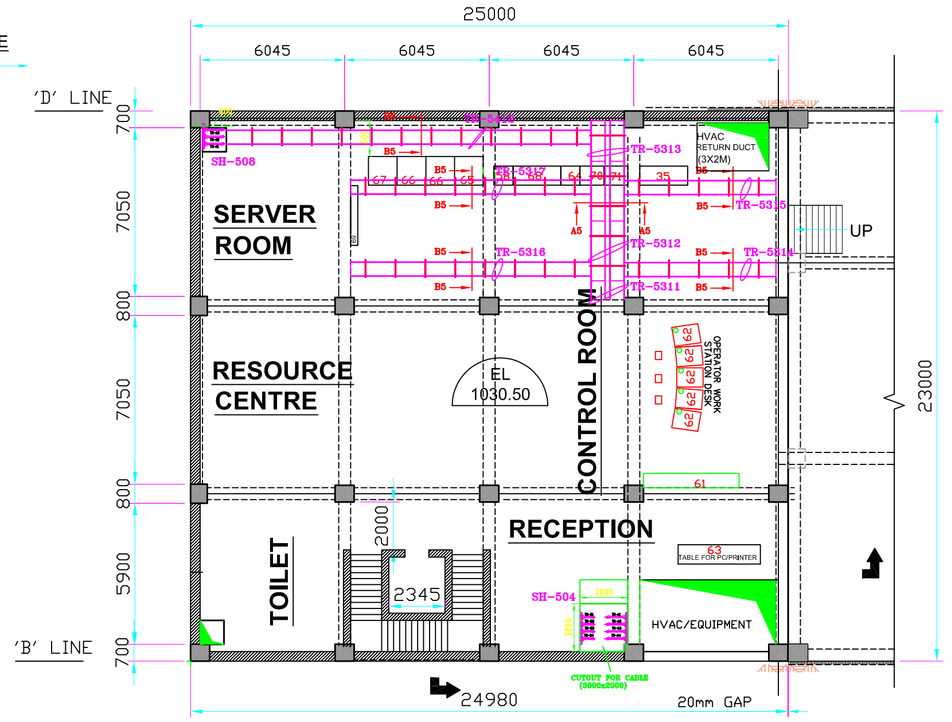
PLAN EL 1041.00

OFFICES AND HVAC ROOM



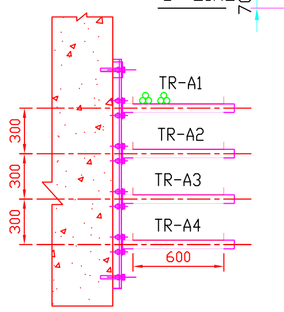
PLAN EL 1036.00

BATTERY ROOM AND OFFICES



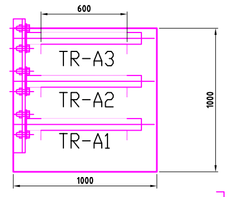
PLAN EL 1030.50

CONTROL ROOM



TR-A1,A2 = LADDER TRAY
TR-A3,A4 = PERFORATED TRAY

VIEW D5–D5

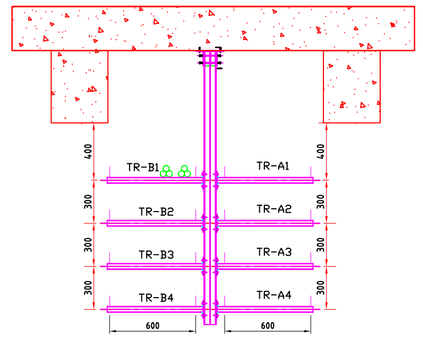


TR-A1,A2 = LADDER TRAY
TR-A3 = PERFORATED TRAY

CABLE SHAFT (TYP.)

(SH–507 TO 508)

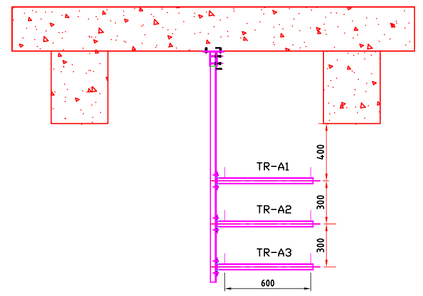
(SCALE–1:6)



TR-A1,A2,B1,B2 = LADDER TRAY
TR-A3,A4,B3,B4 = PERFORATED TRAY

VIEW A5–A5 (TYP.)

(SCALE–1:6)



TR-A1 = LADDER TRAY
TR-A2,A3 = PERFORATED TRAY

VIEW B5–B5 (TYP.)

(SCALE–1:6)

TABLE FOR DIMENSIONS OF EQUIPMENTS AT EL 1041.0M:–

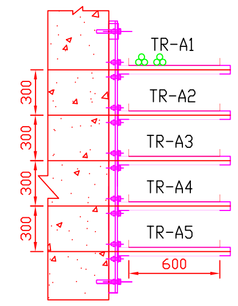
S.No	DESCRIPTION	APPROX. SIZE (mm) LENGTH	WIDTH	HEIGHT	WEIGHT (KgS.)	LOCATED AT EL()m	QUANTITY PER UNIT	TOTAL QUANTITY	REMARKS
24	AHU (135000 CMH)	5700	4700	3100	6000		–	3	HPE
26	AHU (10000 CMH)	3200	1800	1500	1500		–	2	HPE
28	CHILLAR (400 TR)	5000	2700	2600	11000		–	2	HPE

TABLE FOR DIMENSIONS OF EQUIPMENTS AT EL 1036.0M:–

S.No	DESCRIPTION	APPROX. SIZE (mm) LENGTH	WIDTH	HEIGHT	LOCATED AT EL()m	WEIGHT (KgS.)	QUANTITY PER UNIT	TOTAL QUANTITY	REMARKS
24	CHARGER CUBICLE(220V)	3000	800	2000	1036.0	1000	–	2	HSE
26	BATTERY (220V)	2x12000	1300	1000	1036.0	5700	–	2	HSE
28	DC DISTRIBUTION BOARD (220V)	9600	1000	2000	1036.0	1000	–	2	HSE

TABLE FOR DIMENSIONS OF EQUIPMENTS AT 1030.5M:–

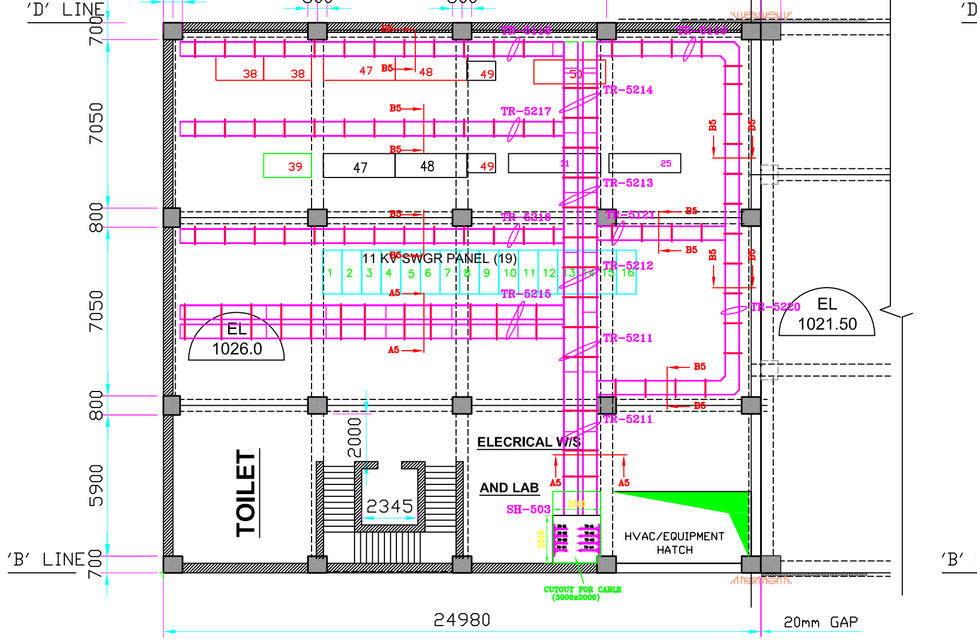
S.No	DESCRIPTION	APPROX. SIZE (mm) LENGTH	WIDTH	HEIGHT	LOCATED AT EL()m	WEIGHT (KgS.)	QUANTITY PER UNIT	TOTAL QUANTITY	REMARKS
35	FIRE PROTECTION PANEL	2000	800	2300	1030.5	–	–	1	HSE
58	GPS	800	800	2415	1030.5	500	–	1	EDN
61	LARGE VIDEO SCREEN EQUIPMENT	3000	1000	–	1030.5	500	–	1	EDN
62	OPERATOR STATION	4500	1200	–	1030.5	500	–	1	EDN
63	PRINTER	4000	600	–	1030.5	50	–	1	EDN
64	NETWORK PANEL	800	800	2415	1030.5	400	–	1	EDN
65	ENGINEERING STATION	1200	1200	–	1030.5	500	–	1	EDN
66	SIMULATOR STATION	2400	1200	–	1030.5	100	–	1	EDN
67	MAX STORAIN	1200	1200	–	1030.5	100	–	1	EDN
68	PUBLIC ADDRESS SYSTEM	2000	800	–	1030.5	150	–	1	HSE (BO)
69	EPABX	2500	300	–	1030.5	150	–	1	HSE (BO)
70	ENERGY METER PANEL	1000	800	2415	1030.5	750	–	1	EDN
71	NAS PANEL	1000	800	2415	1030.5	750	–	1	EDN



TR-A1,A2,A3 = LADDER TRAY
TR-A4,A5 = PERFORATED TRAY

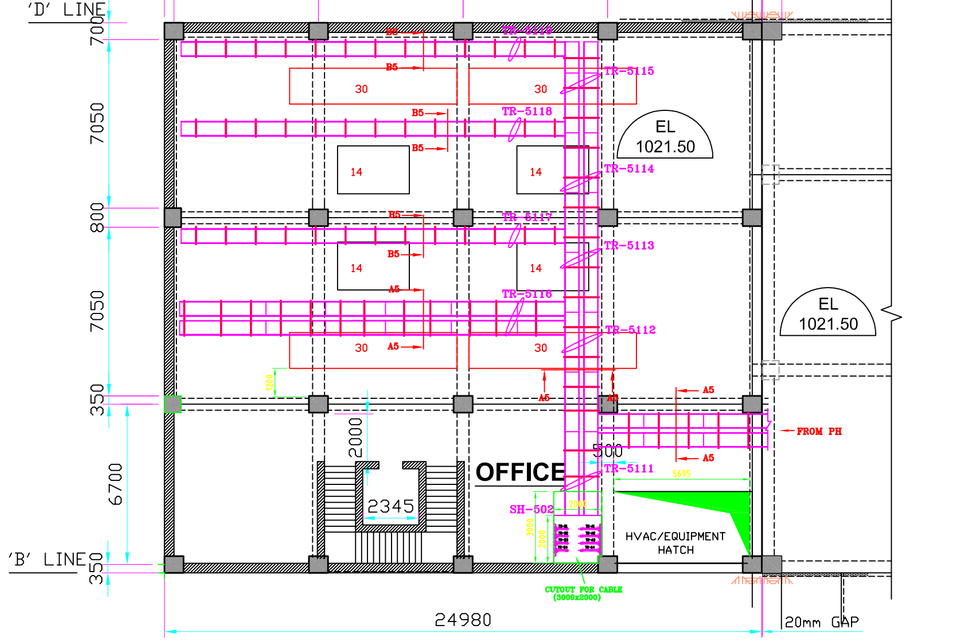
VIEW C5–C5 (TYP.)

(SCALE–1:6)



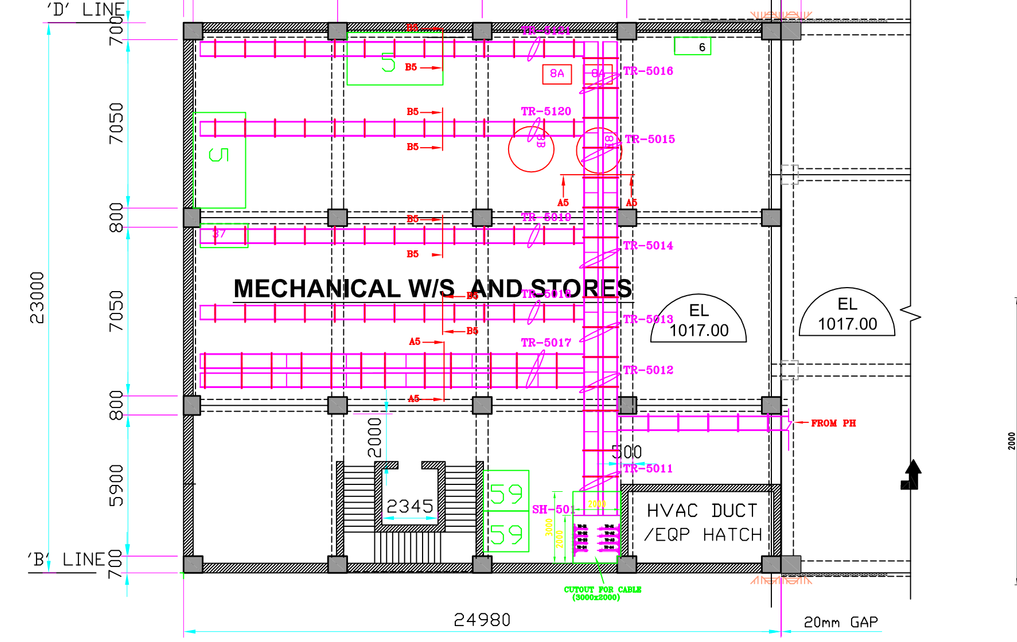
PLAN EL 1026.00

ELECTRICAL SERVICE FLOOR



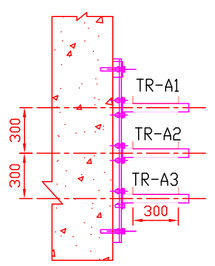
PLAN EL 1021.50

ELECTRICAL UTILITY FLOOR



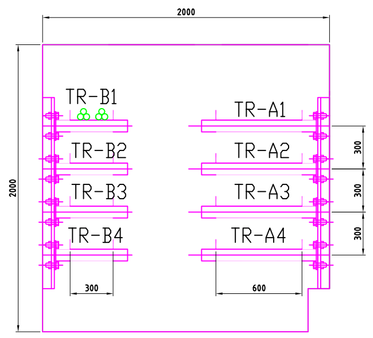
PLAN EL 1017.00

MECHANICAL SERVICE FLOOR



TR-A1 = LADDER TRAY
TR-A2,A3 = PERFORATED TRAY

VIEW E5–E5



TR-A1,A2,B1,B2 = LADDER TRAY
TR-A3,A4,B3,B4 = PERFORATED TRAY

CABLE SHAFT (TYP.)

(SH–501 TO 506)

(SCALE–1:6)

TABLE FOR DIMENSIONS OF EQUIPMENTS AT EL 1026.0M:–

S.No	DESCRIPTION	APPROX. SIZE (mm) LENGTH	WIDTH	HEIGHT	LOCATED AT EL()m	WEIGHT (KgS.)	QUANTITY PER UNIT	TOTAL QUANTITY	REMARKS
47	MAIN LIGHTING DISTRIBUTION BOARD	3000	1000	2300	1026.0		–	2	HSE
48	EMERGENCY LIGHTING DB	3000	1000	2300	1026.0		–	2	HSE
49	RECEPTABLE DB	1200	800	2300	1026.0		–	2	HSE
50	SWYD ACDB	2000	1000	2300	1026.0		–	1	HSE
31	LCB FOR COMMON SERVING BOARD	4000	800	2320	1026.0	2300	–	1	EDN
19	11 KV SWITCH GEAR PANEL	13500	1800	2400	1026.0	500	–	1	HSE
38	INVERTER	2000	1000	2000	1026.0	–	–	2	HSE
39	INVERTER DISTRIBUTION BOARD	1000	800	2000	1026.0	–	–	1	HSE
25	LCB FOR ELECTRICAL POWER SUPPLY	3000	800	2400	1026.0	2300	–	1	EDN

TABLE FOR DIMENSIONS OF EQUIPMENTS AT EL 1021.5M:–

S.No	DESCRIPTION	APPROX. SIZE (mm) LENGTH	WIDTH	HEIGHT	LOCATED AT EL()m	WEIGHT (KgS.)	QUANTITY PER UNIT	TOTAL QUANTITY	REMARKS
14	STATION AUXILIARY TRANSFORMER	3000	3000	2200	1021.5	5500	–	4	JHS
30	STATION AUXILIARY BOARD (SAB)	10500	1500	2450	1021.5	1500	–	4	HSE

TABLE FOR DIMENSIONS OF EQUIPMENTS PLACED AT TURBINE FLOOR:–

S.No	DESCRIPTION	APPROX. SIZE (mm) LENGTH	WIDTH	HEIGHT	LOCATED AT EL()m	WEIGHT (KgS.)	QUANTITY PER UNIT	TOTAL QUANTITY	REMARKS
6	STARTER PANEL FOR AIR COMPRESSOR	2500	800	2100	1017.0	–	–	1	HSE
8 A	L.P. AIR COMPRESSOR	1200	800	2000	1017.0	2500	–	2	HTE
8 B	L.P. AIR RECIEVER	ø1900	–	3400		2022	–	2	
37	WORKSHOP ACDB	2000	1000	2300	1017.0		–	1	
59	LUBRICATING OIL TANK	1700	1900	2000	1017.0	2800	–	2	HSE(GOV.)
5	CENTRIFUGE TYPE LUB. OIL PLANTS	4000	2200	2800	1017.0	2800		2	HSE

FOR NOTES REFER SHEET NO. 1

REV.	DATE	ALTERED / CHECKED / APPD.
03	12.10.2016	– DRAWING REVISED IN LINE WITH MHPA COMMENTS DATED 16/03/2016 (MHPA/E&M/EM–I/17/PCC/2016/847)
02	08.01.2016	– DRAWING REVISED IN LINE WITH MHPA COMMENTS DATED 7/1/2016
01	22.12.2015	– DRAWING REVISED IN LINE WITH STATION LAYOUT DRAWING

ADDITIONAL INFORMATION

STATUS OF DRAWING

DISTRIBUTION OF PRINTS

	NAME	SIGN	DATE	NO.OF VAR.
DRN	CLARA	–SD–	23.04.15	
CKD	R EKKA	–SD–	23.04.15	
APPD	R EKKA	–SD–	23.04.15	

SUB–SUPPLIER/VENDOR

PROJECT: 4X180MW MANGDECHHU HEP

CUSTOMER: MHPA, BHUTAN — MHPA DRG.NO. MHP–PCC01L00010 3

CONSULTANT: NHPC LIMITED (A GOVT. OF INDIA ENTERPRISE)

CONTRACTOR: BHARAT HEAVY ELECTRICALS LTD. BHOPAL

DEPT. HPE — CODE 415 — UNTOL. DIMS. GR. — SCALE — WEIGHT (K.G.) — REF.TO ASSY.DRG. — ITEM NO. — NO.OF ITEM

TITLE: CABLE TRAY LAYOUT DRAWING POWER HOUSE CONTROL BLOCK PLAN AT EL 1017.0M TO 1041.0M

DRAWING NO. 02920050001 — REV. 03

SHT. NO. 05 — NO. OF SHT. 07

A0 SIZE

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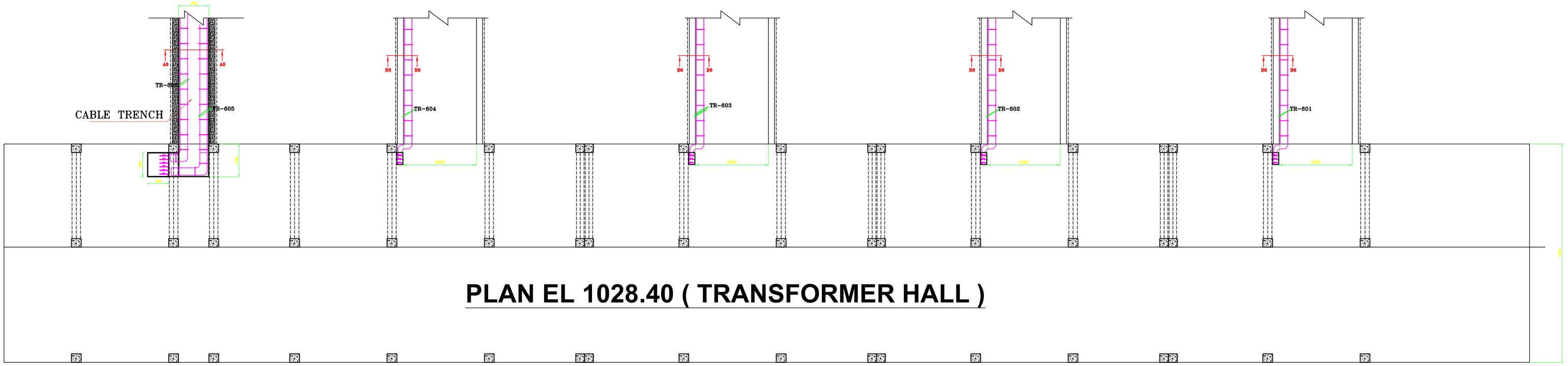
REF. DRG. NO. — SIGN. & DATE — INVENTORY NO.

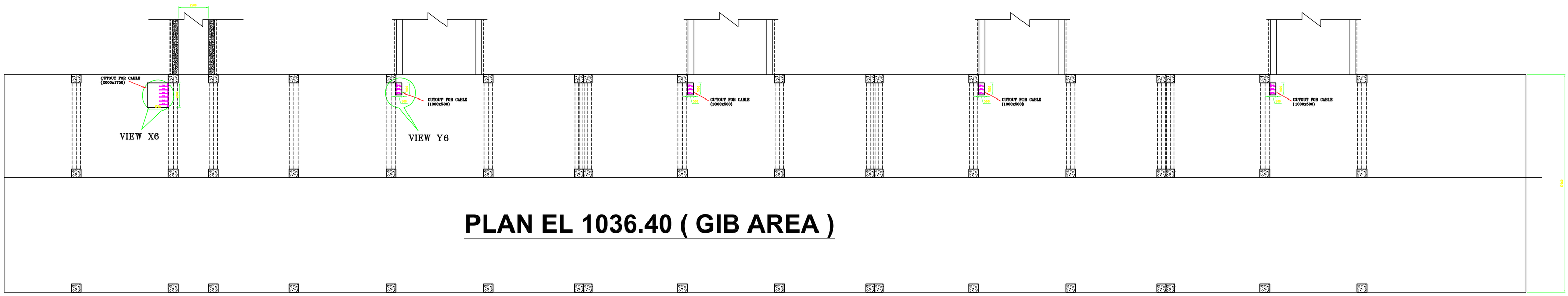
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

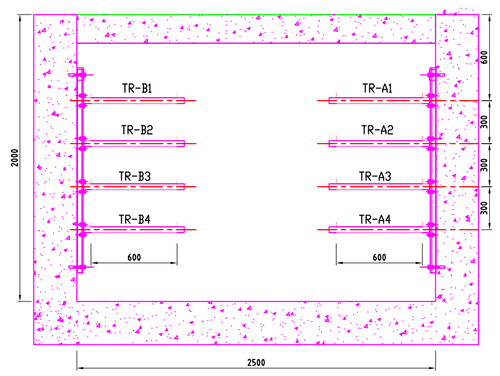
DRG. NO. 02920050001



PLAN EL 1028.40 (TRANSFORMER HALL)

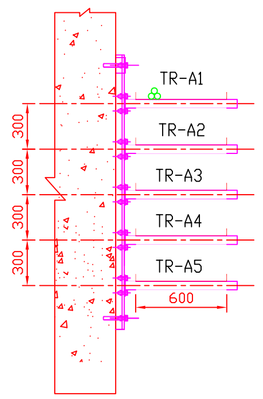


PLAN EL 1036.40 (GIB AREA)



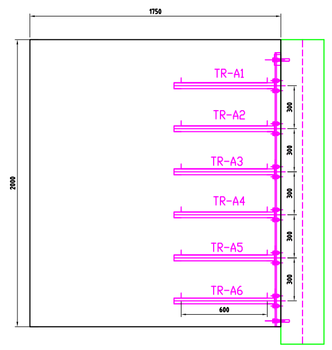
TR-A1,A2,A3,A4 = LADDER TRAY
TR-B1,B2,B3,B4 = PERFORATED TRAY

VIEW A6–A6
(SCALE-1:6)



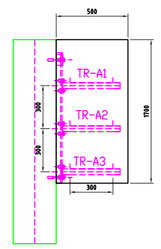
TR-A1,A2,A3 = LADDER TRAY
TR-A4,A5 = PERFORATED TRAY

VIEW B6–B6
(SCALE-1:6)



TR-A1,A2,A3 = LADDER TRAY
TR-A4,A5,A6 = PERFORATED TRAY

VIEW X6
(SCALE-1:6)



TR-A1 = LADDER TRAY
TR-A2,A2 = PERFORATED TRAY

VIEW Y6
(SCALE-1:6)

FOR NOTES REFER SHEET NO. 1

ADDITIONAL INFORMATION				PROJECT	4X180MW MANGDECHHU HEP
STATUS OF DRAWING				CUSTOMER	MHPA, BHUTAN MHPA DRG.NO. MHP-PCC01L00010 3
DISTRIBUTION OF PRINTS				CONSULTANT	NHPC LIMITED (A GOVT. OF INDIA ENTERPRISE)
	NAME	SIGN	DATE	NO.OF VAR.	
DRN	CLARA	-SD-	23.04.15		CONTRACTOR: BHARAT HEAVY ELECTRICALS LTD. BHOPAL
CKD	R EKKA	-SD-	23.04.15		
APPD	R EKKA	-SD-	23.04.15		
SUB-SUPPLIER/VENDOR					

DEPT.	UNTOL. DIMS. GR.	SCALE	WEIGHT (K.G.)	REF.TO ASSY.DRG.	ITEM NO.	NO.OF ITEM
HPE CODE 415						

TITLE: CABLE TRAY LAYOUT DRAWING POWER HOUSE PLAN AT EL 1028.40M & 1036.40M

DRAWING NO. 02920050001 — REV. 03

SHT. NO. 06 — NO. OF SHT. 07

REV.	DATE	ALTERED / CHECKED / APPD.	ZONE
03	12.10.2016	-DRAWING REVISED IN LINE WITH MHPA COMMENTS DATED 16/03/2016 (MHPA/E&M/Ele-1/17/PCC/2016/847)	
02	08.01.2016	-DRAWING REVISED IN LINE WITH MHPA COMMENTS DATED 7/1/2016	
01	22.12.2015	-DRAWING REVISED IN LINE WITH STATION LAYOUT DRAWING	

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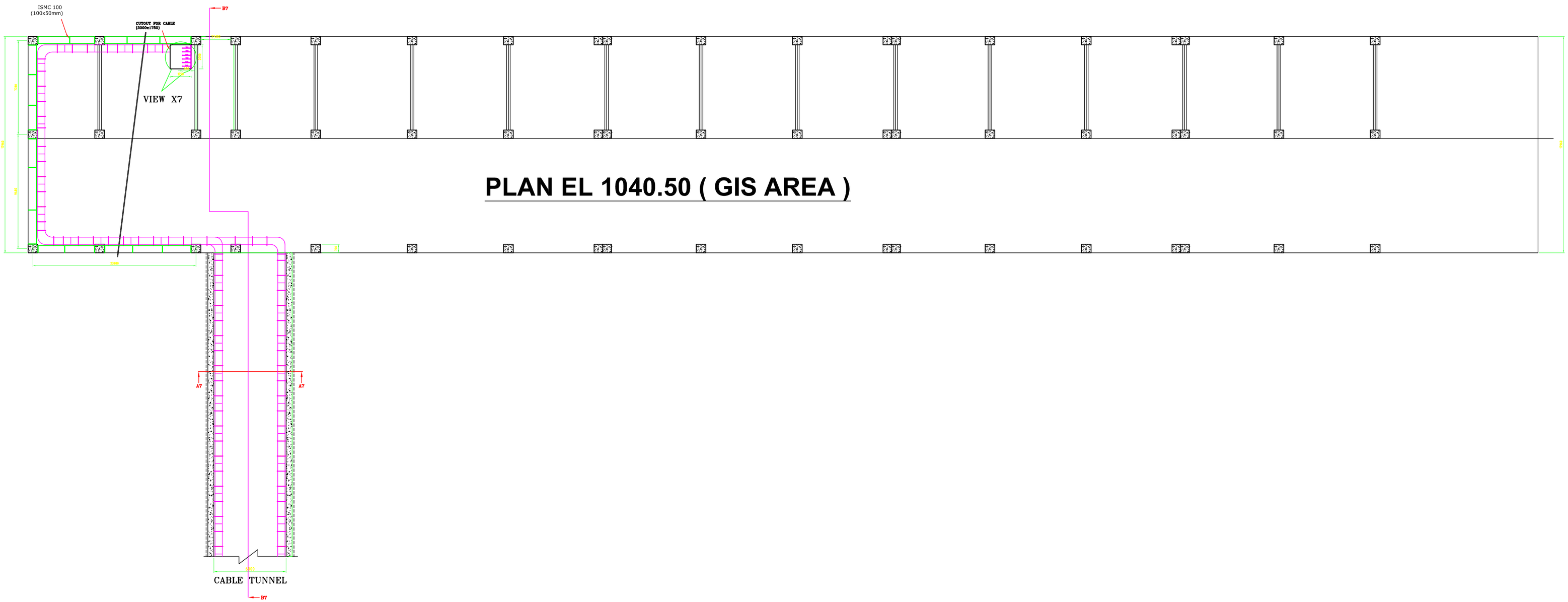
A0 SIZE

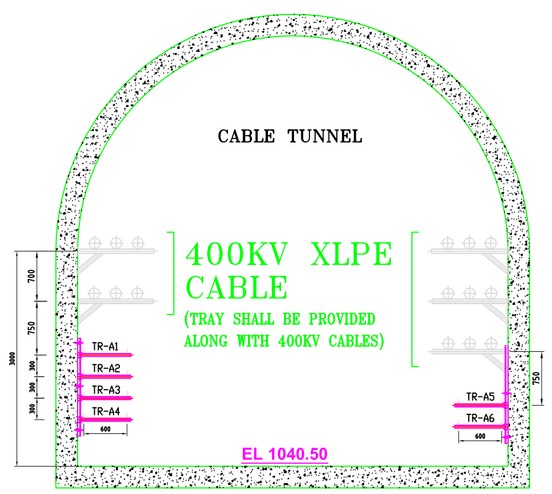
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

DRG. NO. 02920050001



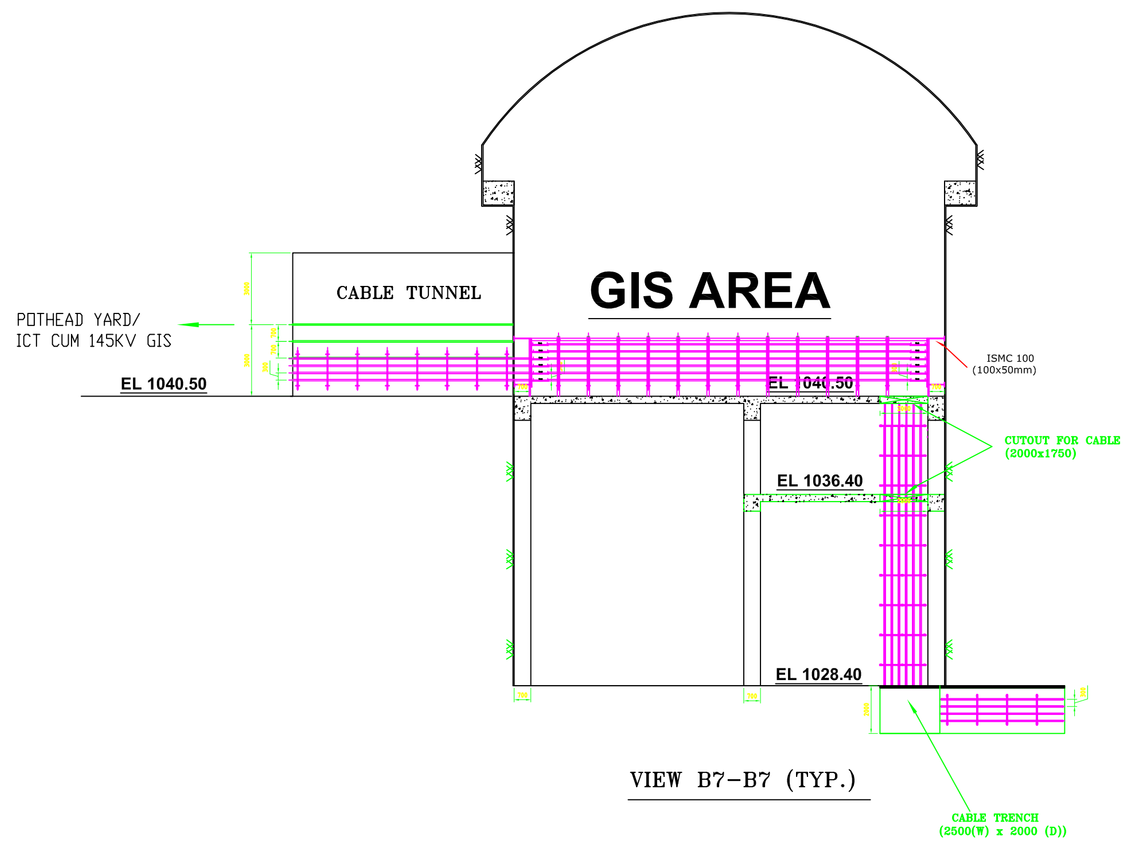
PLAN EL 1040.50 (GIS AREA)



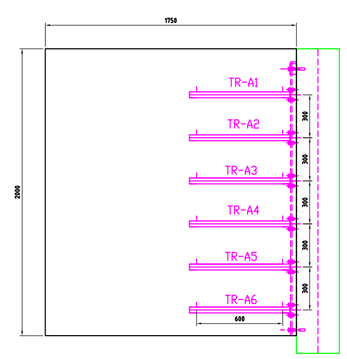
TR-A1,A2,A3 = LADDER TRAY
TR-A4,A5,A6 = PERFORATED TRAY

VIEW A7–A7

(SCALE-1:3)



VIEW B7–B7 (TYP.)



TR-A1,A2,A3 = LADDER TRAY
TR-A4,A5,A6 = PERFORATED TRAY

VIEW X7

(SCALE-1:6)

FOR NOTES REFER SHEET NO. 1

REV.	DATE	ALTERED / CHECKED / APPD.	REV.	DATE	ALTERED / CHECKED / APPD.	REV.	DATE	ALTERED / CHECKED / APPD.
03	12.10.2016		02	08.01.2016		01	22.12.2015	
ZONE	-DRAWING REVISED IN LINE WITH MHPA COMMENTS DATED 16/03/2016 (MHPA/E&M/EM-1/17/PCC/2016/847)		ZONE	-DRAWING REVISED IN LINE WITH MHPA COMMENTS DATED 7/1/2016		ZONE	-DRAWING REVISED IN LINE WITH STATION LAYOUT DRAWING	

ADDITIONAL INFORMATION	PROJECT	4X180MW MANGDECHHU HEP	
STATUS OF DRAWING	CUSTOMER	MHPA, BHUTAN	MHPA DRG.NO. MHP-PCC01L00010 2
DISTRIBUTION OF PRINTS	CONSULTANT	NHPC LIMITED (A GOVT. OF INDIA ENTERPRISE)	
DRN CLARA -SD- 23.04.15; CKD R EKKA -SD- 23.04.15; APPD R EKKA -SD- 23.04.15	CONTRACTOR	BHARAT HEAVY ELECTRICALS LTD. BHOPAL	
SUB-SUPPLIER/VENDOR	DEPT. HPE CODE 415	UNTOL. DIMS. GR. / SCALE / WEIGHT (K.G.)	REF.TO ASSY.DRG. / ITEM NO. / NO.OF ITEM
	TITLE	CABLE TRAY LAYOUT DRAWING POWER HOUSE PLAN AT EL 1040.50M (GIS AREA)	DRAWING NO. 02920050001 / REV. 03 / SHT. NO. 07 / NO. OF SHT. 07

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IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

SIGN. & DATE | REF. DRG. NO. | INVENTORY NO.

A0 SIZE