भारत हेवी इलेक्ट्रिकल्स लिमिटेड
(सार्वजनिक क्षेत्र का उपक्रम)
Bharat Heavy Electricals Limited
(A Public Sector Undertaking)

पावर सेक्टर- पश्चिमी क्षेत्र Power Sector-Western Region
श्रीमोहिनी काम्पलेक्स, 345 किंग्सवे, नागपुर Shreemohini complex, 345 Kingsway Nagpur - 440 001
फोन / Phone 0712- 3048600, फैक्स FAX: 0712- 3048699 www.bhelpswr.co.in

Ref: BHE/PW/PUR/2101094/Corg-01 Date: 30/08/2021

To
ALL BIDDERS,

Sub: Corrigendum-01: Amendment to Tender specification document & due date extension

Reference:

1. **E-Tender specification No:** 2101094

2. **Scope of work:** Detailed drawing preparation based on Input design drawings provided by BHEL-Engineering Centers for Flue Gas Desulphurization (FGD) Package as specified in scope and getting approval from BHEL- Engineering Centers/ NTPC. Fabrication and supply of finished product (procurement of raw structural steel will be in the scope of bidder) i.e. structures of FGD as per BOM/Drawings at 2X500 MW NTPC Mauda, Stage-I, TPP-FGD, Maharashtra.

Bidders to kindly take note of the following:

AA) Amendment to tender condition:

GA Drawings attached with this Corrigendum (for tendering purpose only) shall form the integral part of the tender Document (Vol-IA-Technical Conditions of contract).

BB) Amendment to tender condition:

S. No.	Cl. Of Tender Specification	Description	Existing Provision	Amended as
1	Vol-IA-TCC-Chapter-II, Sl. No. 2 (b) , Page 29 of 72	Scope of work	A list of structural steel sections requirement-(TENTATIVE as per initial stage of engineering) for the scope of work is attached as Appendix-1. This list is not exhaustive and is only for general purpose and may vary during the detailed engineering	This clause stands deleted.
2	Vol-IA-TCC-Chapter-VI (Time Schedule), Sl. No. 6.1.2 (12) , Page 41 of 72	Activity	Supply of Shop Fabrication Material to Site as per scope of Work	Completion of Supply of Shop Fabrication Material to Site as per scope of Work.

भारत हेवी इलेक्ट्रिकल्स लिमिटेड
(सार्वजनिक क्षेत्र का उपक्रम)
Bharat Heavy Electricals Limited
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श्रीमोहिनी काम्पलेक्स, 345 किंग्सवे, नागपूर Shreemohini complex, 345 Kingsway Nagpur - 440 001
फोन / Phone 0712- 3048600, फैक्स FAX: 0712- 3048699 www.bhelpswr.co.in

Ref: BHE/PW/PUR/2101094/Corg-01 Date: 30/08/2021

CC) Tender Due date extension:

Due date of offer submission has been extended till 02/09/2021, 15.00 Hrs., Technical bid shall be opened on 02/09/2021, 17.00 Hrs.

==========

All other Terms and conditions of the Tender Specification shall remain unaltered unless expressly amended by BHEL in writing. Bidders are requested to submit as a part of their offer, a copy of this corrigendum duly Digitally countersigned by the authorized signatory as a token of Bidder's unqualified acceptance of this corrigendum.

BIDDERS MAY PLEASE NOTE THAT SUBJECT TENDER IS E-TENDER AND THE OFFER IS TO BE SUBMITTED ONLY IN E-PROCUREMENT PORTAL→ **https://eprocurebhel.co.in**

BIDDERS WHO HAVE ALREADY SUBMITTED THEIR OFFERS PRIOR TO ISSUANCE OF THIS CORRIGENDUM IN E-TENDER PORTAL ARE REQUIRED TO RE-SUBMIT THEIR OFFER AFTER TAKING COGNIZANCE OF THIS CORRIGENDUM.

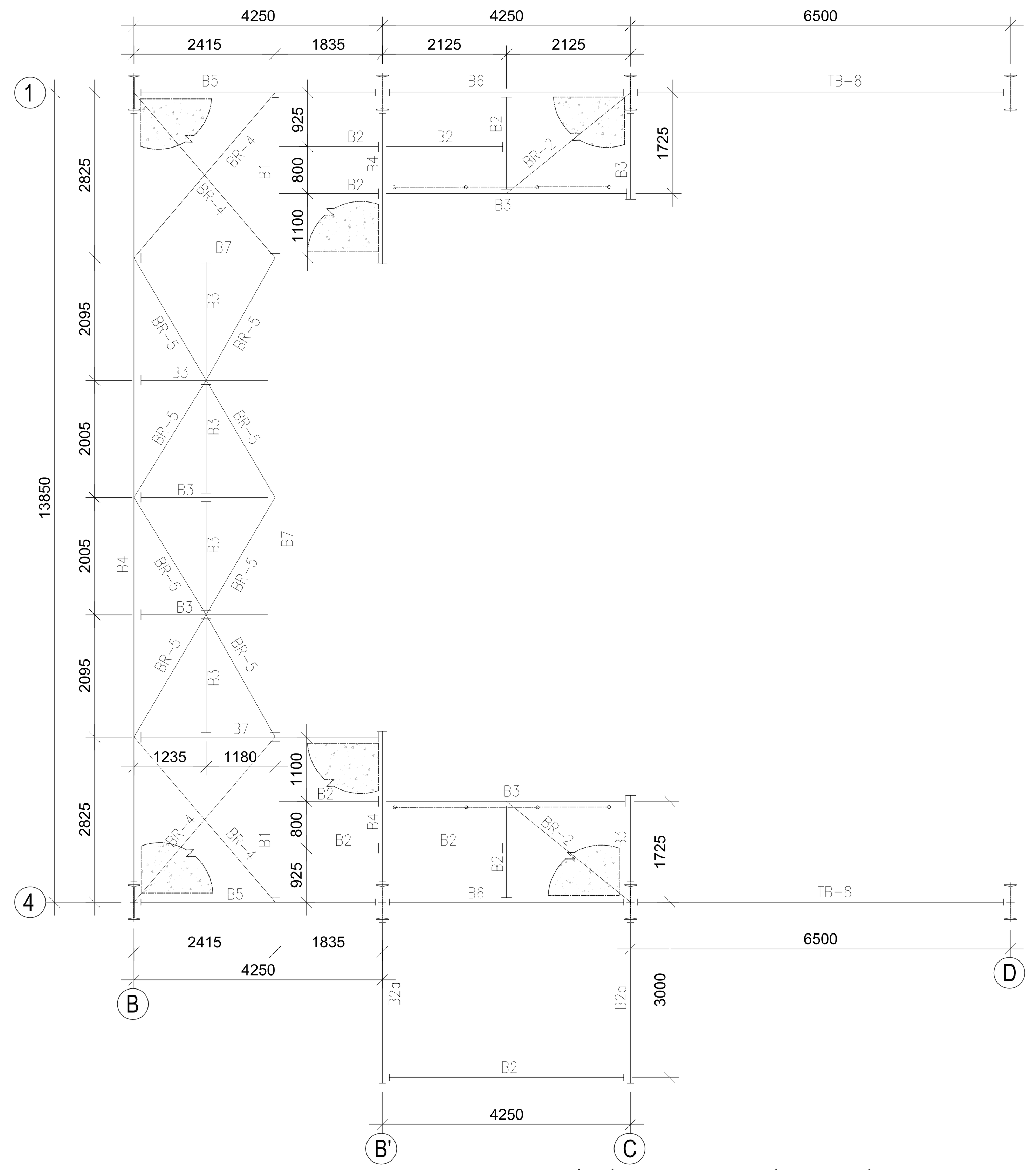
Thanking you,
Yours faithfully,

GM (Purchase)

FIRST ANGLE PROJECTION

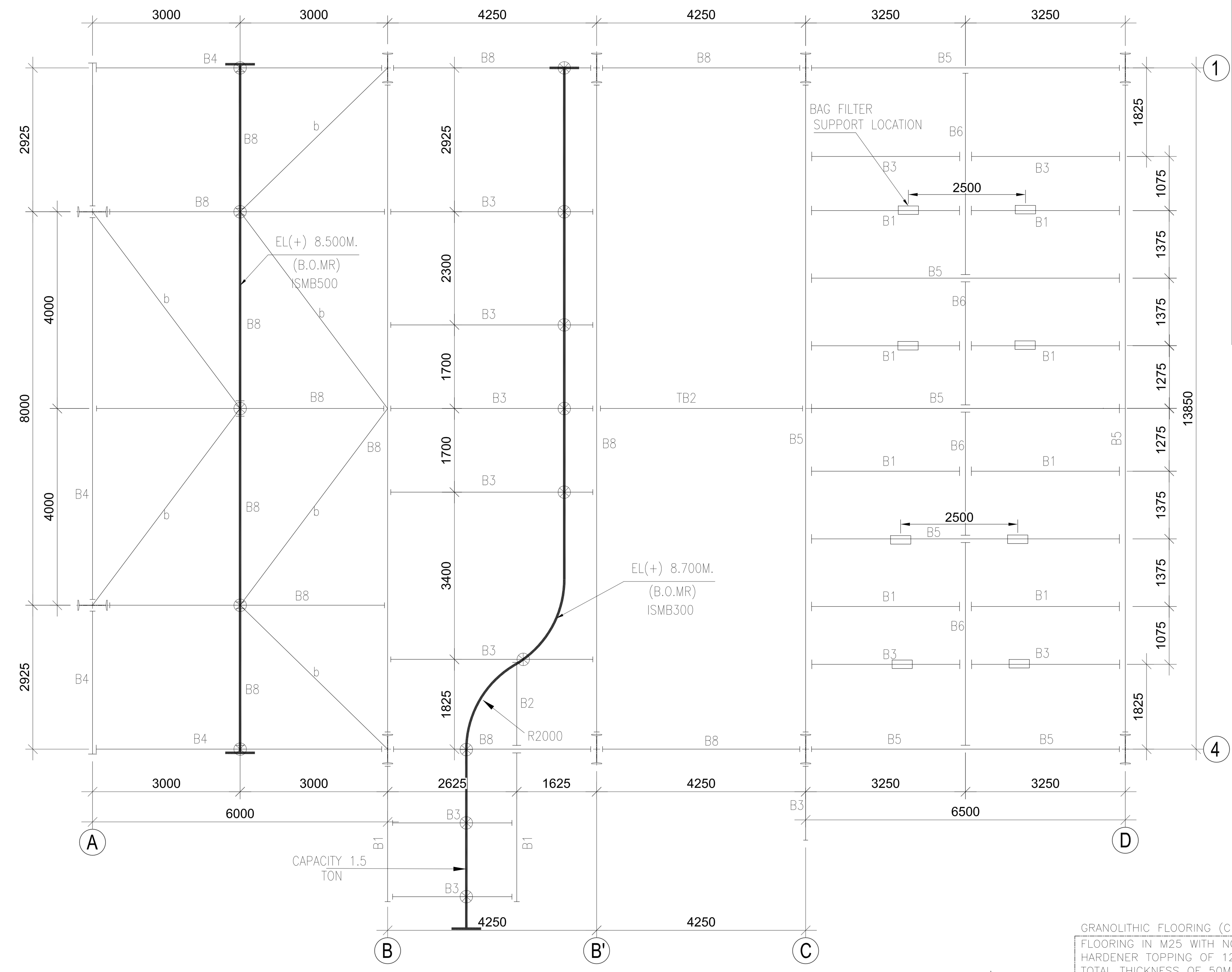
ALL DIMENSIONS ARE IN MM

DO NOT SCALE. IF IN DOUBT, ASK.

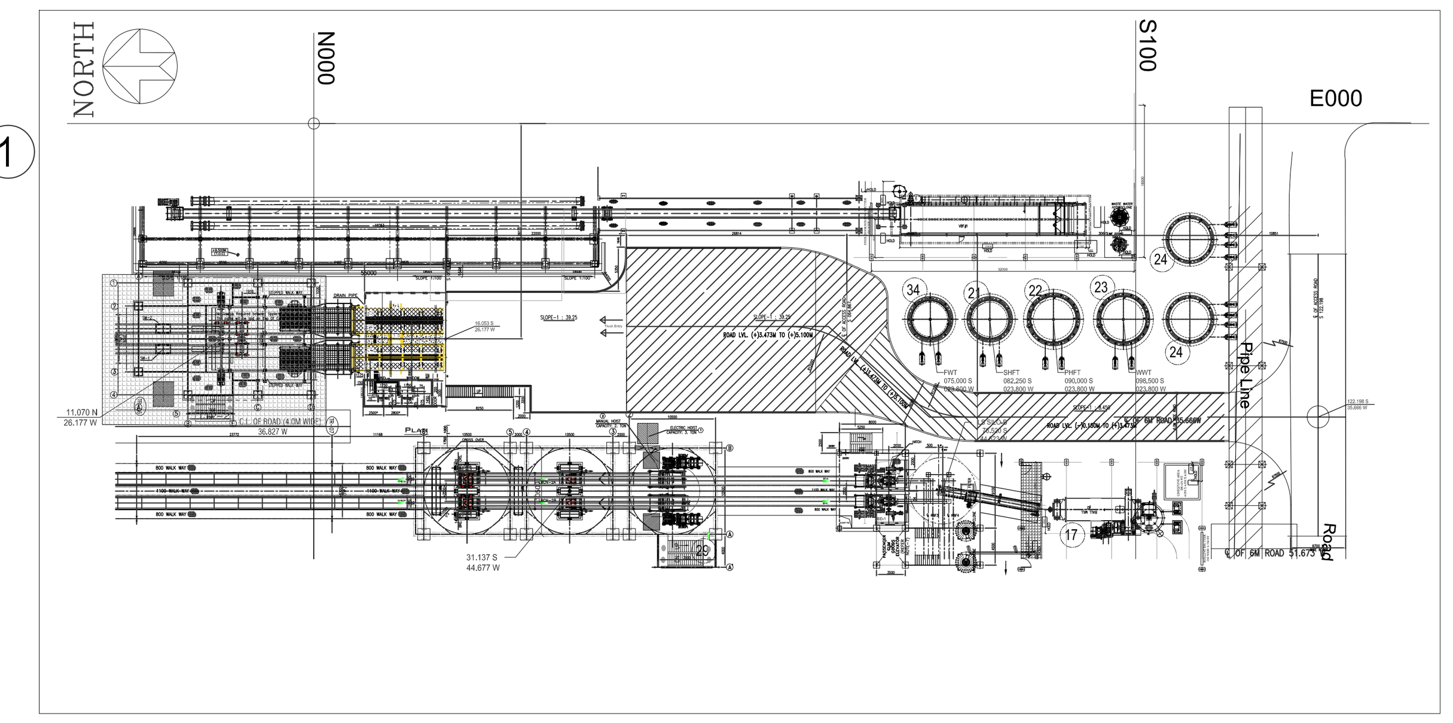


FLOOR PLAN AT EL(+)2.400M (T.O.C)

FLOOR PLAN AT EL(+)2.200M (T.O.S)



FLOOR PLAN AT EL(+)9.240M (T.O.S)

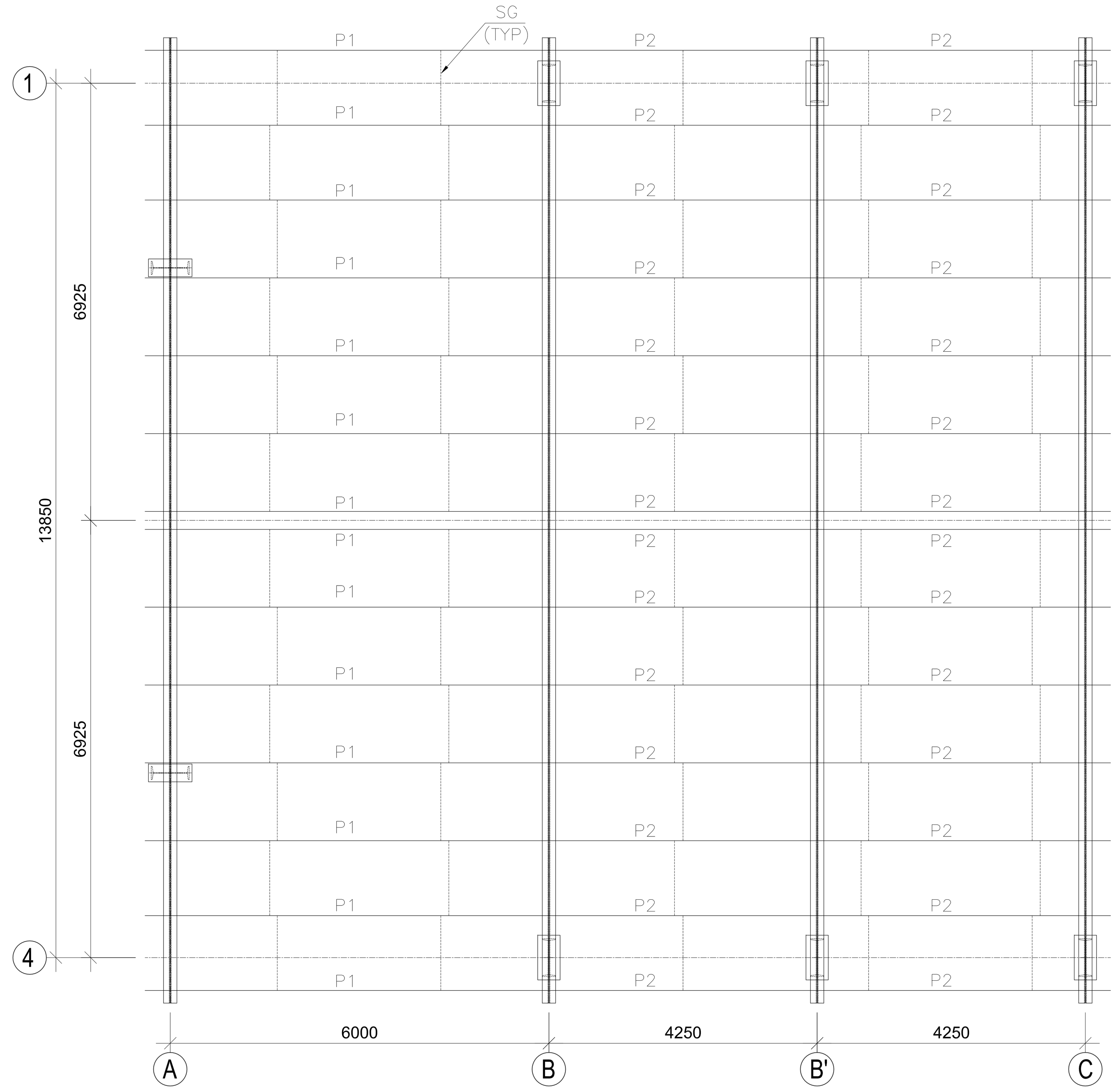


KEY PLAN

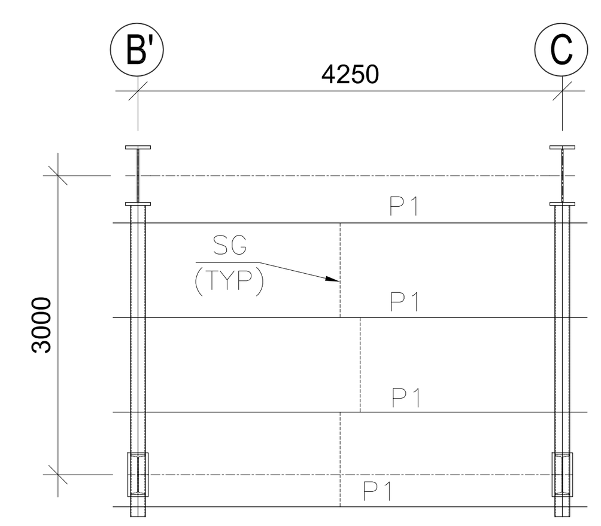
Signature Not Verified
Digitally signed by SAMANTA
Date: 2019.11.19 16:27:54 IST
Reason: CAT IVR
Location: NTPCEOC

1)provide structural members as per staad model in 9561-109-ISG-PVC-U-500 revised drawing
2)provide plan bracing as per revised design document
3)incorporate comments marked in design document

DESIGN/DRAWING TO CONFORM TO LATEST MECHANICAL/ELECTRICAL GA DRG.
ALL FURTHER CHANGES TO BE INCORPORATED IF ANY.
ALL PREVIOUS COMMENTS, IF ANY, ARE DEEMED TO HAVE BEEN INCORPORATED.
BHEL to recheck before taking up construction-Approval does not absolve the turnkey contractor from ensuring structural safety and functional adequacy of the structure.
APPROVED IN CAT-II
SUBJECTED TO INCORPORATION OF MARKED COMMENTS



PLAN AT PURLIN LEVEL



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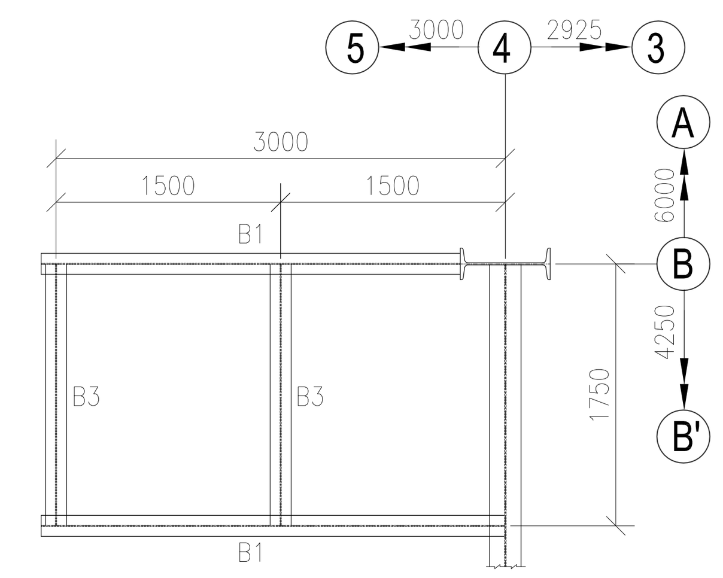
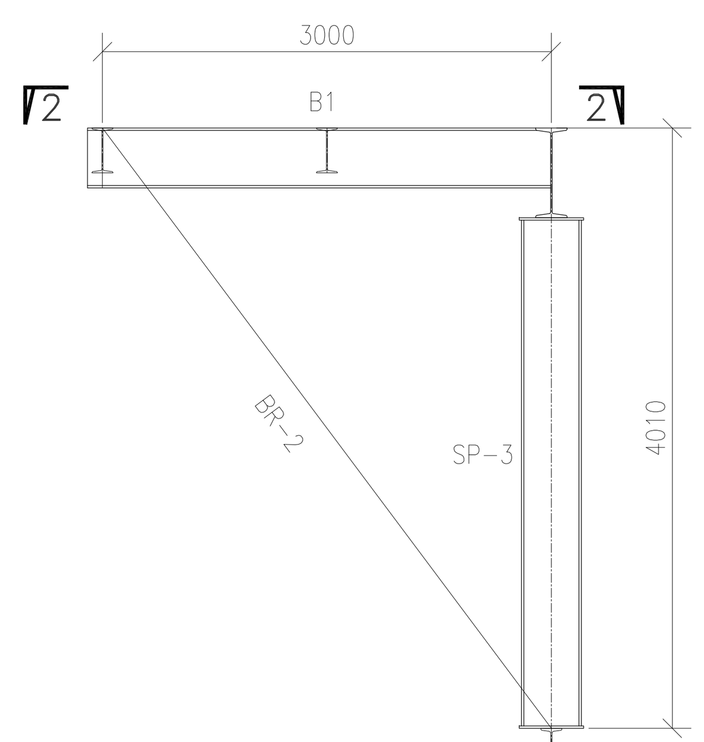
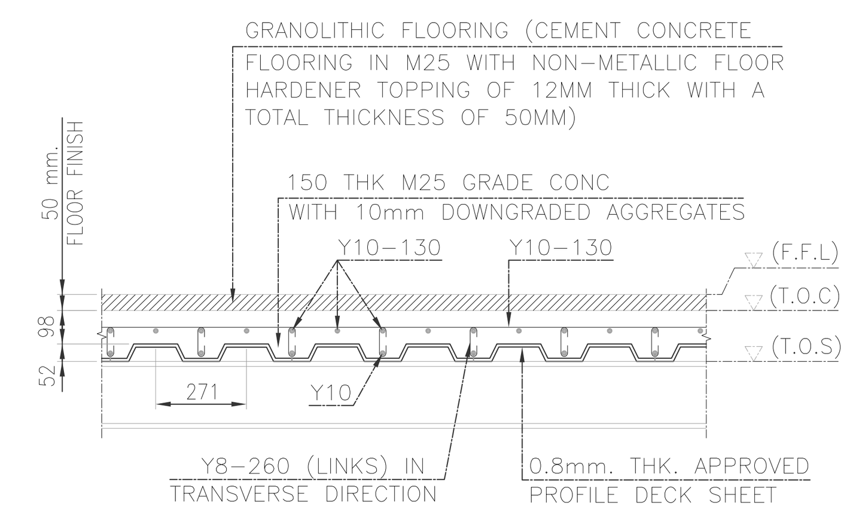


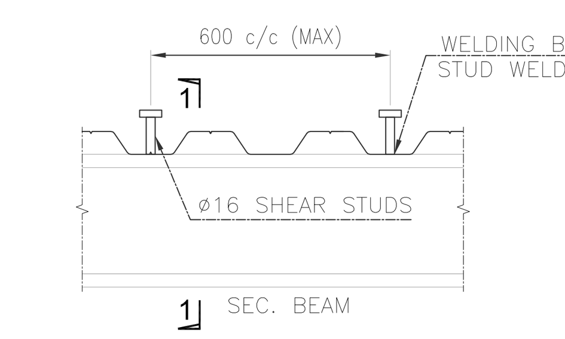
SECTION 2-2
SCALE 1:50



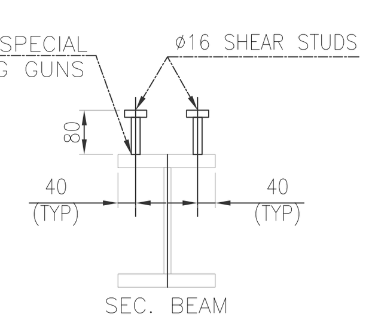
SECTION 1-1
SCALE 1:50



TYP. CROSS SECTION OF R.C.C FLOOR



TYPICAL DETAIL OF SHEAR STUDS



SECTION 1-1

NOTES:-

1. ALL DIMENSIONS & LEVELS ARE IN mm.
2. EL(±)0.00 CORRESPONDS TO RL(+)271.500 M WHICH IS FFL OF POWER HOUSE BUILDING.
3. ALL PERMANENT BOLTS HOLE ARE 25.5ø FOR M-24 BOLTS U.O.N
4. ALL MEMBERS AND GUSSETS PLATES TO BE CUT AFTER FULL SCALE SHOP LAYOUT
5. ALL SHOP WELD ARE 8mm. THICK AND SITE WELD ARE 8mm. THICK. U.O.N
6. ERECTION BOLTS HOLES ARE SHOWN THUS
7. PERMANENT BOLTS HOLES ARE SHOWN THUS
8. SURFACE TO BE FINISHED SHOWN THUS
9. ALL ERECTION BOLTS SHALL BE RETAINED IN POSITION PERMANENTLY.
10. THIS DRAWING READ IN CONJUNCTION WITH DRAWING NO. 9561-109-ISG-PVC-B-435 SH-1 TO 3
11. REF. MECH DRG : 6130-109-LGH-PVM-W-001

NTPC Limited
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT: 2 X 500MW MAUDA STPP FGD

BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

TITLE: STRUCTURAL GA FOR TRANSFER POINT-1-FLOORS

	NAME	SIGN	DATE	DEPT.	CODE
DESN.	ABD		17.09.19		
DRN.	PANCHU		17.09.19		
CHKD.	P.REDDY		17.09.19		
APPD.	SCC		17.09.19		

NTPC DRG. NO.: 9561-109-ISG-PVC-B-434 REV. NO.: 00

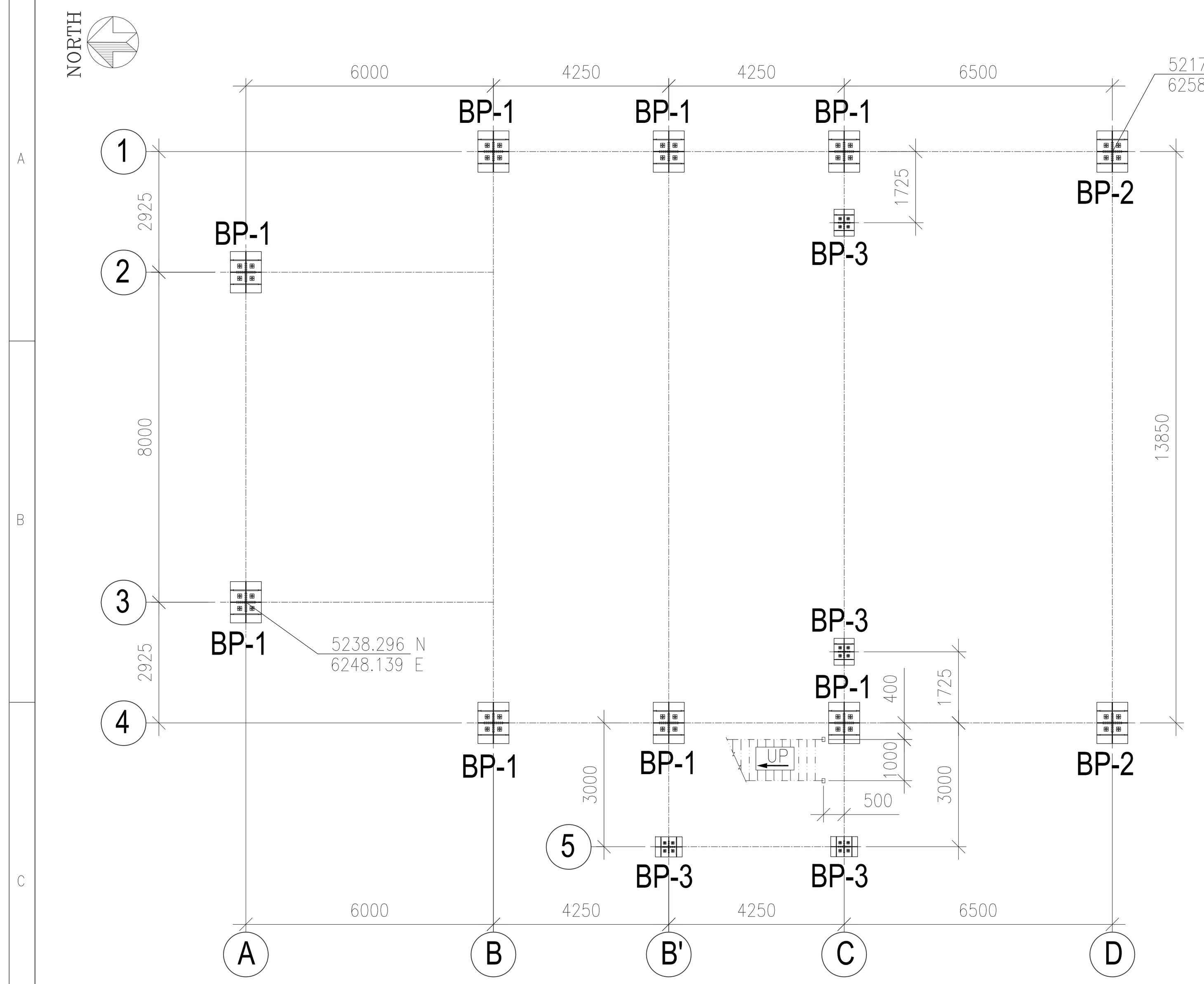
BHEL DRG. NO.: IS-1-GA-721-200-C013

SCALE: 1:1 SHEET NO.: 01 NO. OF SHEETS: 01

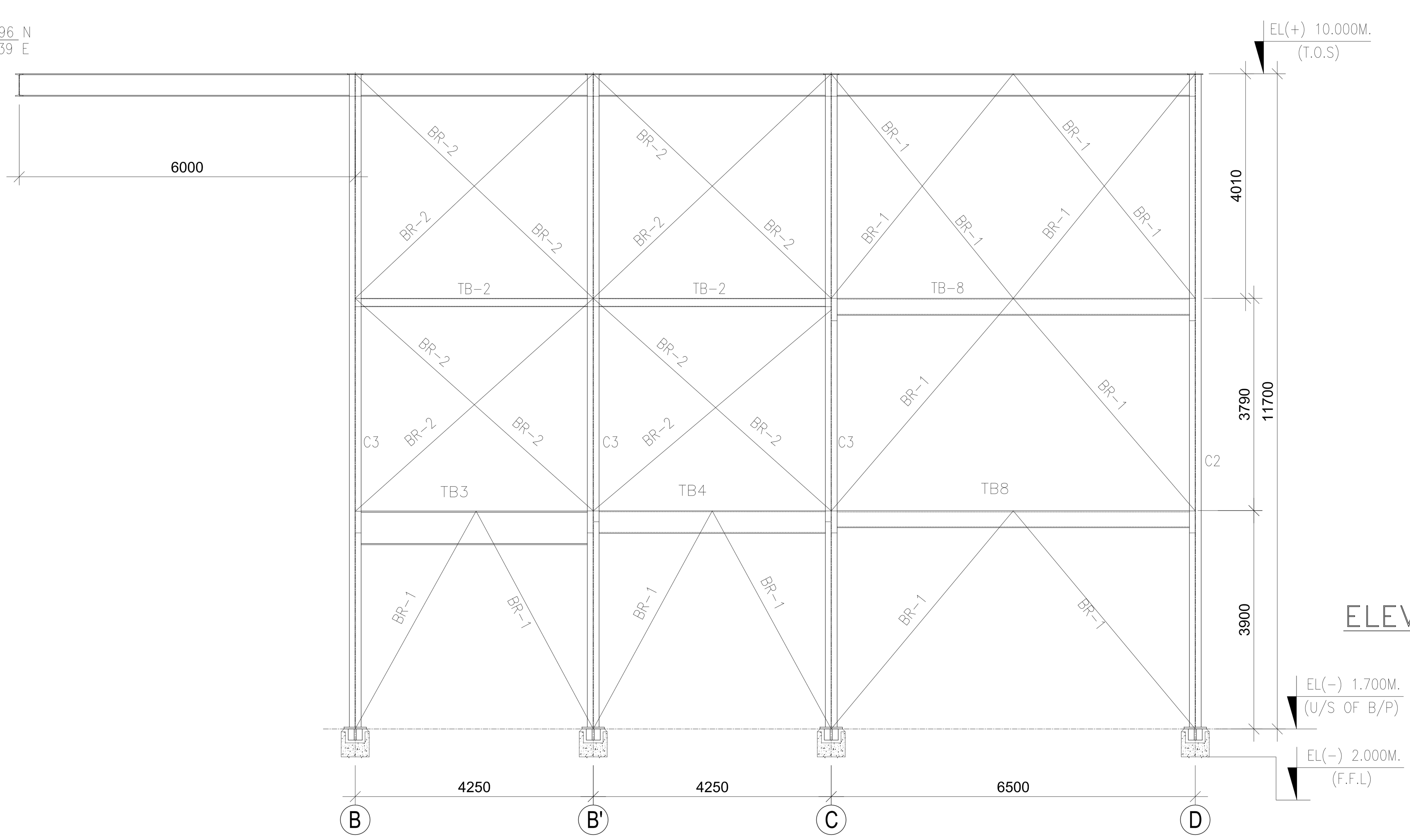
FORM-66.101 SIZE-A1

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

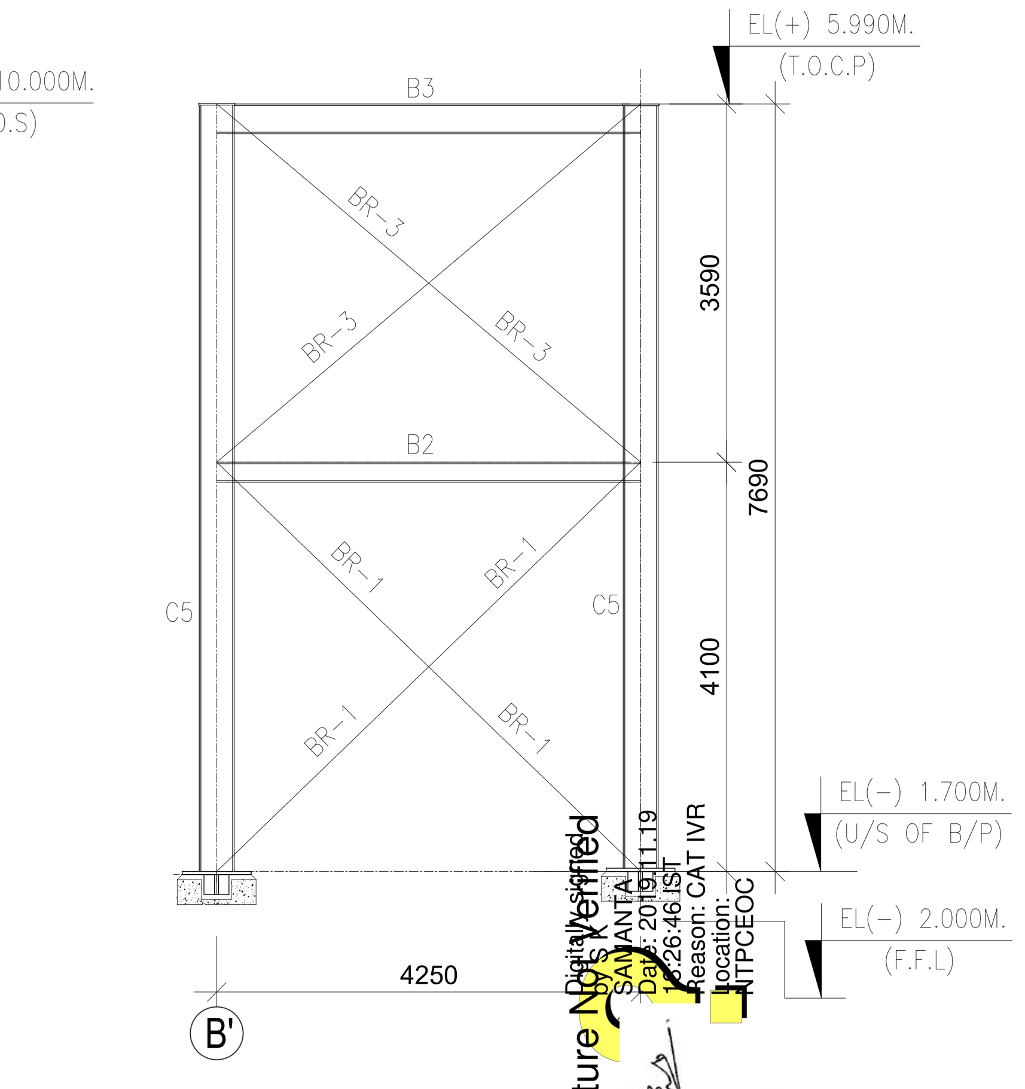


PLAN AT BASE PLATE LEVEL



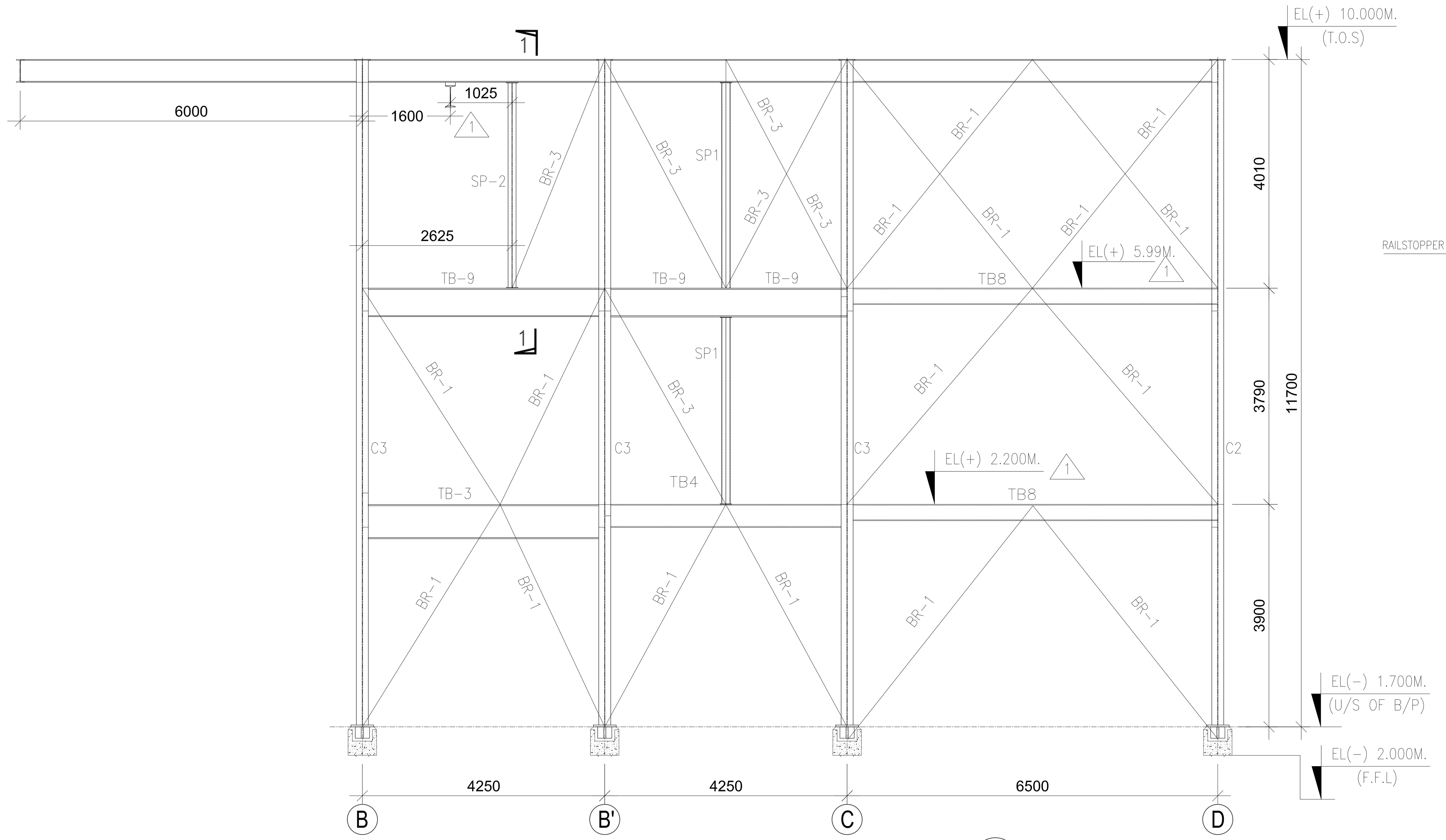
ELEVATION ALONG GRID 1

SCALE 1:75



ELEVATION ALONG GRID 5

SCALE 1:75



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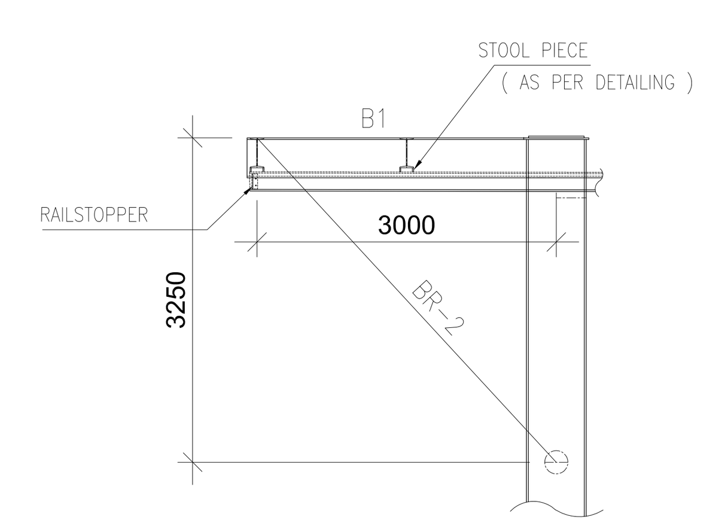
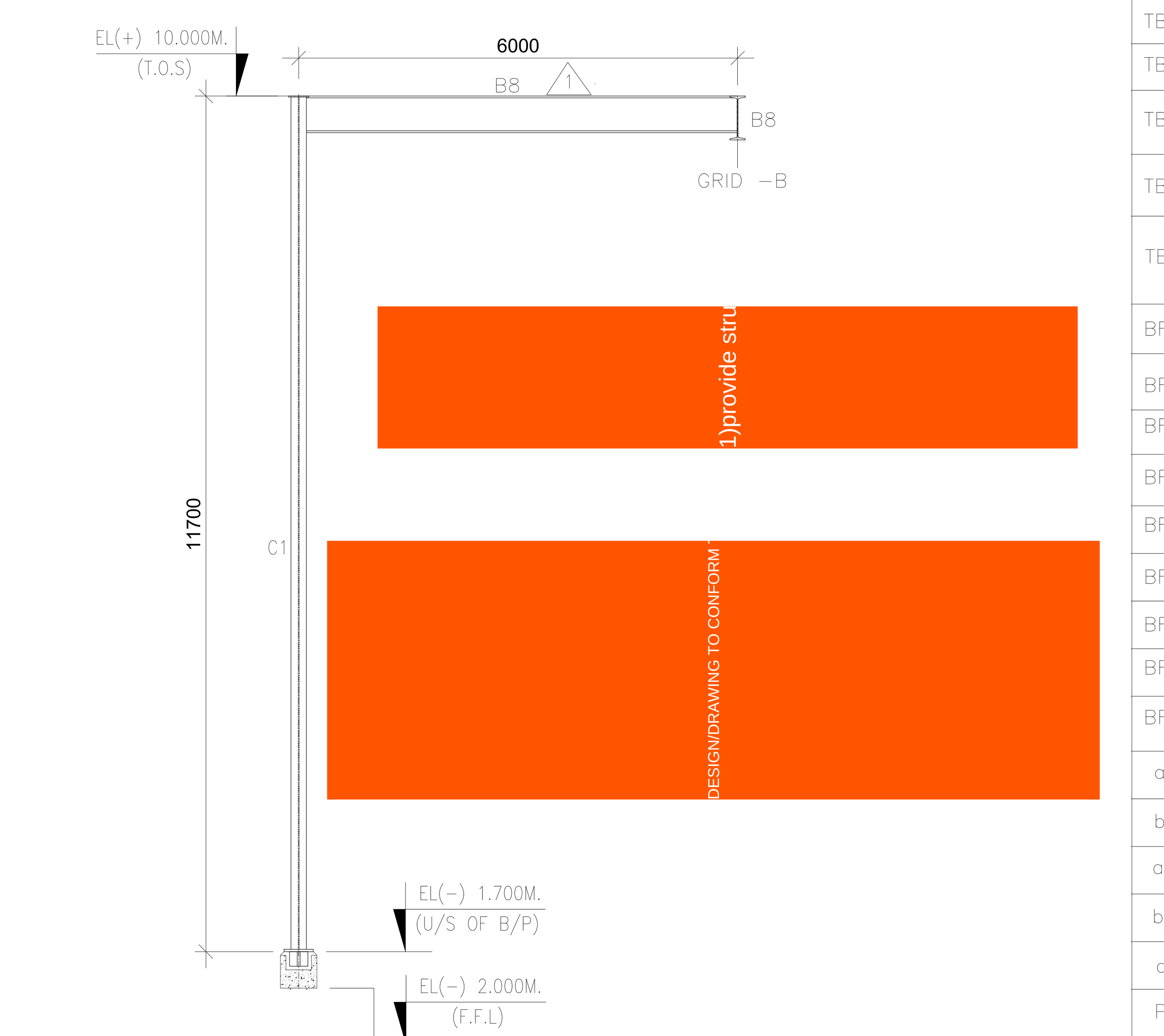
SCALE 1:75



VIEW-1-1

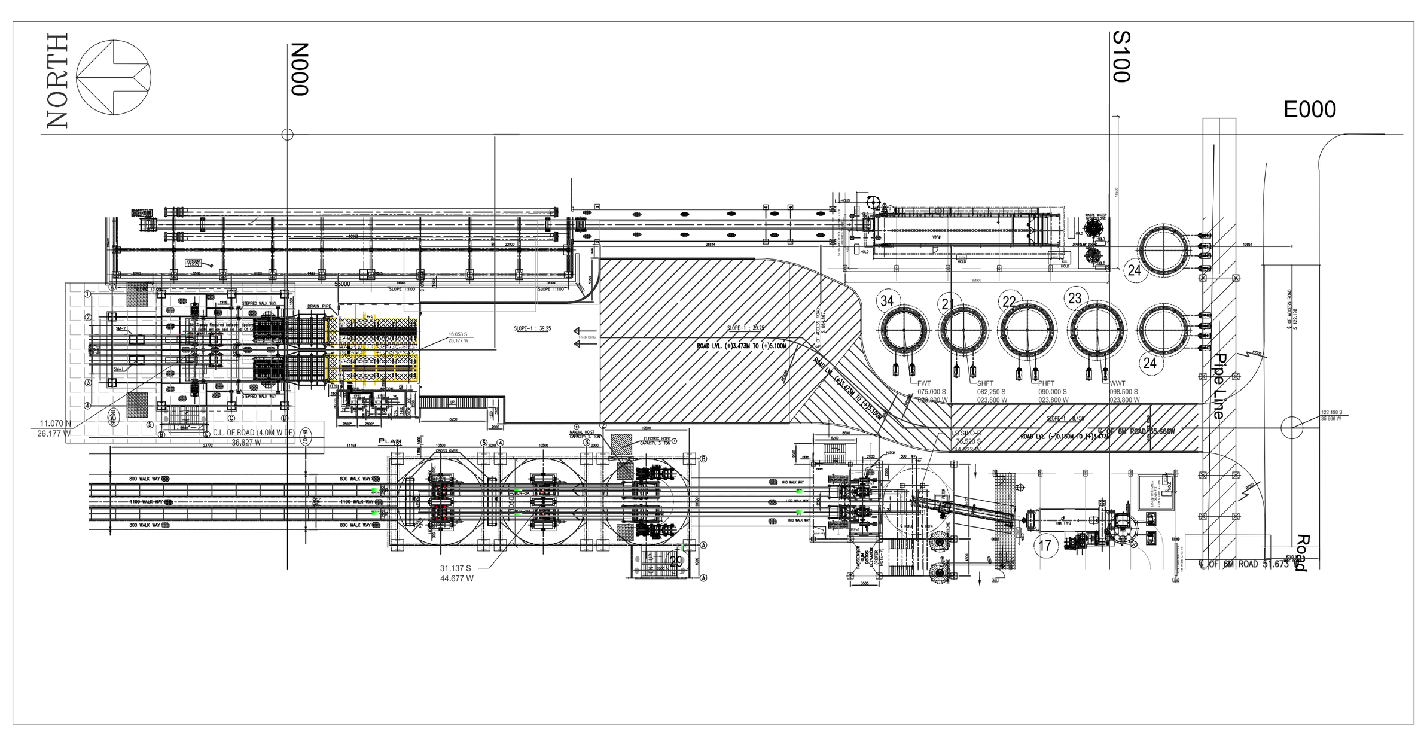


ELEVATION ALONG GRID 3

SCALE 1:75

NOTES:-

1. ALL DIMENSIONS & LEVELS ARE IN mm.
2. EL(±)0.00 CORRESPONDS TO RL(+)271.500 M, WHICH IS FFL OF POWER HOUSE BUILDING.
3. ALL PERMANENT BOLTS HOLE ARE 25.5ø FOR M-24 BOLTS U.O.N
4. ALL MEMBERS AND GUSSETS PLATES TO BE CUT AFTER FULL SCALE SHOP LAYOUT
5. ALL SHOP WELD ARE 8mm. THICK AND SITE WELD ARE 8mm. THICK. U.O.N
6. ERECTION BOLTS HOLES ARE SHOWN THUS
7. PERMANENT BOLTS HOLES ARE SHOWN THUS
8. SURFACE TO BE FINISHED SHOWN THUS
9. ALL ERECTION BOLTS SHALL BE RETAINED IN POSITION PERMANENTLY.
10. THIS DRAWING READ IN CONJUNCTION WITH DRAWING NO. 9561-109-ISG-PVC-B-434 & 9561-109-ISG-PVC-B-435 SH-2 & 3
11. REF. MECH DRG : 9561-109-ISG-PVM-B-566-REV01



KEY PLAN

DO NOT SCALE, IF IN DOUBT, ASK.

SCHEDULE OF MEMBERS

MARK	PROFILE	SECTION	REMARKS
C1		① PL. 250x20 THK. ② PL. 560x12 THK.	10 THK STIFFENER @1500 C/C
C2		① PL. 300x25 THK. ② PL. 650x16 THK.	10 THK STIFFENER @1500 C/C
C3		ISMB 600	
C4		ISMB 300	
C5,B1		ISMB 400	
B2		ISMB 200	
B2a		ISMB 250	
B3		ISMB 300	
B4		① PL. 250x20 THK. ② PL. 560x12 THK.	10 THK STIFFENER @1500 C/C
B5		ISMB 600	
B6		ISMC 400	
B7		① ISMB 600 ② PL. 180x10 THK.	
B7a		ISMB 450	
B8		ISMB 500	
SP1		ISMC 125	
SP2		ISMC 150	
TB1		ISMC 125	
TB2		ISMC 150	
TB3		ISMB 600	
TB4	100	ISMC 400	
TB5		ISMC 100	
TB6		ISMB 400	
TB7	100	ISMC 150	
TB8	100	ISMC 200	
TB9		① ISMB 500 ② PL. 160x10 THK.	
BR1		ISMC 150	
BR1'	100	ISMC 150	
BR2		ISMC 125	
BR3		ISMC 100	
BR4		ISMC 200	
BR5		2-ISA 75x75x6	
BR6	100	ISMC 200	
BR7		ISMC 300	
BR8	100	ISMC 400	
a		2-ISA 110x110x12	
b		2-ISA 75x75x6	
a1		2-ISA 150x150x12	
b1		2-ISA 90x90x6	
c		ISMC 200	
P1		ISMC 150	
P2		ISMC 125	
SG		SAG ROD 16 DIA	

revise a

1)provide stru

DESIGN/DRAWING TO CONFORM

Signature Not Verified
SAMANTA
Date: 2019.11.19
Reason: CAT IVR
Location: NTPCEOC

OWNER & CONSULTANT: एनटीपीसी NTPC — **NTPC Limited** (A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT: 2 X 500MW MAUDA STPP FGD

CUSTOMER PACKAGE CODE | LHP | CONTRACTOR

DISCIPLINE: M C E I L

JOB NO.

BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

TITLE: STRUCTURAL GA FOR TRANSFER POINT-1-SECTIONS

	NAME	SIGN.	DATE	DEPT.	CODE
DESN.	ABD		21.09.19		
DRN.	PANCHU		21.09.19		
CHKD.	SBM		21.09.19		
APPD.	P.REDDY		21.09.19		

NTPC DRG. NO.: 9561-109-ISG-PVC-B-435 | REV. NO.: 01

BHEL DRG. NO.: IS-1-GA-721-200-C014

SCALE: 1:1 | SHEET NO.: 01 | NO. OF SHEETS: 03

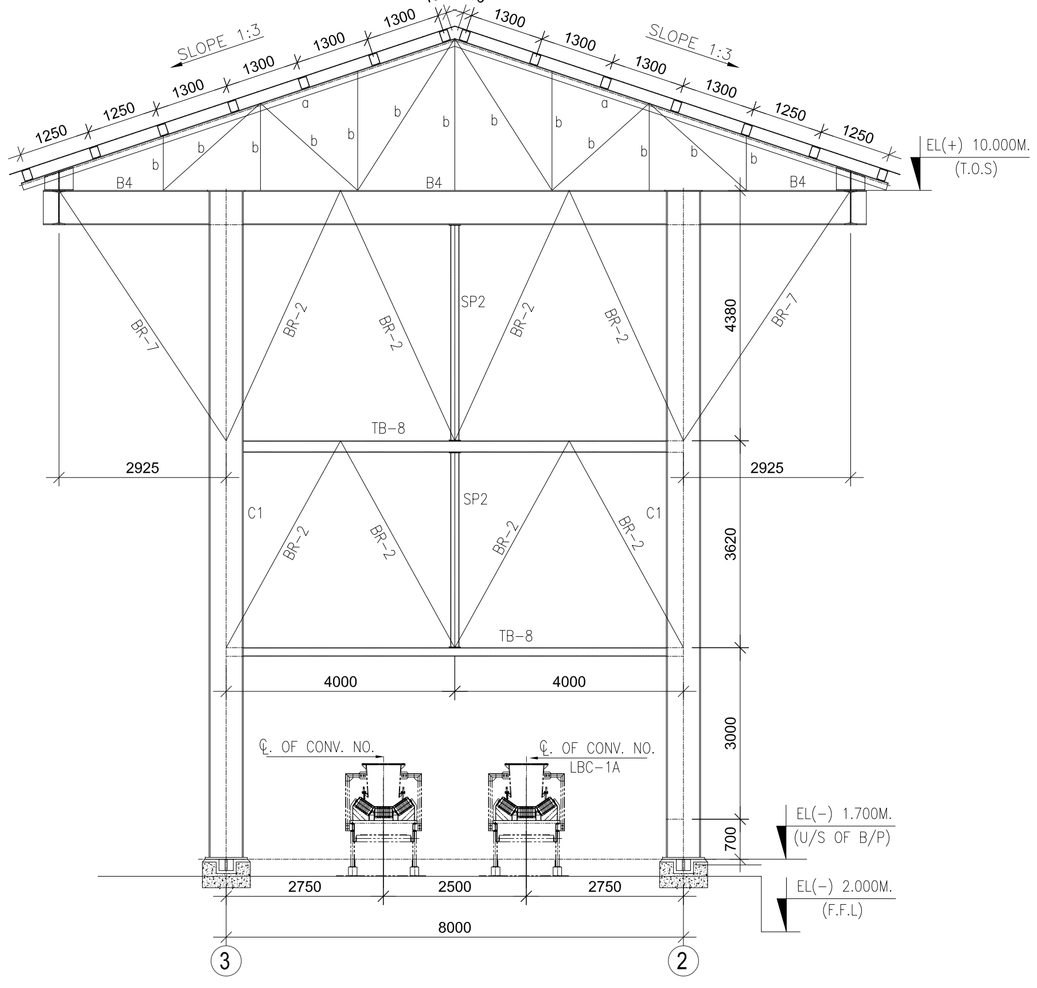
JOB No. | STATUS OF DRAWING | DISTRIBUTION OF PRINTS | QTY.

REV. | ALTERED | CHECKED | APPROVED | NAME | SIGN. | DATE | ZONE

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

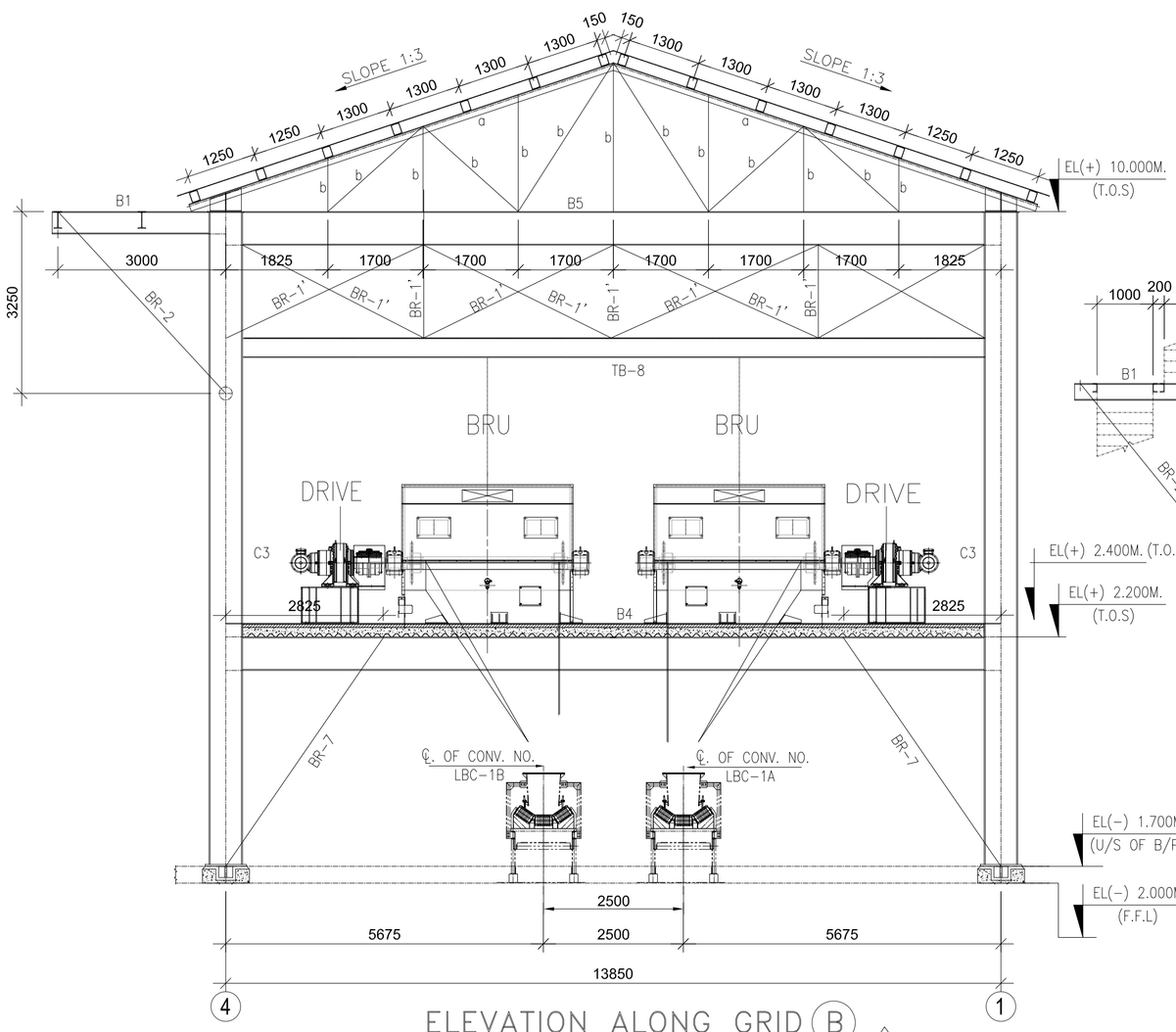
FORM-66.101

SIZE-A1



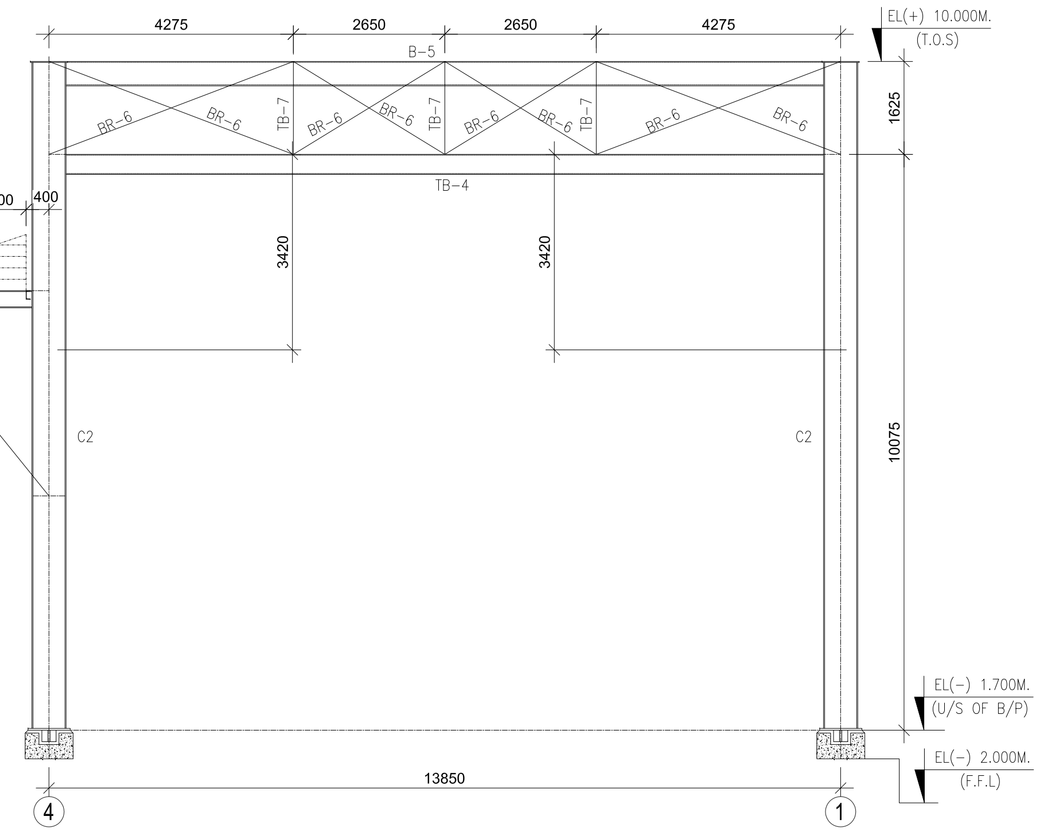
ELEVATION ALONG GRID (A) ⚠1

SCALE 1:75



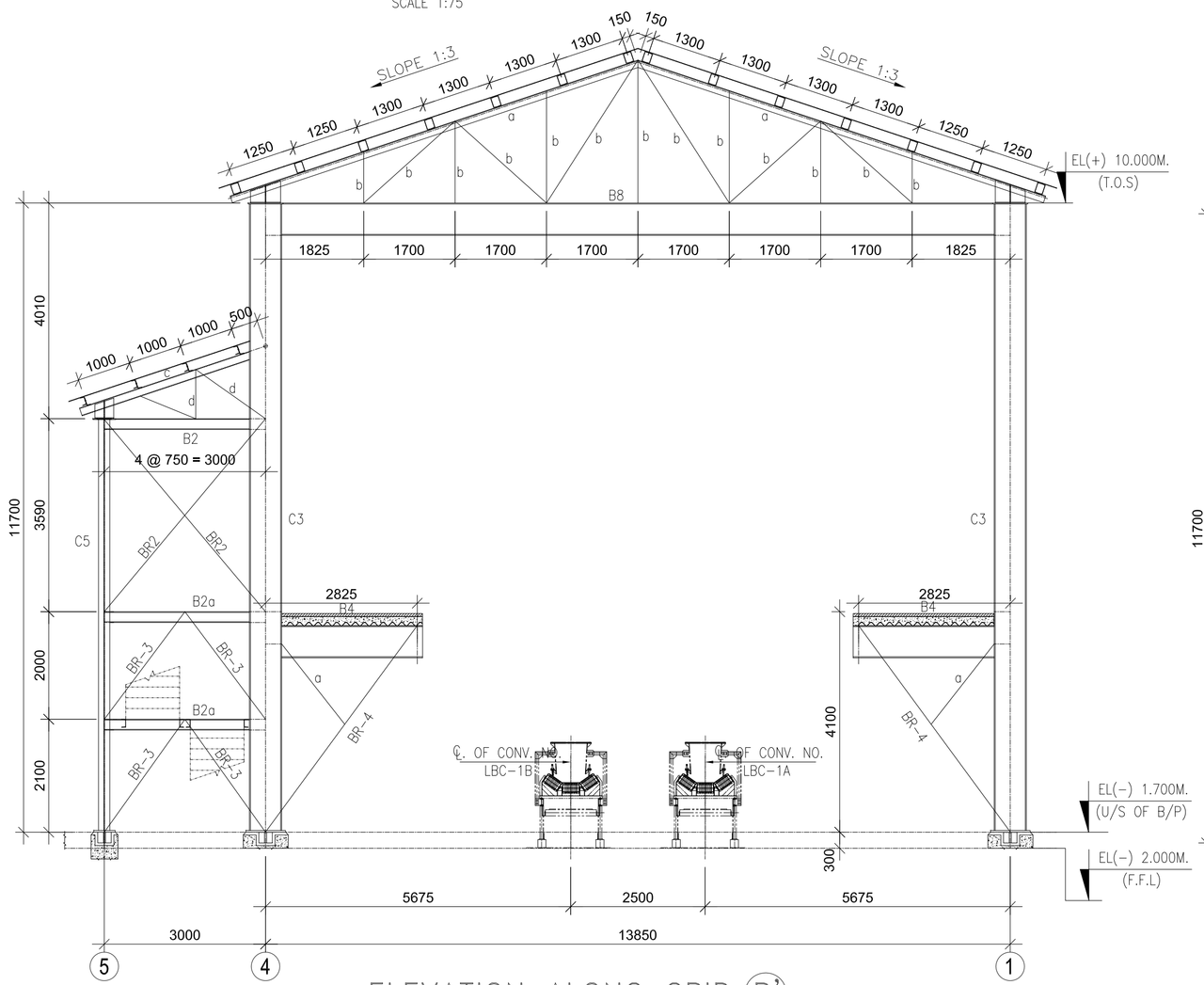
ELEVATION ALONG GRID (B) ⚠1

SCALE 1:75



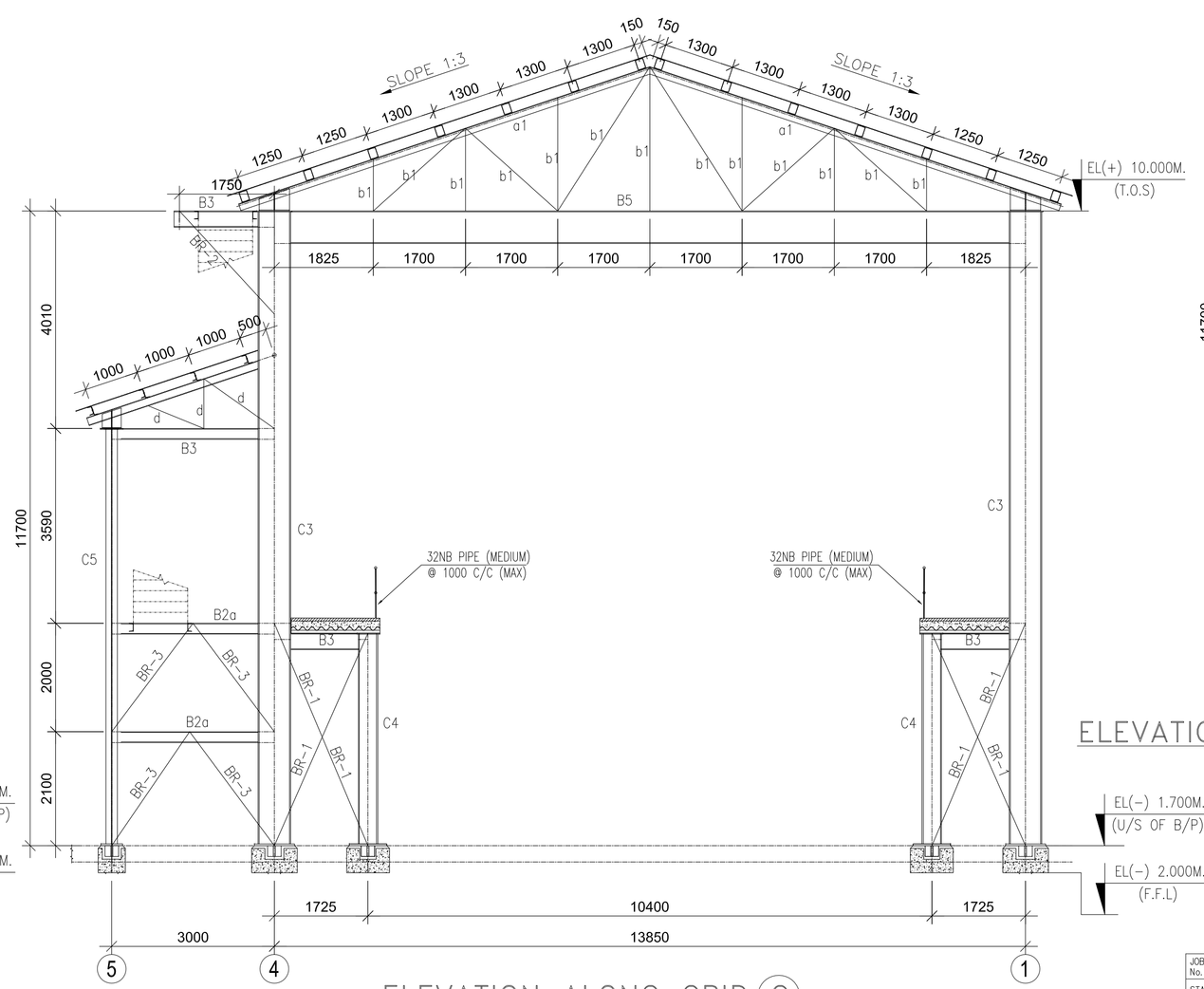
ELEVATION ALONG GRID (D) ⚠1

SCALE 1:75



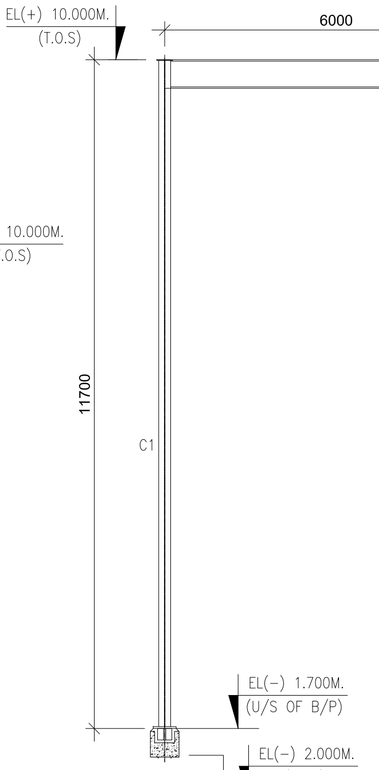
ELEVATION ALONG GRID (B') ⚠1

SCALE 1:75



ELEVATION ALONG GRID (C)

SCALE 1:75



ELEVATION ALONG GRID (2)

SCALE 1:75

NOTES:−

1. THIS DRAWING READ IN CONJUNCTION WITH DRAWING NO. 9561−109−ISG−PVC−B−434 & 9561−109−ISG−PVC−B−435 SH−1 & 3
2. REF. MECH DRG : 9561−109−ISG−PVM−B−566−REV−01

OWNER & CONSULTANT:	एन टी पी सी NTPC	NTPC Limited (A GOVERNMENT OF INDIA ENTERPRISE)				
PROJECT	2 X 500MW MAUDA STPP FGD					
CUSTOMER PACKAGE CODE	LHP	CONTRACTOR	BHARAT HEAVY ELECTRICALS LIMITED INDUSTRIAL SYSTEMS GROUP, BANGALORE			
DISCIPLINE: M C E I L	JOB NO.:		TITLE : STRUCTURAL GA FOR TRANSFER POINT−1−SECTIONS			
JOB No.	STATUS OF DRAWING	DISTRIBUTION OF PRINTS QTY.	NAME	SIGN.	DATE	DEPT. CODE
REV.	ALTERED		DESN. ABD		21.09.19	
	CHECKED		DRN. PANCHU		21.09.19	UNTOL DIMN. C / M / F ISO : 2768
	APPROVED		CHKD. SBM		21.09.19	
ZONE			APPD. P.REDDY		21.09.19	
			NTPC DRG. NO.: 9561−109−ISG−PVC−B−435			REV. NO.: 01
			BHEL DRG. NO.: IS−1−GA−721−200−C014			
			SCALE : 1:1	SHEET NO. : 02	NO. OF SHEETS : 03	

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

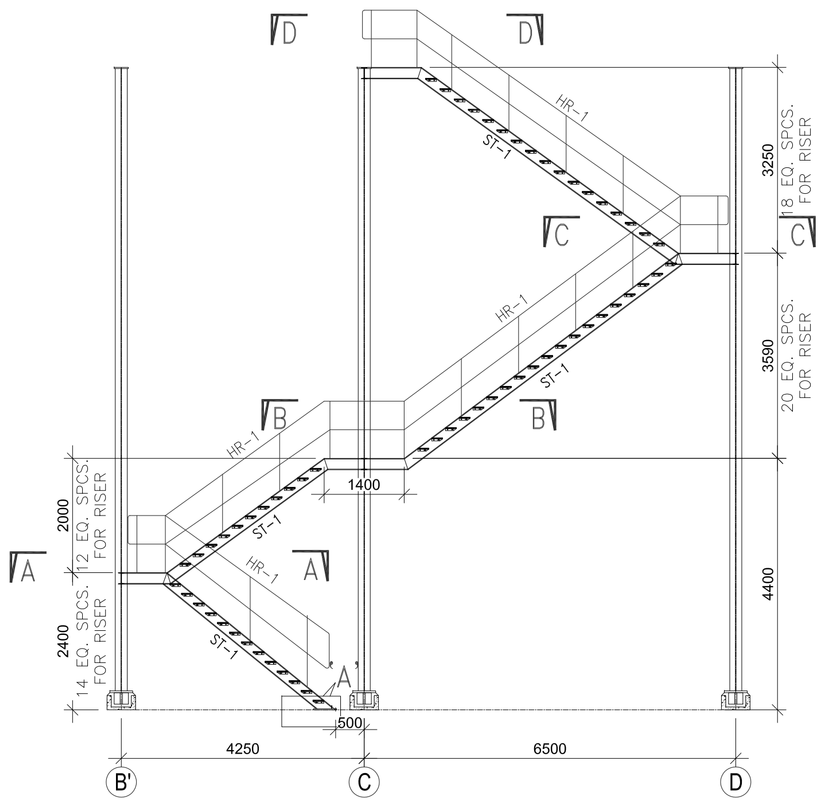
FORM−66.101

SIZE−A1

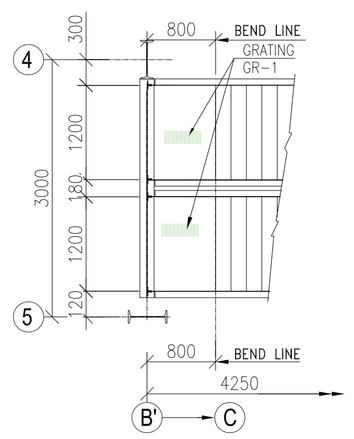
FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

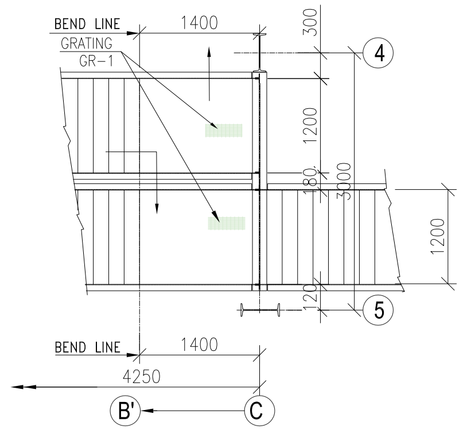
DO NOT SCALE. IF IN DOUBT, ASK.



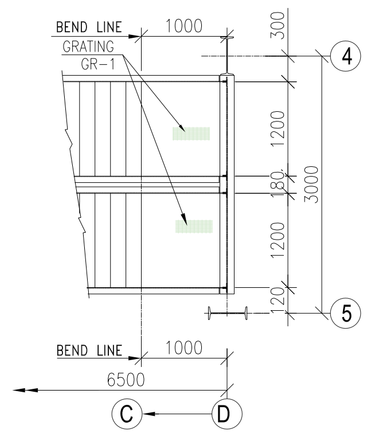
ELEVATION OF STAIRCASE



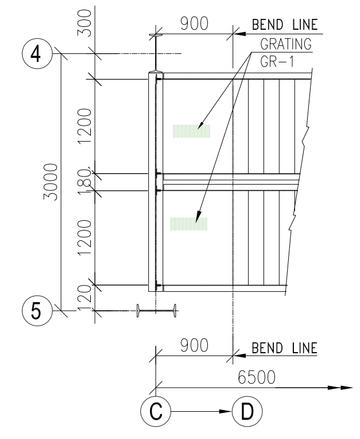
PLAN A–A



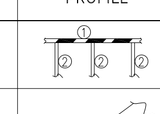
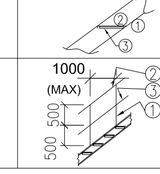
PLAN B–B

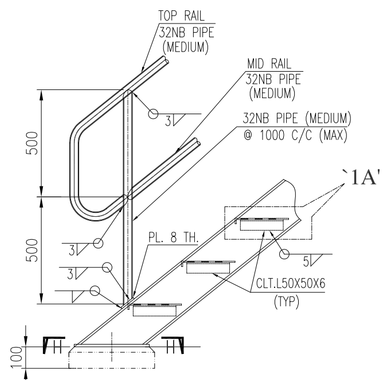


PLAN C–C

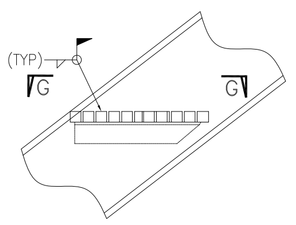


PLAN D–D

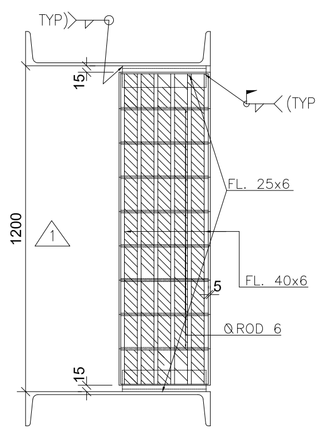
CONTD. TABLE OF MEMBERS			
Sl.no.	MARK	PROFILE	SECTION
1	GR1		① 40 THK. GRATING ② 80x6THK. @ 750 C/C.
2	ST1		① ISMC 250 ② 40 THK. GRATING ③ ISA50x50x6
3	HR1		① PIPE NB32(M) ② PIPE NB32(M) ③ PIPE NB32(M)



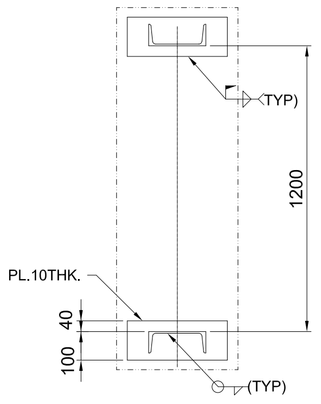
DETAIL 'A'



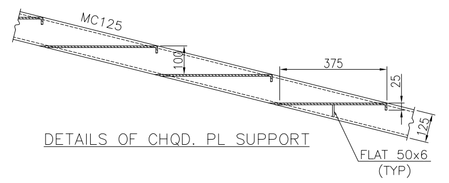
DETAIL-'1A'



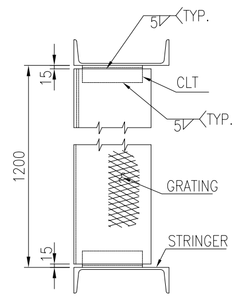
SECTION G–G



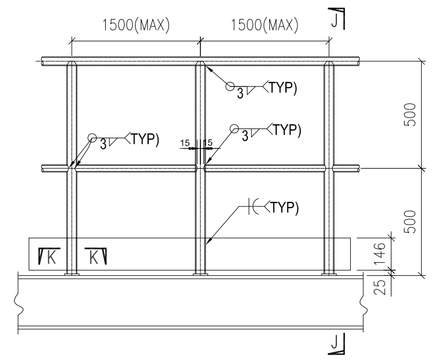
SECTION H–H



DETAILS OF CHQD. PL SUPPORT



TYPICAL DETAIL OF STAIR TREAD



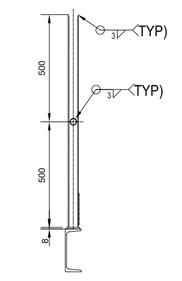
TYP. DETAIL OF HANDRAIL

TYP. DETAIL OF BASE PLATE BP-1

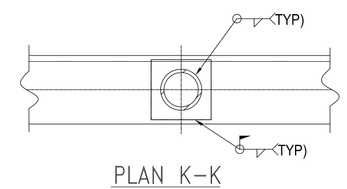
SECTION 4–4

SECTION 5–5

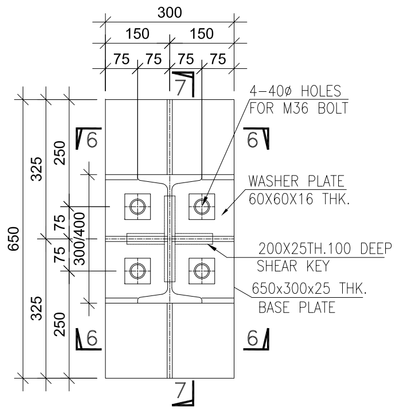
TYP. DETAIL OF BASE PLATE BP-2



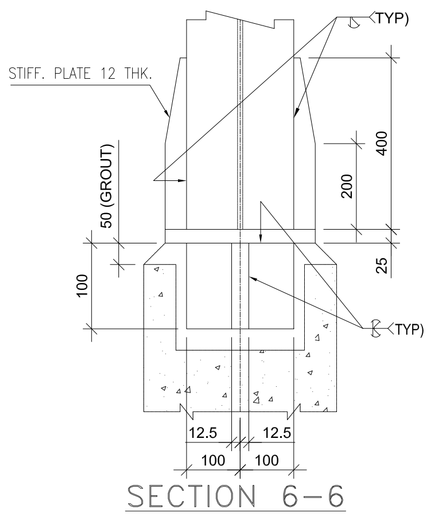
SECTION J–J



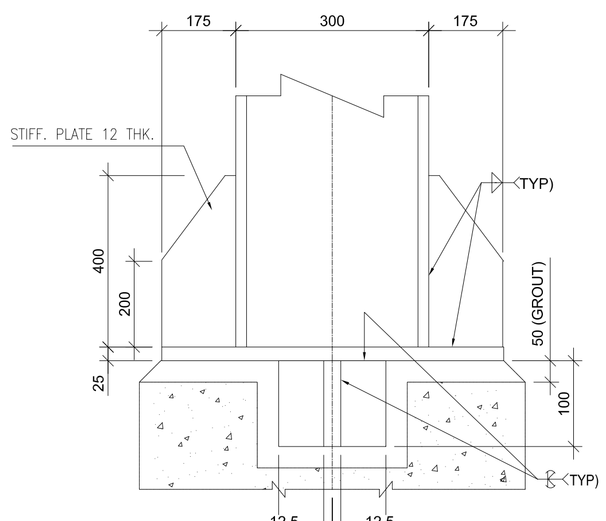
PLAN K–K



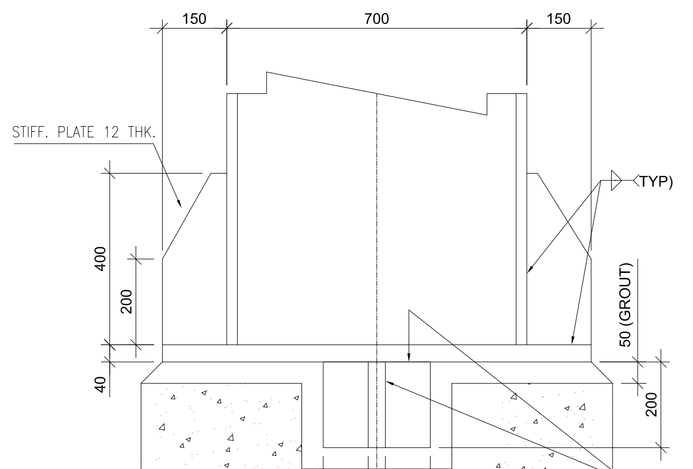
TYP. DETAIL OF BASE PLATE BP-3



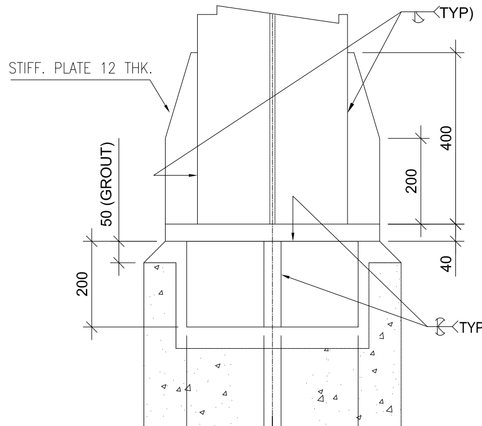
SECTION 6–6



SECTION 7–7



SECTION 9–9



SECTION 8–8

NOTES:–

1. THIS DRAWING READ IN CONJUNCTION WITH DRAWING NO. 9561–109–ISG–PVC–B–434 & 9561–109–ISG–PVC–B–435 SH–1 & 2
2. REF. MECH DRG : 9561–109–ISG–PVM–B–566

REV.	NAME	SIGN	DATE
ALTERED			
CHECKED			
APPROVED			

JOB No.:
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.
ZONE

OWNER & CONSULTANT: एन टी पी सी NTPC — NTPC Limited (A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT: 2 X 500MW MAUDA STPP FGD

CUSTOMER PACKAGE CODE: LHP — DISCIPLINE: M C E I L

CONTRACTOR: BHARAT HEAVY ELECTRICALS LIMITED, INDUSTRIAL SYSTEMS GROUP, BANGALORE

JOB NO.:

TITLE: STRUCTURAL GA FOR TRANSFER POINT–1–SECTIONS

	NAME	SIGN.	DATE	DEPT.	CODE
DESN.	ABD		21.09.19		
DRN.	PANCHU		21.09.19	UNTOL. DIMN. C / M / F ISO : 2768	
CHKD.	SBM		21.09.19		
APPD.	P.REDDY		21.09.19		

NTPC DRG. NO.: 9561–109–ISG–PVC–B–435 REV. NO.: 01

BHEL DRG. NO.: IS–1–GA–721–200–C014

SCALE : 1:1 SHEET NO. : 03 NO. OF SHEETS : 03

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

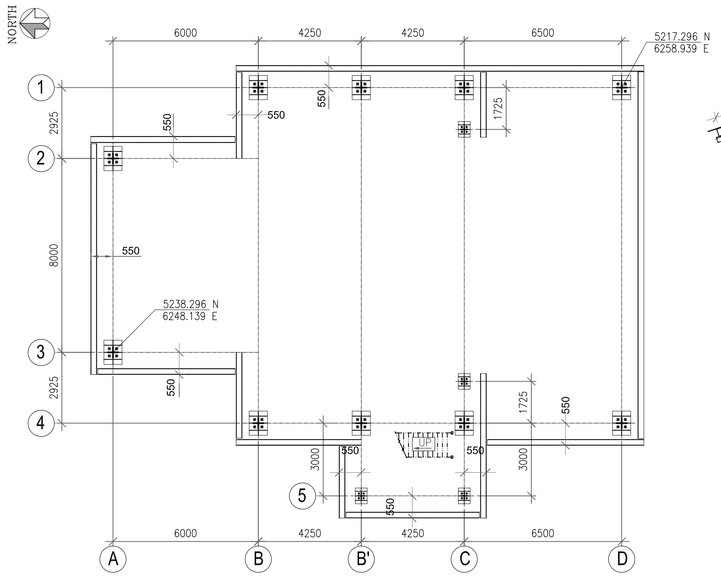
FORM–66.101

SIZE–A1

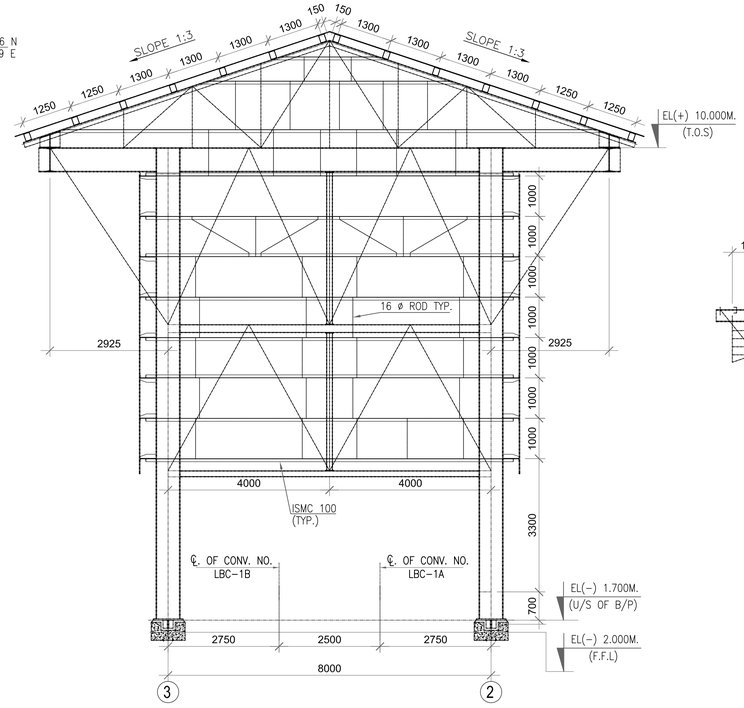
FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

DO NOT SCALE. IF IN DOUBT, ASK.

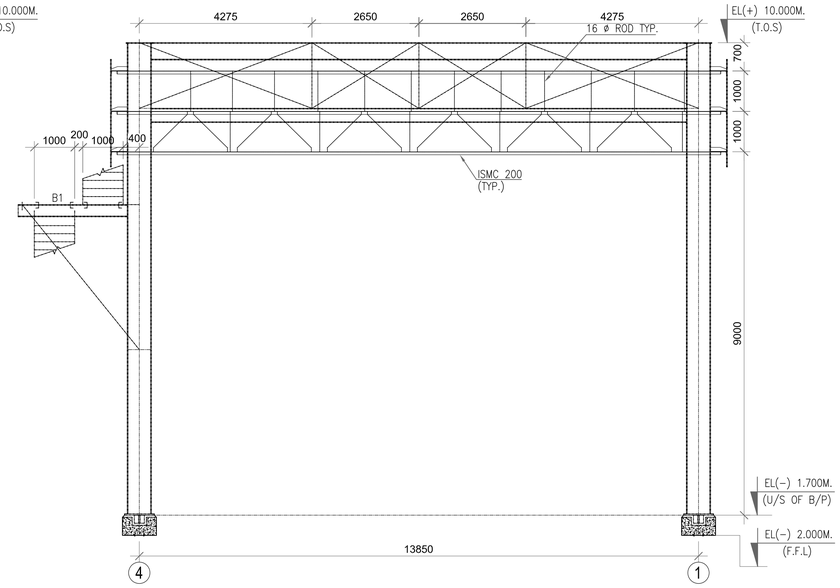


PLAN AT BASE PLATE LEVEL



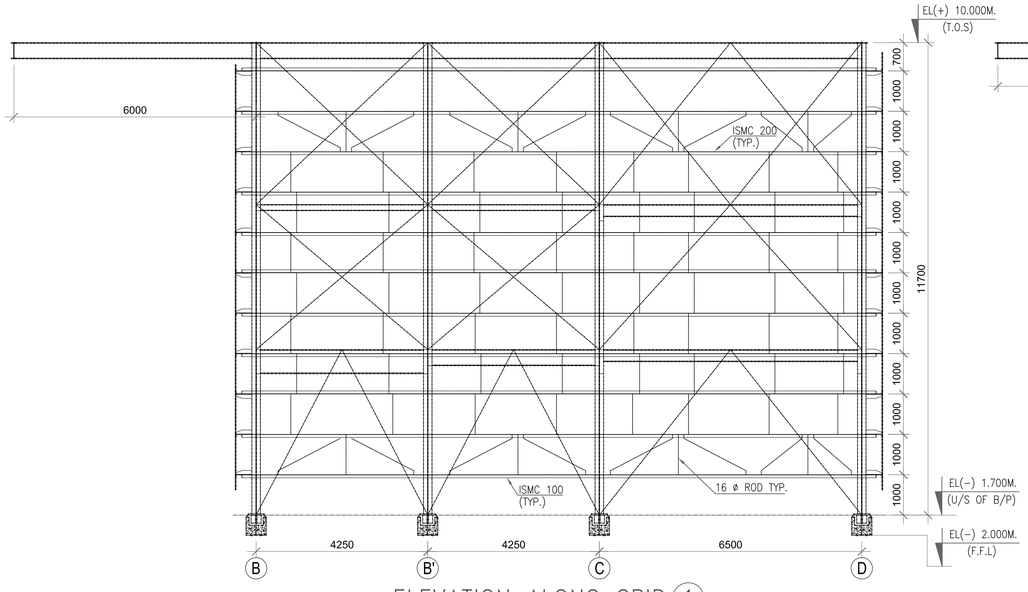
ELEVATION ALONG GRID (A)

SCALE 1:75



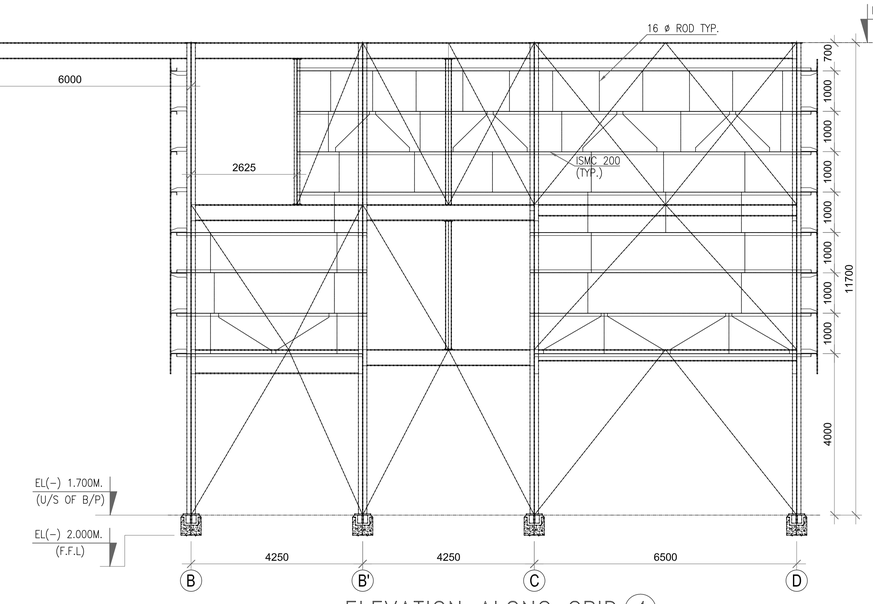
ELEVATION ALONG GRID (D)

SCALE 1:75



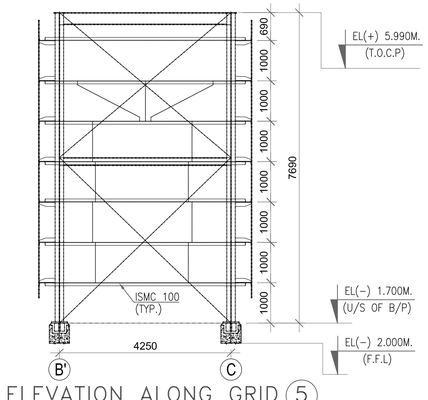
ELEVATION ALONG GRID (1)

SCALE 1:75



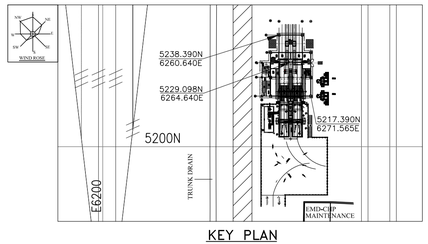
ELEVATION ALONG GRID (4)

SCALE 1:75



ELEVATION ALONG GRID (5)

SCALE 1:75



KEY PLAN

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER & ELEVATIONS ARE IN METER.
2. EL(±)0.00 CORRESPONDS TO RL(+)271.500 M.
3. ALL FILLET WELDS SHALL BE MINIMUM 6mm THK UNLESS NOTED OTHERWISE.
4. ALL HOLES ARE 21.5ø DRILLED HOLES FOR M20 ERECTION BOLTS UNLESS NOTED OTHERWISE.
5. ALL GUSSET PLATES ARE 10mm THK UNLESS NOTED OTHERWISE.
6. GRADE OF STEEL E 250 AS PER IS:2062.
7. THIS DRAWING READ IN CONJUNCTION WITH DRAWING NO. 9561-109-ISG-PVC-B-434 & 9561-109-ISG-PVC-B-435

REFERENCE DRAWINGS:

1. GA OF LIMESTONE TRANSFER POINT - 9561-109-ISG-PVM-B-566-R3

Digitally signed by S.K.SAMANTA
DN: cn=S.K.SAMANTA, c=IN, o=EOC-NOIDA, ou=AGM-ENGG. NTPC. LTD., email=sksamanta@ntpc.co.in
Reason: CAT-REL
Date: 2020.09.01 22:23:54 +05'30'

REV.	NAME	SIGN	DATE
ALTERED			
CHECKED			
APPROVED			

JOB No.
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.
ZONE

OWNER & CONSULTANT: एन टी पी सी NTPC — NTPC Limited (A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT: 2 X 500MW MAUDA STPP FGD

CUSTOMER PACKAGE CODE: LHP | DISCIPLINE: M C E I L | JOB NO.:

CONTRACTOR: BHARAT HEAVY ELECTRICALS LIMITED, INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN.	DATE	DEPT.	CODE
DESN.	ABD		18.07.2020		
DRN.	RAJ KUMAR		18.07.2020	UNTOL. DIMN. P / M / F ISO : 2768	
CHKD.	SBM		18.07.2020		
APPD.	P.REDDY		18.07.2020		

TITLE : LTP-1 GA OF SIDE RUNNER

NTPC DRG. NO.: 9561-109-ISG-PVC-B-436 REV. NO.: 00

BHEL DRG. NO.: IS-1-GA-721-200-C015

SCALE : 1:1 SHEET NO. : 01 NO. OF SHEETS : 02

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

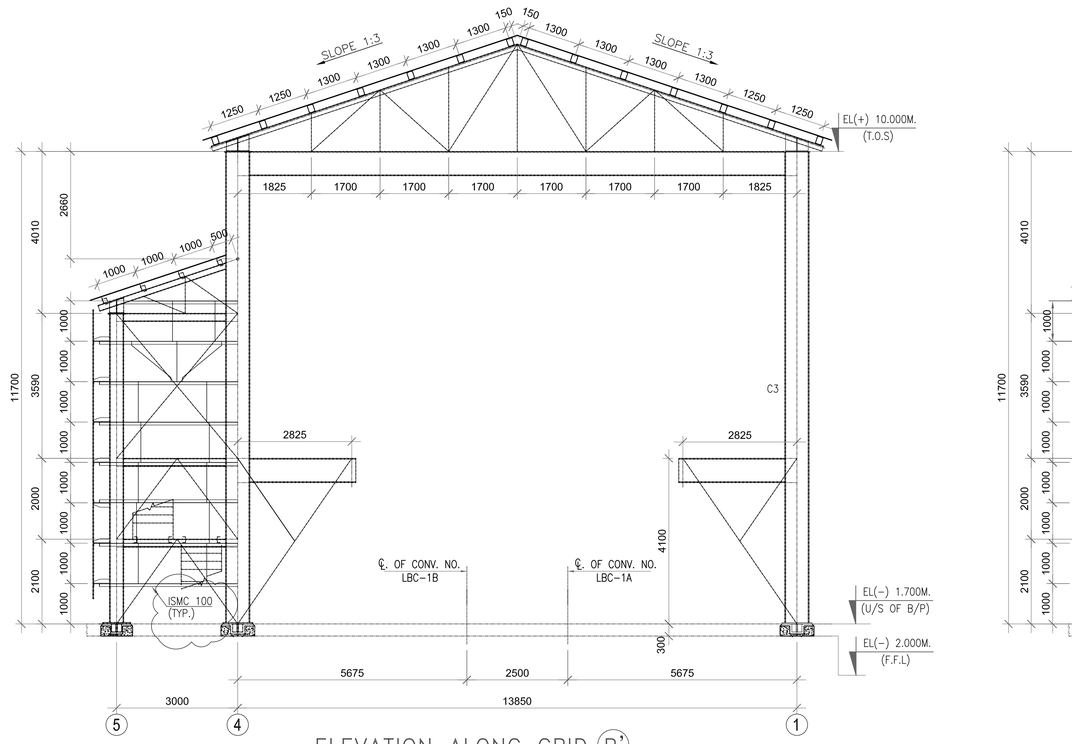
FORM-66.101

SIZE-A1

FIRST ANGLE PROJECTION

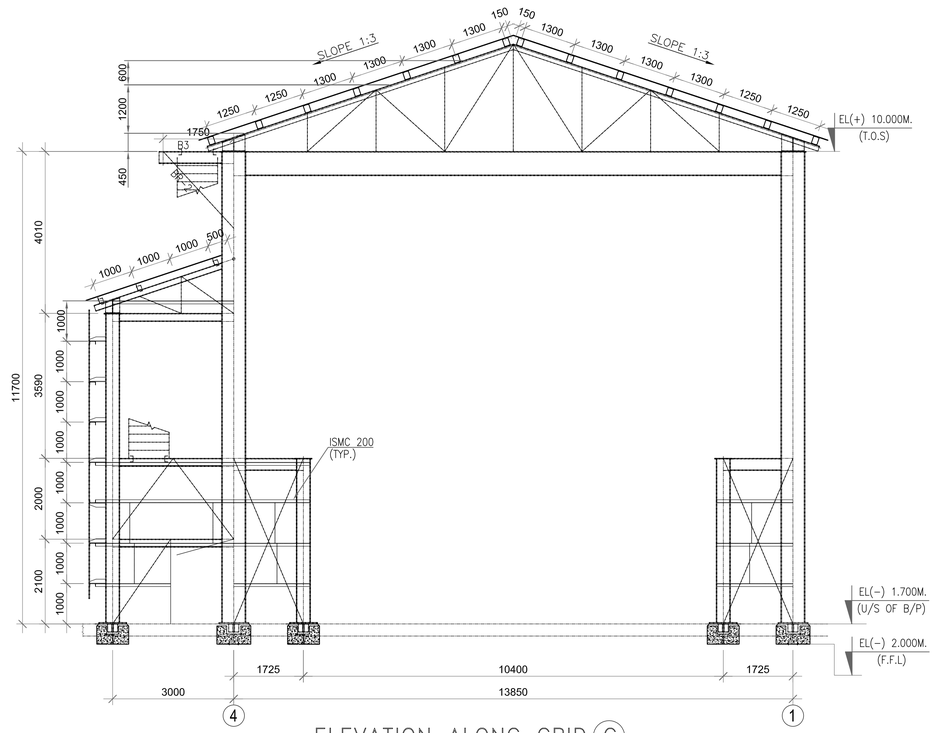
ALL DIMENSIONS ARE IN MM

DO NOT SCALE. IF IN DOUBT, ASK.

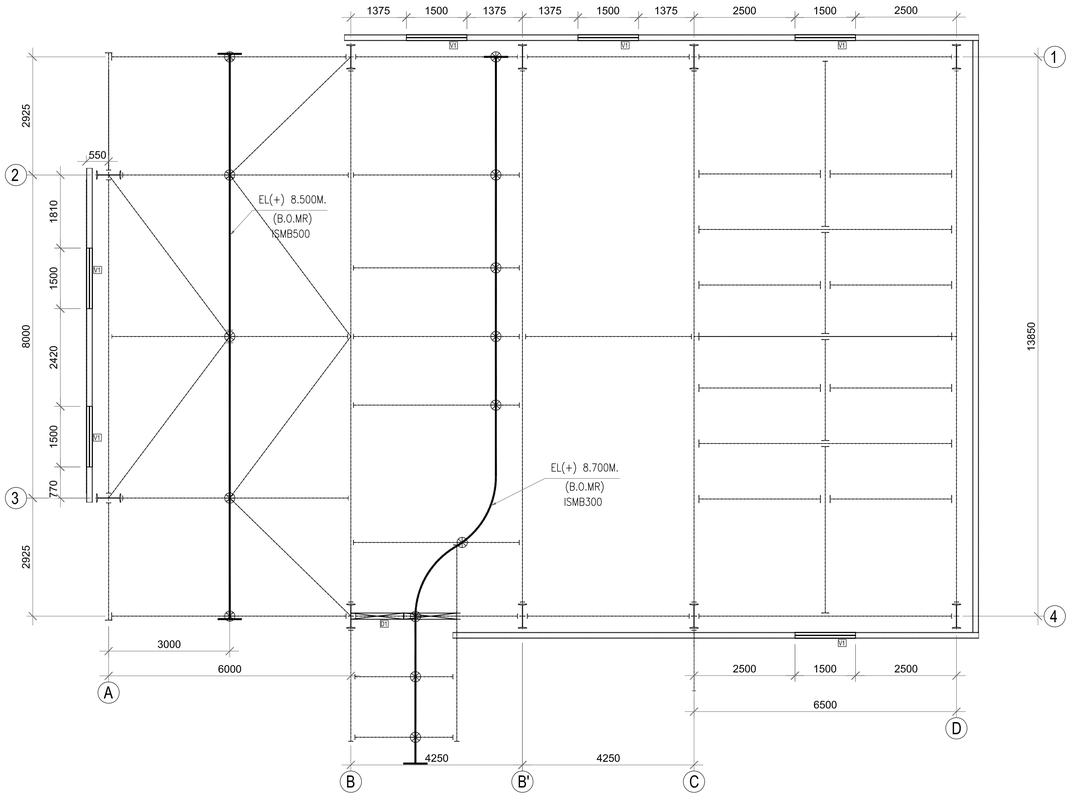


ELEVATION ALONG GRID (B')

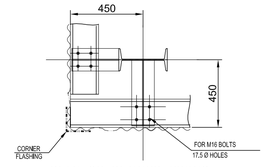
SCALE 1:75



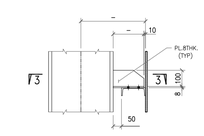
ELEVATION ALONG GRID (C)



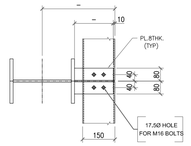
FLOOR PLAN AT EL(+)9.240M (T.O.S)



PLAN OF RUNNER FIXING



TYP. DETAIL OF SIDE RUNNER



SECTION 3−3

REFERENCE DRAWINGS:

1. GA OF LIMESTONE TRANSFER POINT – 9561−109−ISG−PVM−B−566−R3

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER & ELEVATIONS ARE IN METER.
2. EL(±)0.00 CORRESPONDS TO RL(+)271.500 M.
3. ALL FILLET WELDS SHALL BE MINIMUM 6mm THK UNLESS NOTED OTHERWISE.
4. ALL HOLES ARE 21.5ø DRILLED HOLES FOR M20 ERECTION BOLTS UNLESS NOTED OTHERWISE.
5. ALL GUSSET PLATES ARE 10mm THK UNLESS NOTED OTHERWISE.
6. GRADE OF STEEL E 250 AS PER IS:2062.
7. THIS DRAWING READ IN CONJUNCTION WITH DRAWING NO. 9561−109−ISG−PVC−B−434 & 9561−109−ISG−PVC−B−435

REF.DRG.NO.						
SIGN & DATE						
INVENTORY NO.						
JOB No.						
STATUS OF DRAWING						
DISTRIBUTION OF PRINTS						QTY.
REV.		NAME	SIGN	DATE		
	ALTERED					
	CHECKED					
	APPROVED					
ZONE						

OWNER & CONSULTANT:	एन टी पी सी NTPC	NTPC Limited (A GOVERNMENT OF INDIA ENTERPRISE)				
PROJECT	2 X 500MW MAUDA STPP FGD					
CUSTOMER PACKAGE CODE		LHP			CONTRACTOR	BHARAT HEAVY ELECTRICALS LIMITED INDUSTRIAL SYSTEMS GROUP, BANGALORE
DISCIPLINE	M	C	E	I	L	
JOB NO.:						TITLE : LTP−1 GA OF SIDE RUNNER
	NAME	SIGN.	DATE	DEPT.	CODE	
DESN.	ABD		18.07.2020			
DRN.	RAJ KUMAR		18.07.2020	UNTOL. DIMN.		NTPC DRG. NO.: 9561−109−ISG−PVC−B−436 REV. NO.: 00
CHKD.	SBM		18.07.2020	ISO : 2768		BHEL DRG. NO.: IS−1−GA−721−200−C015
APPD.	P.REDDY		18.07.2020			SCALE : 1:1 SHEET NO. :02 NO. OF SHEETS :02

FORM−66.101

SIZE−A1

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

DO NOT SCALE. IF IN DOUBT, ASK.

NTPC DRAWING NO. 9561-109-ISC-PVC-B-441

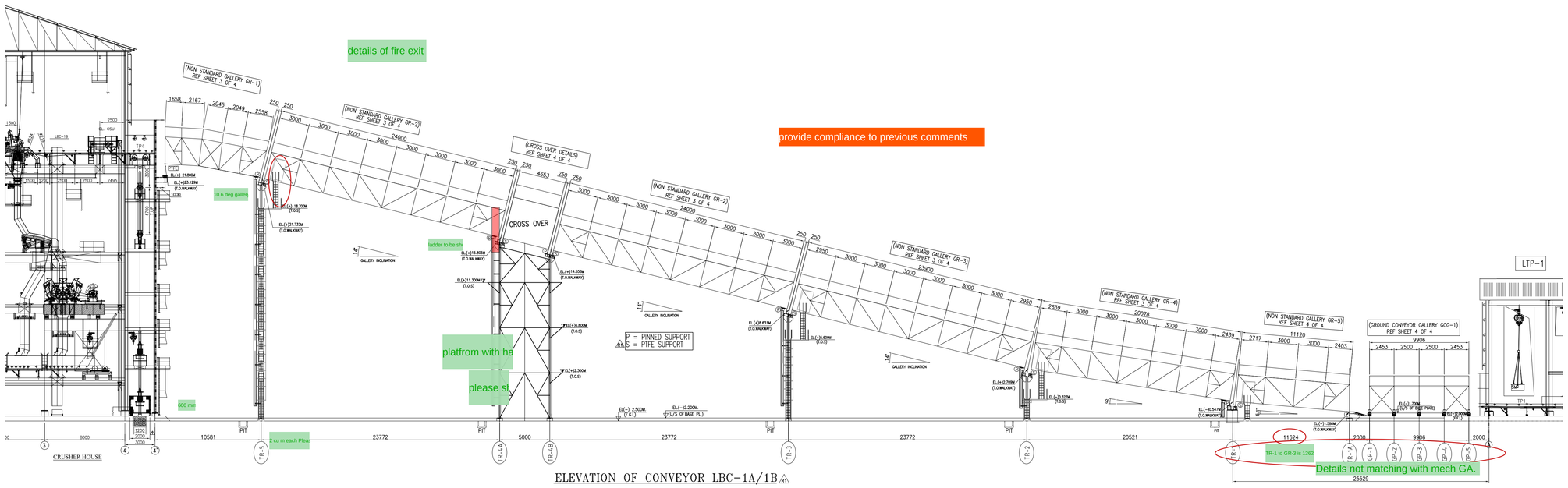
details of fire exit

provide compliance to previous comments

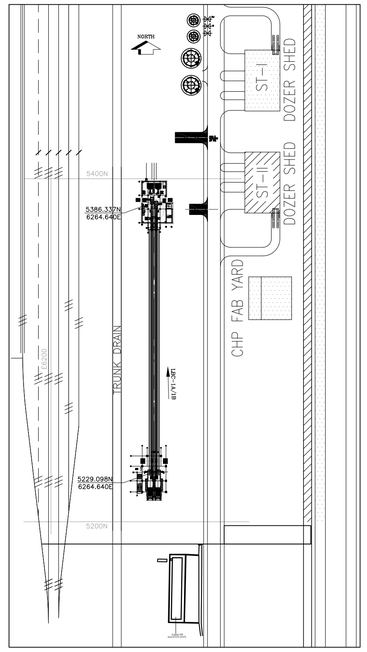
platfrom with ha

please sh

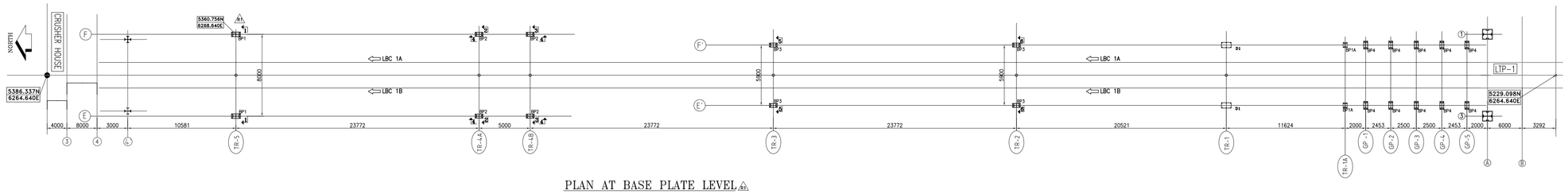
ELEVATION OF CONVEYOR LBC-1A/1B (R1)



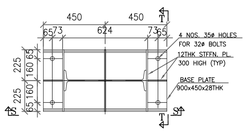
KEY PLAN



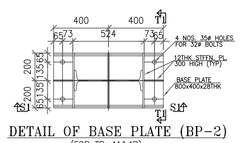
PLAN AT BASE PLATE LEVEL (R1)



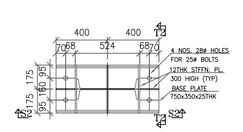
DETAIL OF BASE PLATE (BP-1)
(FOR TR-5)



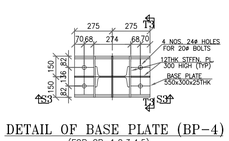
DETAIL OF BASE PLATE (BP-2)
(FOR TR-4A&4B)



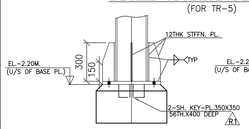
DETAIL OF BASE PLATE (BP-3)
(FOR TR-3 & TR-2)



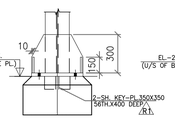
DETAIL OF BASE PLATE (BP-4)
(FOR GP-1,2,3,4,5)



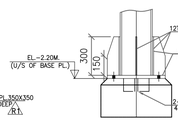
SECTION S-S



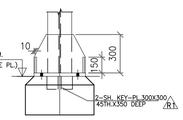
SECTION T-T



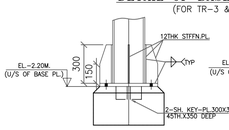
SECTION S1-S1



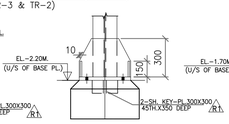
SECTION T1-T1



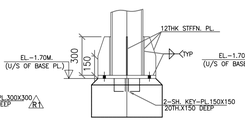
SECTION S2-S2



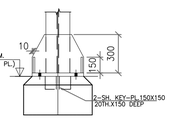
SECTION T2-T2



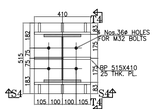
SECTION S3-S3



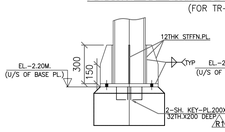
SECTION T3-T3



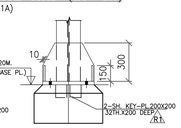
DETAIL OF BASE PLATE MKD (BP-1A)
(FOR TR-1A)



SECTION S4-S4



SECTION T4-T4



NOTES: (R1)

1. ALL DIMENSIONS ARE IN MILLIMETRE & ELEVATIONS ARE IN METRE UNLESS NOTED OTHERWISE.
2. EL(±)0.00 M CORRESPONDS TO RL(+)271.500 M.
3. ALL FILLET WELDS SHALL BE MINIMUM 6mm THK UN OTHERWISE.
4. ALL HOLES ARE 21.5ø DRILLED HOLES FOR M20 ERECTION BOLTS UNO.
5. ALL GUSSET PLATES ARE 10mm THK UN OTHERWISE.
6. GRADE OF STEEL E 250 AS PER IS:2062.
7. STEPPED WALKWAY SHALL BE PROVIDED FOR CONVEYOR GALLERY INCLINATION GREATER THAN 10°
8. DESIGN AND DETAILING OF CONNECTIONS SHALL BE DONE AS PER SECTION 10 AND SECTION 12 OF IS 800:2007
9. GALLERY SHOULD AS FAR AS POSSIBLE BE ERECTED AS A BOX SECTION KEEPING ALL THE VERTICAL AND HORIZONTAL BRACING TIED IN PROPER POSITION DURING HANDLING AND ERECTION.
10. THIS SHEET SHALL BE READ IN CONJUNCTION WITH SHEET # 2, 3 & 4 OF THE SAME DRAWING.

REFERENCE DRAWINGS (R1)

1. GA & LOAD DATE OF CONVEYOR LBC-1AB : 9561-109-ISG-PVM-B-566-REV 01
2. GA & RC DETAILS OF FOUNDATION LBC-1AB : 9561-109-ISG-PVC-B-452-REV 00
3. GA & ARCHITECTURAL DETAILS OF CONVEYOR LC-1A/B : 9561-109-ISG-PVC-B-442-REV 00

Signature Not Verified
Digitally signed by SAMANTA
Date: 2020.03.09 15:24:31 IST
Reason: CAT II
Location: NTPCEOC

R1	13.02.2020	REVISED AS PER COMMENTS. REVISIONS ARE MARKED (R1)	RAK	ADA	SBM
R0	07.01.2020	FOR APPROVAL	RAK	ADA	SBM
R.No	DATE	BRIEF RECORD	BY	CKD	APPD

REVISION HISTORY

OWNER/CONSULTANT:
एन टी पी सी NTPC
NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500 MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	RAKSHITHA	-	07.01.2020	
CHD.	ANIMESH	-	07.01.2020	
APPD.	SBM	-	07.01.2020	

JOB No. IS-1-18-2003
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.

DIRECTORY :
FILE NO. :
SCALE
WEIGHT(Kgs.)
NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-441
ITEM NO.
NO.OF ITEMS

TITLE : CONVEYOR LC-1A/B-GA OF GALLERY & TRESTLES

BHEL DRAWING NUMBER: IS-1-GA-721-200-C022
REV. 01

SHEET NO. 01 NO.OF SHTS. 04

SIZE-A0

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

FORM-66.101

FIRST ANGLE PROJECTION

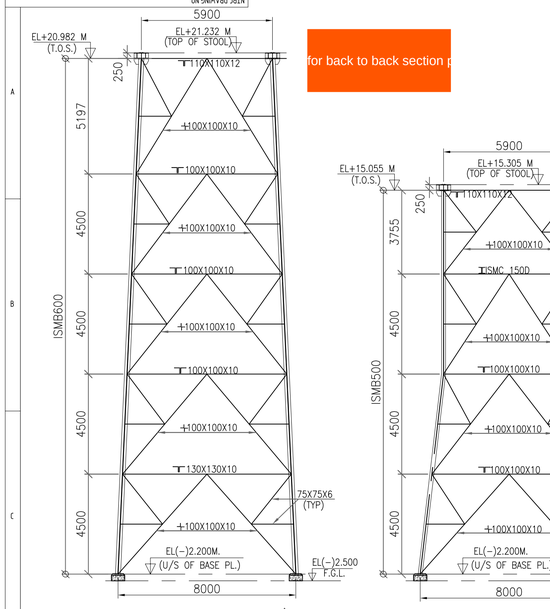
ALL DIMENSIONS ARE IN MM

DO NOT SCALE. IF IN DOUBT, ASK.

NTPC DRAWING NO. 9561-109-ISC-PVC-B-441

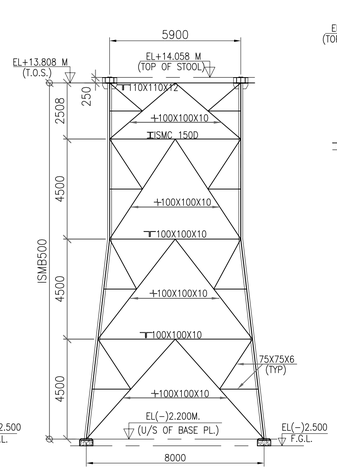
for back to back section p

cage ladder to be broken

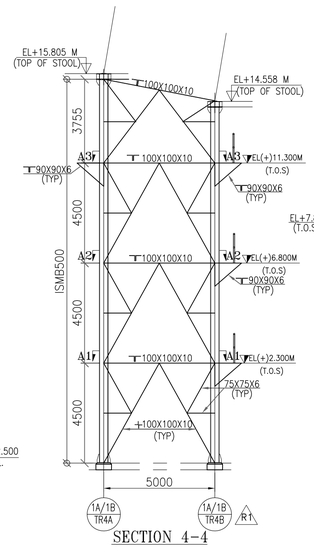


SECTION 1−1 (FOR TR5)

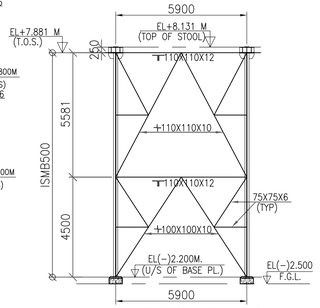
SECTION 2−2 (FOR TR4A)



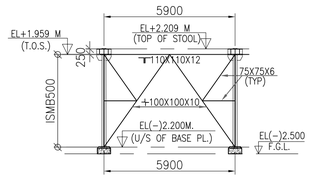
SECTION 3−3 (FOR TR4B)



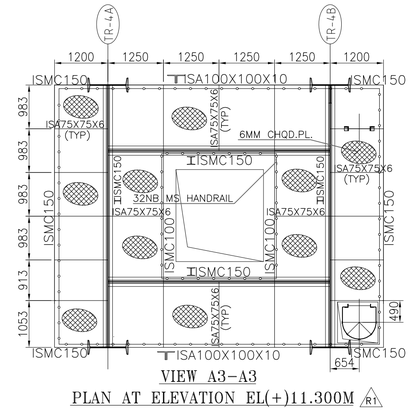
SECTION 4−4 (FOR TR4A & 4B)



SECTION 5−5 (FOR TR3)

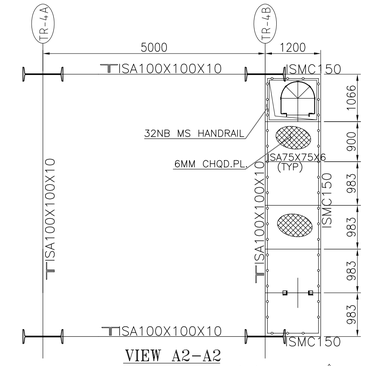


SECTION 6−6 (FOR TR2)



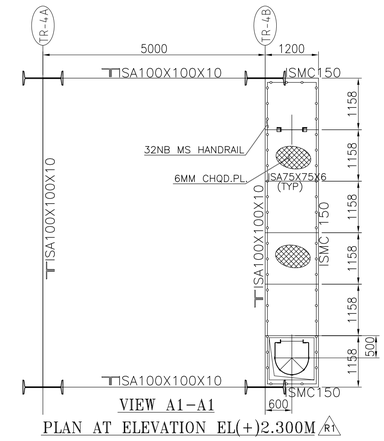
VIEW A3−A3

PLAN AT ELEVATION EL(+)11.300M R1



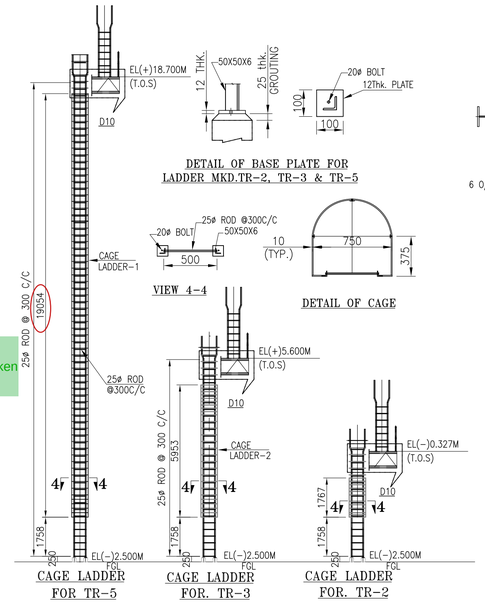
VIEW A2−A2

PLAN AT ELEVATION EL(+)6.800M R1



VIEW A1−A1

PLAN AT ELEVATION EL(+)2.300M R1



DETAIL OF BASE PLATE FOR LADDER MKD.TR−2, TR−3 & TR−5

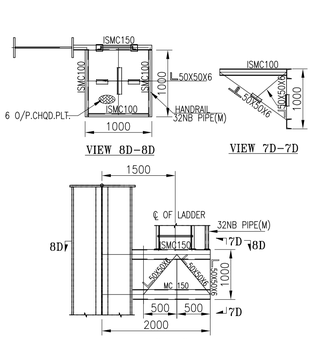
VIEW 4−4

DETAIL OF CAGE

CAGE LADDER FOR TR−5

CAGE LADDER FOR. TR−3

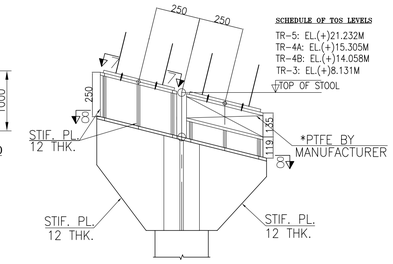
CAGE LADDER FOR. TR−2



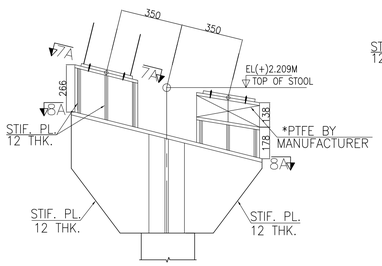
VIEW 8D−8D

VIEW 7D−7D

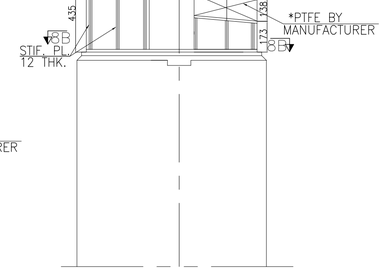
DETAIL "D10"



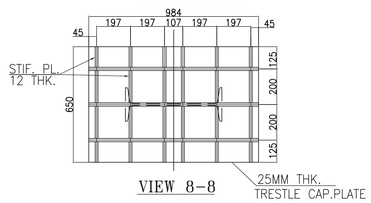
STOOL DETAILS FOR TR−5,TR−4A, TR−4B & TR−3



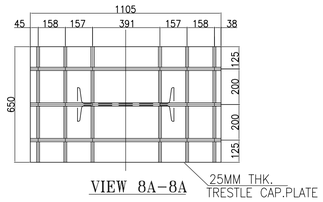
STOOL DETAILS FOR TR−2



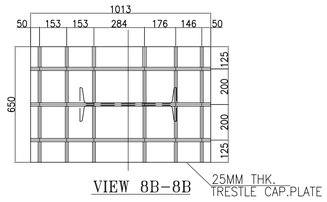
STOOL DETAILS FOR TR−1 DETAIL MKD "D1"



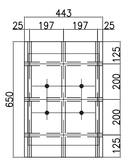
VIEW 8−8



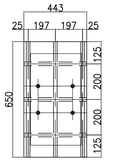
VIEW 8A−8A



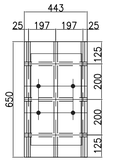
VIEW 8B−8B



VIEW 7−7



VIEW 7A−7A



VIEW 7B−7B

NOTES: R1

1. ALL DIMENSIONS ARE IN MILLIMETRES & ELEVATIONS ARE IN METRE UNLESS NOTED OTHERWISE.
2. EL(±)0.00 M CORRESPONDS TO RL.(+)271.500 M.
3. FOR DETAILED NOTES, REFER SHEET # 1 OF THE SAME DRAWING.
4. THIS SHEET SHALL BE READ IN CONJUNCTION WITH SHEET # 1, 3 & 4 OF THE SAME DRAWING.

REFERENCE DRAWINGS: R1

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R No.	DATE	REVISION HISTORY	BY	CKD	APPD
R1	13.02.2020	REVISED AS PER COMMENTS. REVISIONS ARE MARKED R1	RAK	ADA	SBM
R0	07.01.2020	FOR APPROVAL	RAK	ADA	SBM

OWNER/CONSULTANT: NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT: 2 x 500 MW MAUDA STPP
FGD − PACKAGE

MAIN CONTRACTOR: BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	RAKSHITHA	-	07.01.2020	
CHD.	ANIMESH	-	07.01.2020	
APPD.	SBM	-	07.01.2020	

JOB No. IS-1-18-2003
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.
DIRECTORY :
FILE NO. :
SCALE
WEIGHT(Kgs.)
NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-441
ITEM NO.
NO.OF ITEMS
TITLE : CONVEYOR LC−1A/B−GA OF GALLERY & TRESTLES
BHEL DRAWING NUMBER: IS-1-GA-721-200-C022
REV. 01
SHEET NO. 02
NO.OF SHTS. 04

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

FORM-66.101

SIZE-A1

FIRST ANGLE PROJECTION

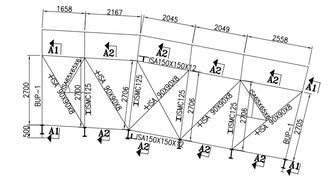
ALL DIMENSIONS ARE IN MM

NTPC DRAWING NO: 9561-109-ISG-PVC-B-441

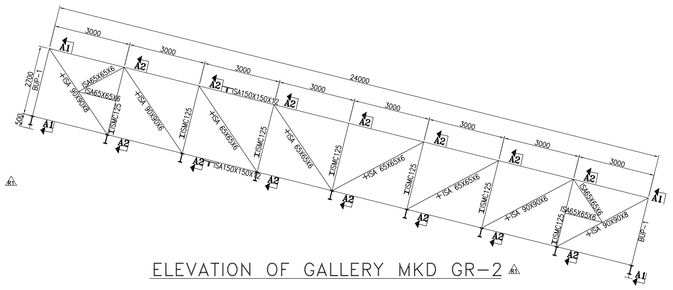
gallery under hold till previous comments ar

DETAIL OF END PORTAL BASE PLATE

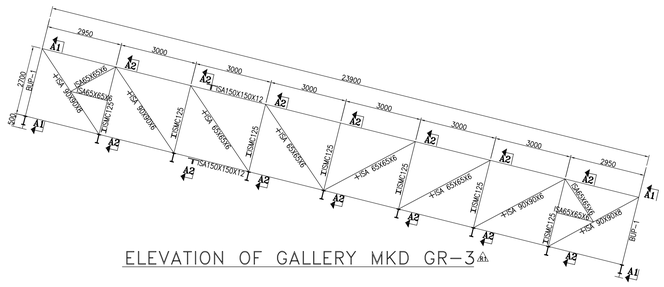
DO NOT SCALE. IF IN DOUBT, ASK.



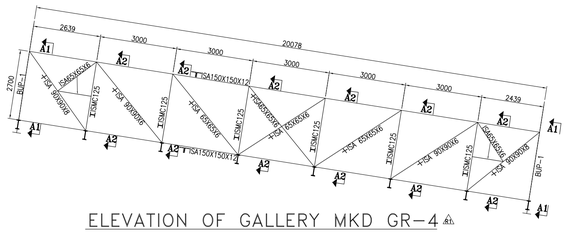
ELEVATION OF GALLERY MKD GR-1 ⚠1



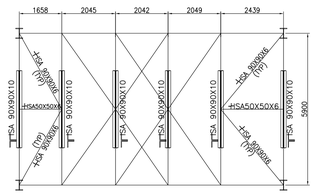
ELEVATION OF GALLERY MKD GR-2 ⚠1



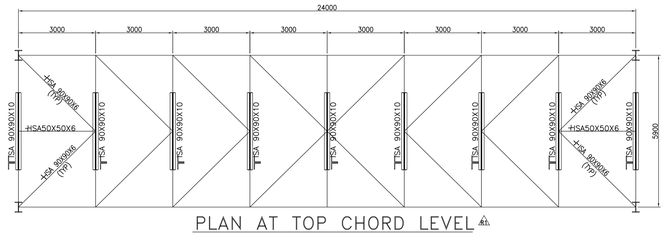
ELEVATION OF GALLERY MKD GR-3 ⚠1



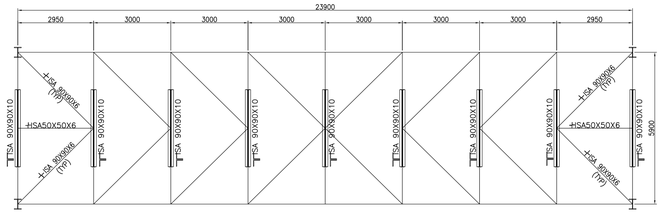
ELEVATION OF GALLERY MKD GR-4 ⚠1



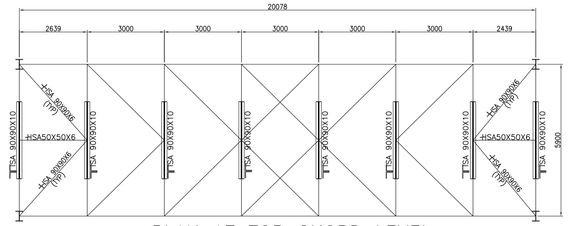
PLAN AT TOP CHORD LEVEL ⚠1



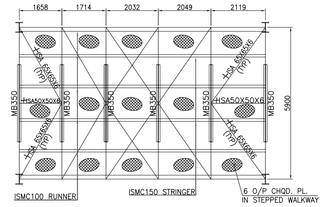
PLAN AT TOP CHORD LEVEL ⚠1



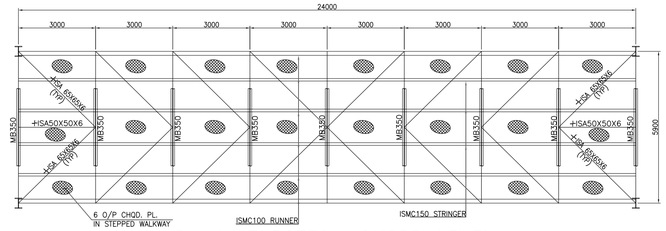
PLAN AT TOP CHORD LEVEL ⚠1



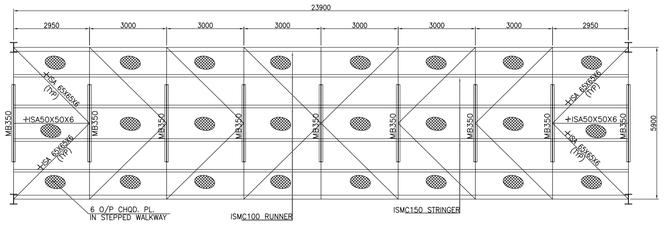
PLAN AT TOP CHORD LEVEL ⚠1



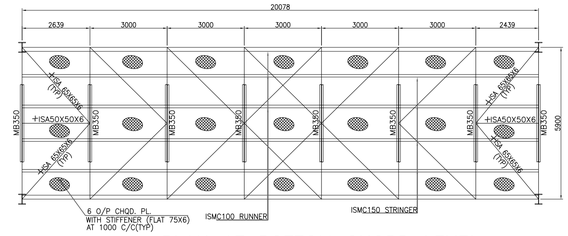
PLAN AT BOTTOM CHORD LEVEL ⚠1



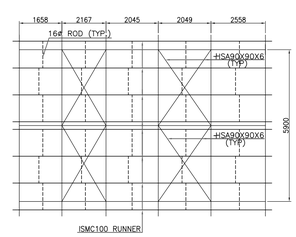
PLAN AT BOTTOM CHORD LEVEL ⚠1



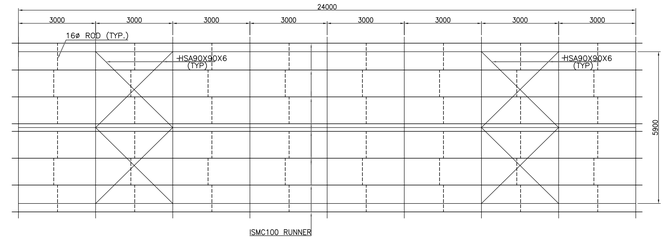
PLAN AT BOTTOM CHORD LEVEL ⚠1



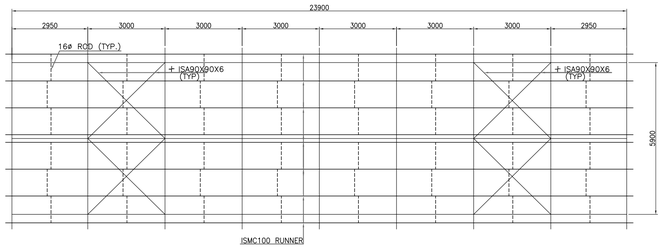
PLAN AT BOTTOM CHORD LEVEL ⚠1



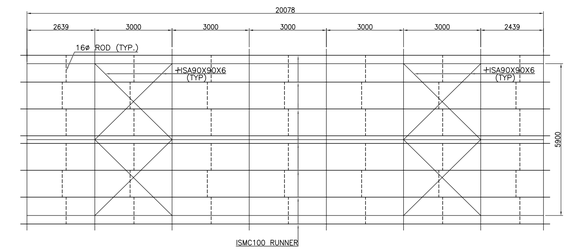
PLAN AT RAFTER LEVEL ⚠1



PLAN AT RAFTER LEVEL ⚠1

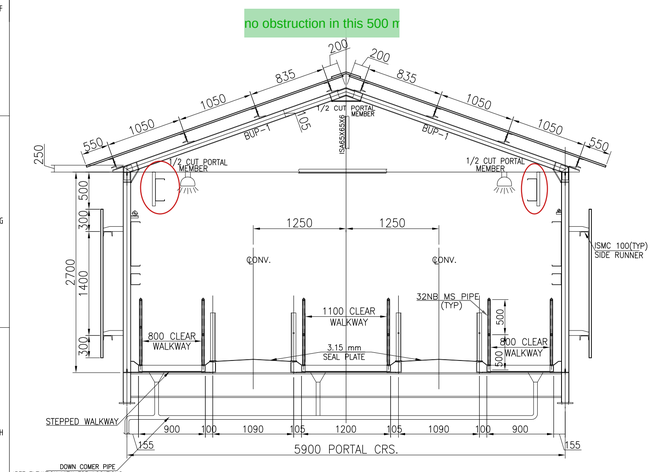


PLAN AT RAFTER LEVEL ⚠1



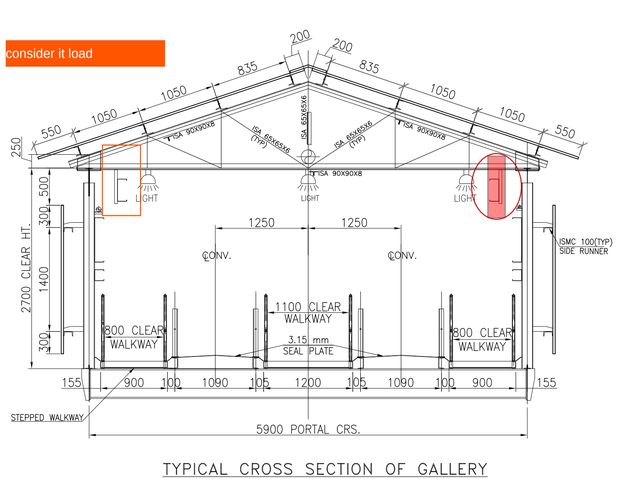
PLAN AT RAFTER LEVEL ⚠1

no obstruction in this 500 n



TYPICAL CROSS SECTION OF END PORTAL A1-A1 ⚠R1

consider it load



TYPICAL CROSS SECTION OF GALLERY A2-A2 ⚠R1

NOTES: ⚠R1

1. ALL DIMENSIONS ARE IN MILLIMETRES & ELEVATIONS ARE IN METRE UNLESS NOTED OTHERWISE.
2. EL(±)0.00 M CORRESPONDS TO RL(+)271.500 M.
3. FOR DETAILED NOTES, REFER SHEET # 1 OF THE SAME DRAWING.
4. THIS SHEET SHALL BE READ IN CONJUNCTION WITH SHEET # 1, 2 & 4 OF THE SAME DRAWING.

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3. GA & ARCHITECTURAL DETAILS OF CONVEYOR LC-1A/B : 9561-109-ISG-PVC-B-442-REV 00

OWNER/CONSULTANT:

NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

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FGD - PACKAGE

MAIN CONTRACTOR: BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	RAKSHITHA	-	07.01.2020	
CHD.	ANIMESH	-	07.01.2020	
APPD.	SBM	-	07.01.2020	

REV	DATE	REVISION HISTORY	BY	CKD	APPD
R1	13.02.2020	REVISED AS PER COMMENTS. REVISIONS ARE MARKED ⚠R1	RAK	ADA	SBM
R0	07.01.2020	FOR APPROVAL	RAK	ADA	SBM
R No.	DATE	BREF RECORD	BY	CKD	APPD

JOB No. IS-1-18-2003
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.

DIRECTORY :
FILE NO. :
SCALE
WEIGHT(Kgs.)

NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-441
ITEM NO.
NO.OF ITEMS

TITLE : CONVEYOR LC-1A/B-GA OF GALLERY & TRESTLES

BHEL DRAWING NUMBER: IS-1-GA-721-200-C022
REV. 01

SHEET NO. 03 NO.OF SHTS. 04

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

FORM-66.101

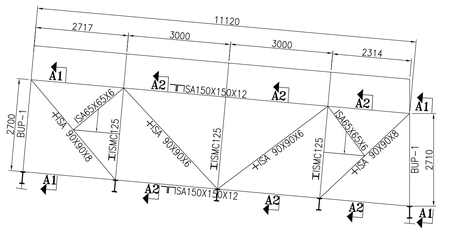
SIZE-A1

FIRST ANGLE PROJECTION

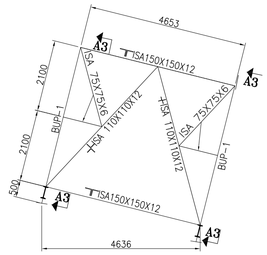
ALL DIMENSIONS ARE IN MM

DO NOT SCALE. IF IN DOUBT, ASK.

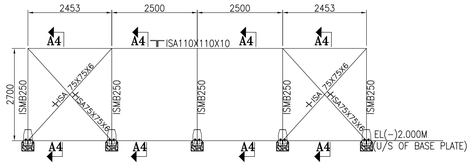
NTPC DRAWING NO. 9561-109-ISG-PVC-B-441



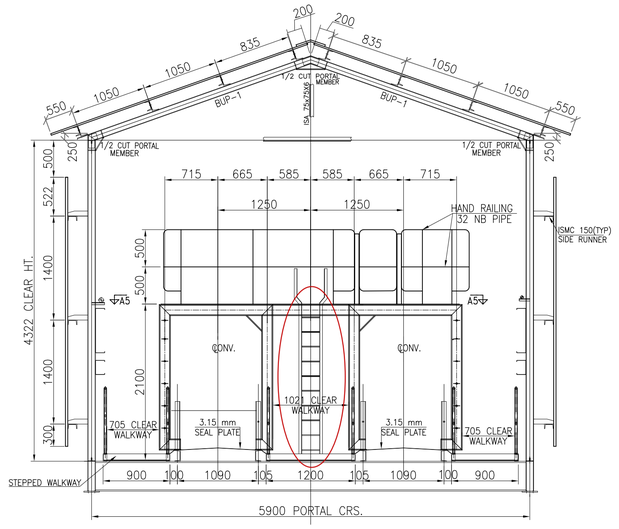
ELEVATION OF GALLERY MKD GR-5 R1



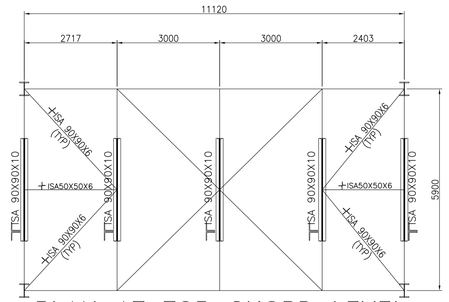
ELEVATION OF CROSS OVER GALLERY ABOVE TR-4A&4B R1



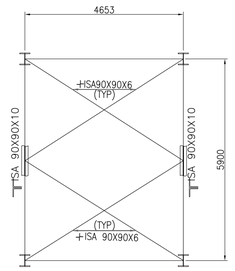
ELEVATION OF GC GALLERY MKD GCG-1 R1



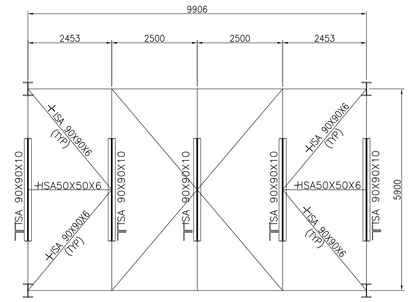
TYPICAL CROSS SECTION FOR CROSSOVER A3-A3 R1



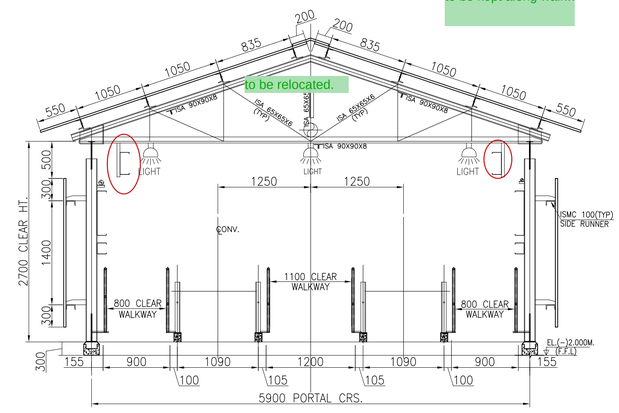
PLAN AT TOP CHORD LEVEL R1



PLAN AT TOP CHORD LEVEL R1



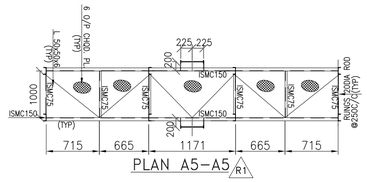
PLAN AT TOP CHORD LEVEL R1



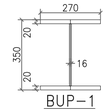
TYPICAL CROSS SECTION AT GROUND PORTAL A4-A4 R1

to be kept along walkw

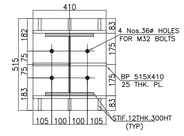
to be relocated.



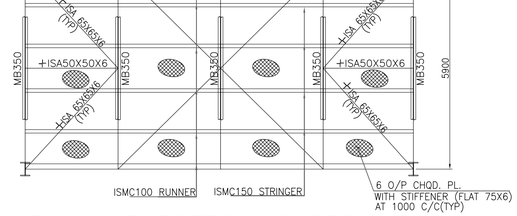
PLAN A5-A5 R1



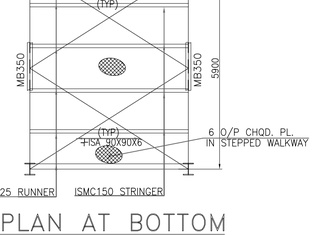
BUP-1



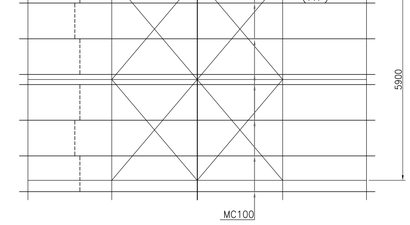
DETAIL OF END PORTAL BASE PLATE



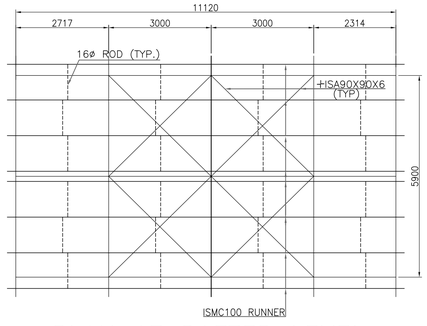
PLAN AT BOTTOM CHORD LEVEL R1



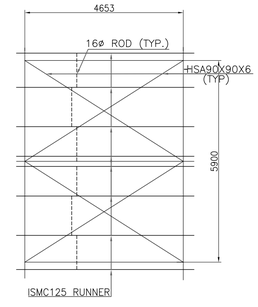
PLAN AT BOTTOM CHORD LEVEL R1



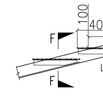
PLAN AT RAFTER LEVEL R1



PLAN AT RAFTER LEVEL R1

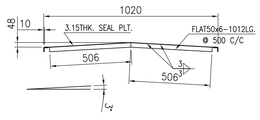


PLAN AT RAFTER LEVEL R1

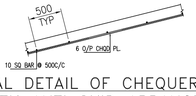


TYPICAL DETAIL OF STEPPED WALKWAY R1
(WHEREVER ANGLE OF CONVEYOR>10°)

SECTION F-F



TYPICAL DETAIL OF SEAL PLATE



TYPICAL DETAIL OF CHEQUERED PLATE WITH ANTI SKID ARRANGEMENT
(WHEREVER ANGLE OF CONVEYOR<=10°)

NOTES: R1

1. ALL DIMENSIONS ARE IN MILLIMETRES & ELEVATIONS ARE IN METRE UNLESS NOTED OTHERWISE.
2. EL(±)0.00 M CORRESPONDS TO RL.(+)271.500 M.
3. FOR DETAILED NOTES, REFER SHEET # 1 OF THE SAME DRAWING.
4. THIS SHEET SHALL BE READ IN CONJUNCTION WITH SHEET # 1, 2 & 3 OF THE SAME DRAWING.

REFERENCE DRAWINGS: R1

1. GA & LOAD DATE OF CONVEYOR LBC-1AB : 9561-109-ISG-PVM-B-566-REV 01
2. GA & RC DETAILS OF FOUNDATION LBC-1AB : 9561-109-ISG-PVC-B-452-REV 00
3. GA & ARCHITECTURAL DETAILS OF CONVEYOR LC-1A/B : 9561-109-ISG-PVC-B-442-REV 00

OWNER/CONSULTANT:

NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500 MW MAUDA STPP
FGD - PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR.
DRN.	RAKSHITHA	-	07.01.2020	
CHD.	ANMESH	-	07.01.2020	
APPD.	SBM	-	07.01.2020	

R.No	DATE	REVISION HISTORY	BY	CKD	APPD
R1	13.02.2020	REVISED AS PER COMMENTS. REVISIONS ARE MARKED R1	RAK	ADA	SBM
R0	07.01.2020	FOR APPROVAL	RAK	ADA	SBM

JOB No. IS-1-18-2003
STATUS OF DRAWING
DISTRIBUTION OF PRINTS | QTY.
DIRECTORY :
FILE NO. :
SCALE | WEIGHT(Kgs.)
NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-441 | ITEM NO. | NO.OF ITEMS
TITLE : CONVEYOR LC-1A/B-GA OF GALLERY & TRESTLES
BHEL DRAWING NUMBER: IS-1-GA-721-200-C022 | REV. 01
SHEET NO. 04 | NO.OF SHTS. 04

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

FORM-66.101

SIZE-A1

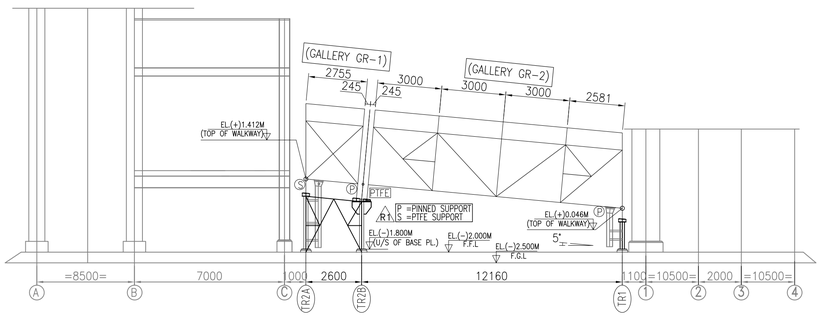
FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

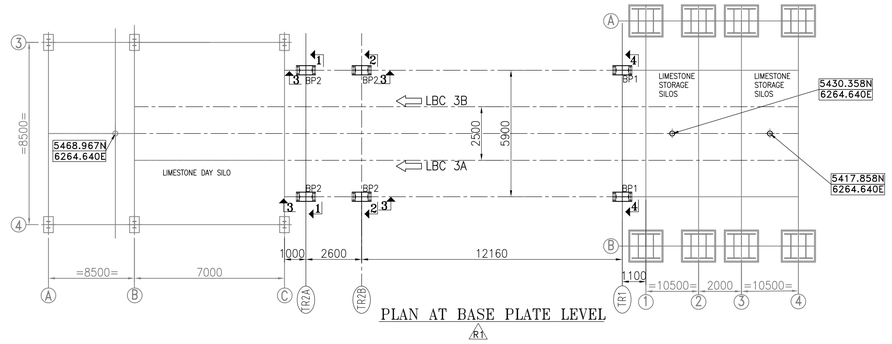
NTPC DRAWING NO. 9561-109-ISG-PVC-B-445

DO NOT SCALE. IF IN DOUBT, ASK.

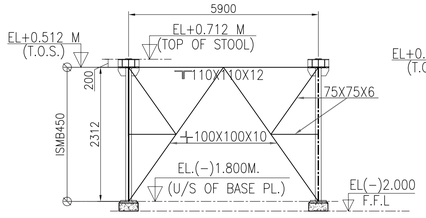
NORTH



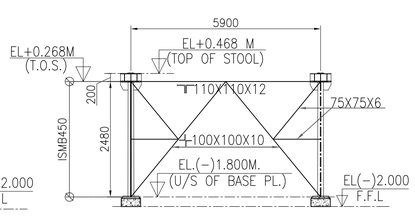
ELEVATION OF CONVEYOR LC-3A/3B
R1



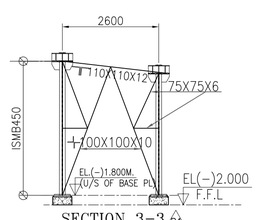
PLAN AT BASE PLATE LEVEL
R1



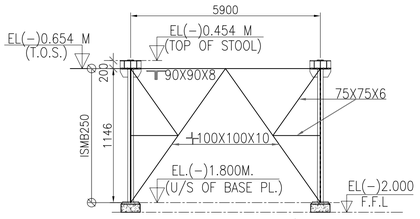
SECTION 1-1
(FOR TR2A)
R1



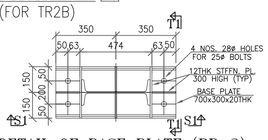
SECTION 2-2
(FOR TR2B)
R1



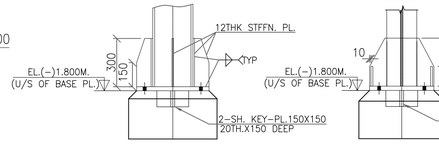
SECTION 3-3
(FOR TR2A&2B)
R1



SECTION 4-4
(FOR TR1)
R1

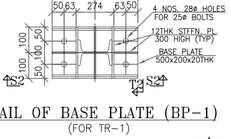


DETAIL OF BASE PLATE (BP-2)
(FOR TR-2A&2B)

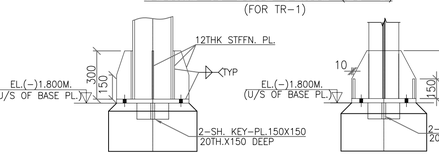


SECTION S1-S1

SECTION T1-T1

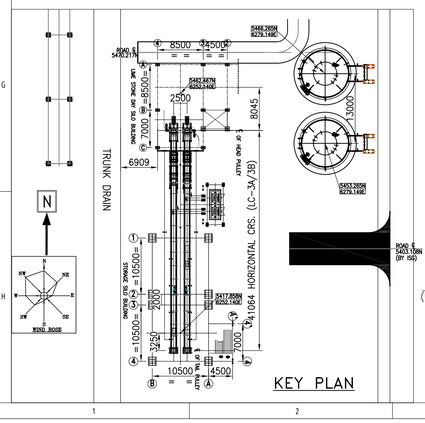


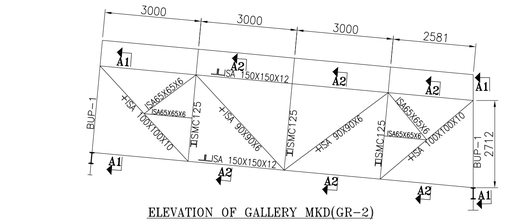
DETAIL OF BASE PLATE (BP-1)
(FOR TR-1)



SECTION S2-S2

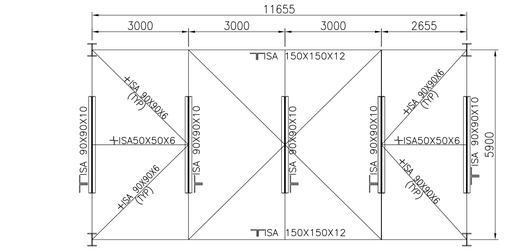
SECTION T2-T2



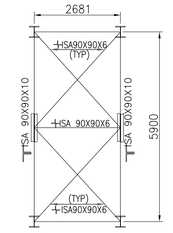


ELEVATION OF GALLERY MKD(GR-2)

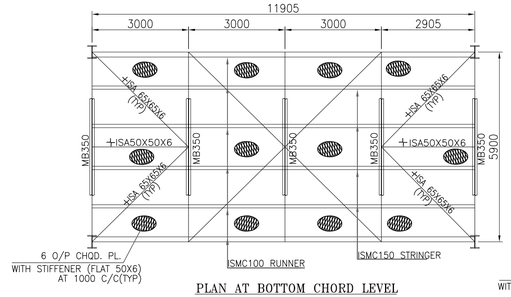
ELEVATION OF GALLERY MKD(GR-1)



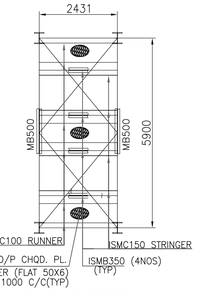
PLAN AT TOP CHORD LEVEL



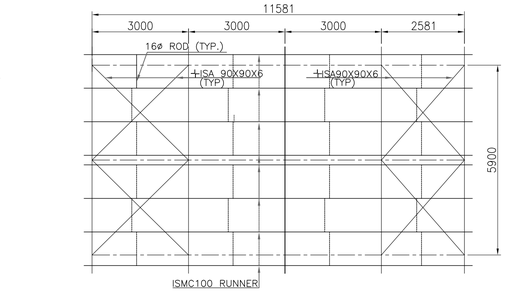
PLAN AT TOP CHORD LEVEL



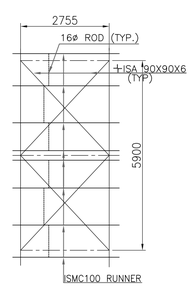
PLAN AT BOTTOM CHORD LEVEL



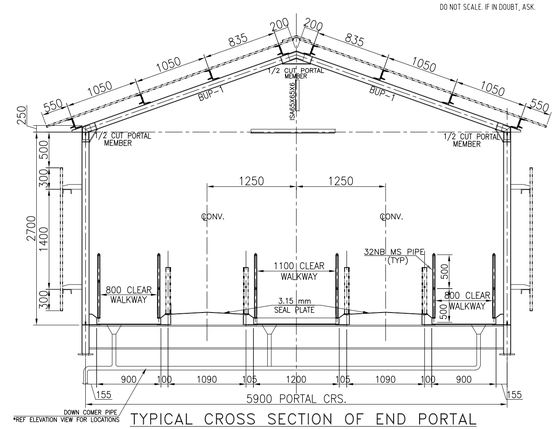
PLAN AT BOTTOM CHORD LEVEL



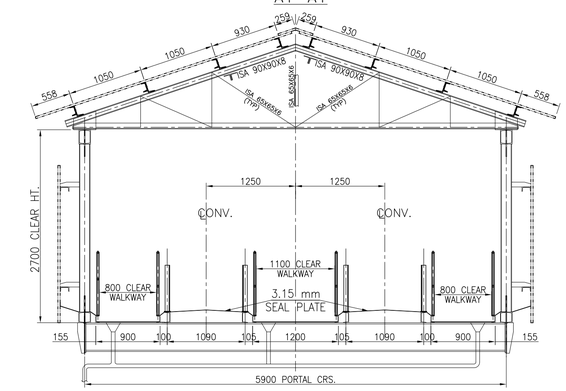
PLAN AT RAFTER LEVEL
R1



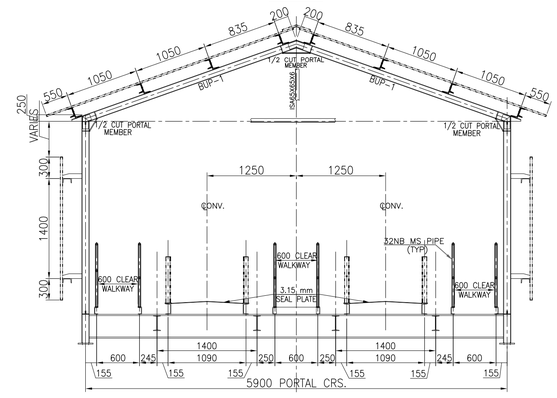
PLAN AT RAFTER LEVEL
R1



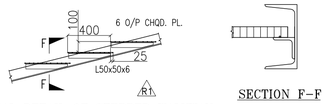
TYPICAL CROSS SECTION OF END PORTAL
A1-A1



TYPICAL GALLERY CROSS SECTION
A2-A2

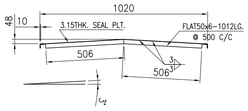


TYPICAL CROSS SECTION OF END PORTAL
A3-A3

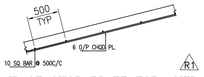


TYPICAL DETAIL OF STEPPED WALKWAY
(WHEREVER ANGLE OF CONVEYOR>10°)
R1

SECTION F-F



TYP. DETAIL OF SEAL PLATE



TYPICAL DETAIL OF CHQD PLATE FOR ANTI SKID ARRANGEMENT
(WHEREVER ANGLE OF CONVEYOR<=10°)
R1

NOTES:
R1

1. ALL DIMENSIONS ARE IN MILLIMETER AND ELEVATIONS ARE IN METER U.N.O.
2. ALL FILLET WELDS SHALL BE MINIMUM 6mm THK UN OTHERWISE.
3. ALL HOLES ARE 21.5ø DRILLED HOLES FOR M20 ERECTION BOLTS.
4. ALL GUSSET PLATES ARE 10mm THK UN OTHERWISE.
5. GRADE OF STEEL E 250 AS PER IS:2062.
6. STEPPED WALKWAY SHALL BE PROVIDED FOR CONVEYOR GALLERY INCLINATION GREATER THAN 10°.
7. ALL FABRICATION AND ERECTION WORK SHALL CONFORM TO PROVISIONS OF IS:800:2007 & SPECIFICATION FOR STRUCTURAL STEEL WORKS.
8. ALL ERECTION AND FABRICATION TOLERANCES SHALL BE AS PER SPECIFICATION.
9. LENGTH OF ALL INCLINED MEMBERS AND THE SHAPE & SIZE OF GUSSET PLATES SHALL BE VERIFIED BY ACTUAL FULL SCALE LAYOUT BEFORE FABRICATION.
10. GALLERY SHOULD AS FAR AS POSSIBLE BE ERECTED AS A BOX SECTION KEEPING ALL THE VERTICAL AND HORIZONTAL BRACING TIED IN PROPER POSITION DURING HANDLING AND ERECTION.
11. DESIGN AND DETAILING OF CONNECTIONS SHALL BE DONE AS PER SECTION-10 AND SECTION-12 OF IS 800:2007

REFERENCE DWG

1. GA & LOAD DATA OF CONVEYOR LBC-3AB : 9561-109-ISG-PVM-B-568A-R1

Digitally signed by SAMANTA
Date: 2020.04.24 15:03:03 IST
Reason: CAT
Location:

1	04.03.2020	REVISED AS PER NTPC COMMENTS	RAKSHITHA	ADA	SBM	
R.No	DATE	BRIEF RECORD	BY	CKD	APPD	

REVISION HISTORY

OWNER/CONSULTANT: एन टी पी सी NTPC

NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT: 2 x 500 MW MAUDA STPP
FGD - PACKAGE

MAIN CONTRACTOR: BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	RAKSHITHA	-	23.01.2020	
CHD.	ANIMESH	-	23.01.2020	
APPD.	SBM	-	23.01.2020	

JOB No.	IS-1-18-2003
STATUS OF DRAWING	
DISTRIBUTION OF PRINTS	QTY.
DIRECTORY :	
FILE NO. :	
SCALE	
WEIGHT(Kgs.)	
NTPC DRAWING NUMBER:	9561-109-ISG-PVC-B-445
ITEM NO.	
NO.OF ITEMS	
TITLE :	CONVEYOR LC3A/B: GA OF GALLERY & TRESTLES
BHEL DRAWING NUMBER:	IS-1-GA-721-200-C046
REV.	R1
SHEET NO.	1
NO.OF SHTS.	1

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

FORM-66.101

SIZE-A1

COMPLIANCE REPORT

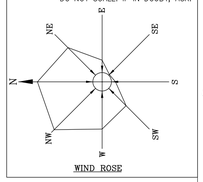
2 X 500 MW MAUDA STPP-FGD PACKAGE		
DWG / DOC NO AND TITLE : 9561-109-ISG-PVC-B-445 - CONVEYOR LBC-1AB-GA OF GALLERY & TRESTLES R0		
SL NO	**NTPC COMMENTS**	**BHEL REPLY**
1	Hold	Staad file has been revised and errors resolved
2	PTFE bearing shall be provided for slinding support	Accepted. PTFE indicated in elevation view.
3	COMPLY TO COMMENTS MARKED DESIGN DOCUMENT	Complied
4	DESIGN/DRAWING TO CONFORM TO LATEST MECHANICAL/ELECTRICAL GA DRG.	Accepted. Trestle Tr-2A introduced for structural requirement, after discussion with mechanical. The same will be updated in Mech GA dwg.
5	ALL FURTHER CHANGES TO BE INCORPORATED IF ANY.	Noted.
6	ALL PREVIOUS COMMENTS, IF ANY, ARE DEEMED TO HAVE BEEN INCORPORATED.	Agreed.
7	Vendor to recheck before taking up construction-Approval does not absolve the turnkey contractor from ensuring structural safety and functional adequacy of the structure.	Accepted.
8	Design and Detailing of connections shall be done as per section 10 and section 12 of IS 800:2007.	Ok. The same has been incorporated in Notes

FIRST ANGLE PROJECTION

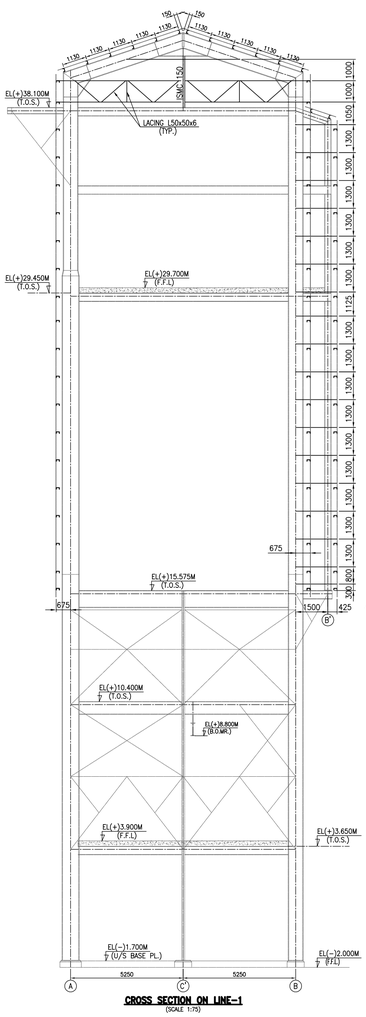
ALL DIMENSIONS ARE IN MM

NTPC DRAWING NO. 9561-109-ISG-PVC-B-448B

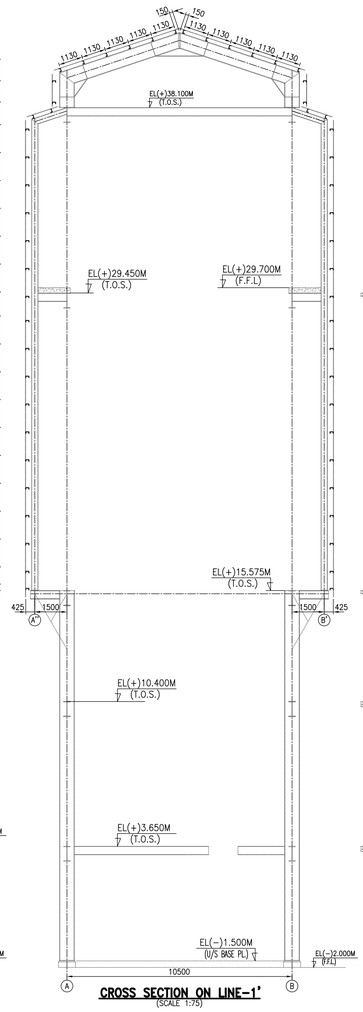
DO NOT SCALE. IF IN DOUBT, ASK.



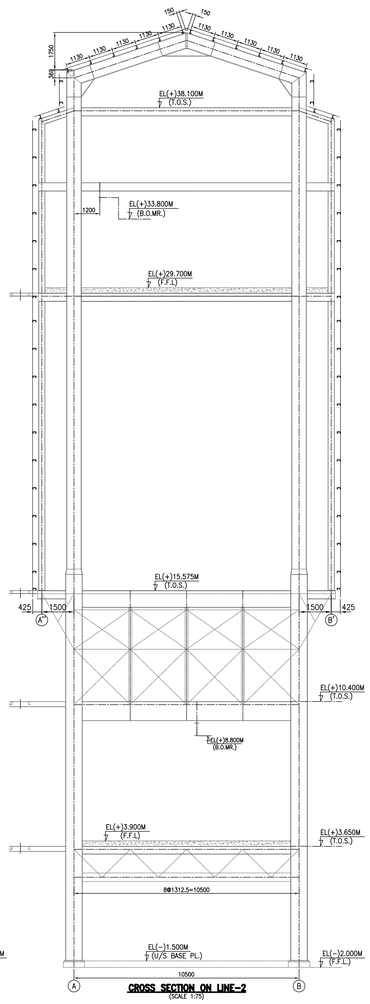
WIND ROSE



CROSS SECTION ON LINE-1
(SCALE 1:75)



CROSS SECTION ON LINE-1'
(SCALE 1:75)



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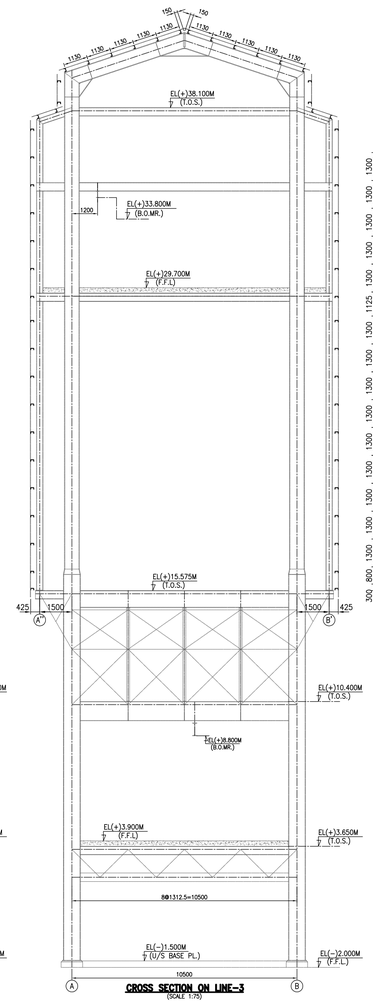

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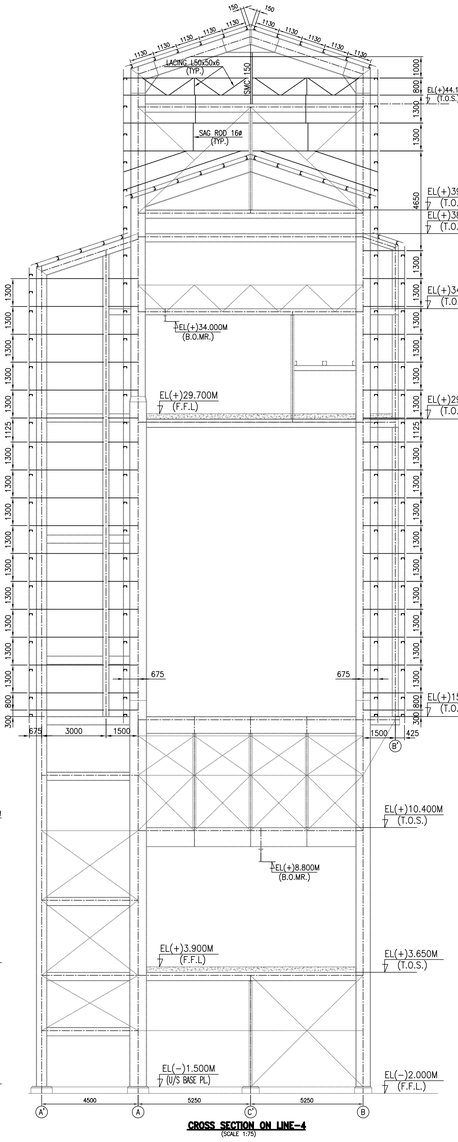
(SCALE 1:75)



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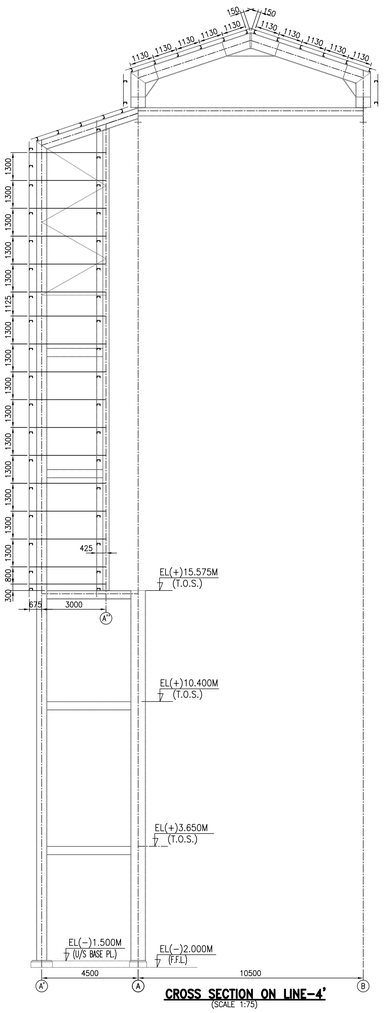
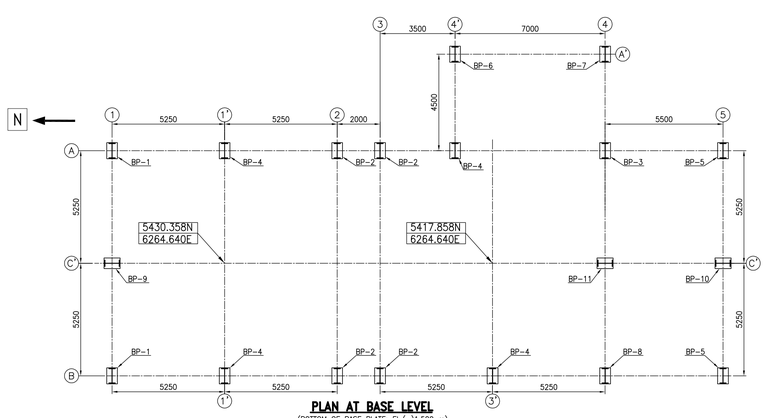


CROSS SECTION ON LINE-4'
(SCALE 1:75)



PLAN AT BASE LEVEL
(BOTTOM OF BASE PLATE: EL.(−)1.500 m)
(SCALE 1:100)

NOTES: –

1. ALL DIMENSIONS ARE IN mm & LEVELS ARE IN M.
2. EL(±)0.000 M CORRESPONDS TO RL.(+)271.500 M.
3. ALL WELD SHALL CONFORM TO IS: 9595–1996 AND IS: 816–1969.
4. ALL ROLLED SECTIONS STEEL SHALL CONFORM TO E250 A OF IS:2062(2011).
5. ALL MS PLATES SHALL CONFORM TO GRADE E250 BR (FULLY KILLED) CONFORMING TO IS:2062(2011). PLATES BEYOND 12 mm THICKNESS UP TO 40 mm THICKNESS SHALL BE NORMALIZED ROLLED. PLATES BEYOND 40 mm THICKNESS SHALL BE VACUUM DEGASSED & FURNACE NORMALISED AND SHALL ALSO BE 100% ULTRASONICALLY TESTED AS PER ASTM–A578 LEVEL B–S2.
6. ALL GUSSET PLATES SHALL BE 10mm (MINIMUM) U.N.O.
7. ALL WELDS ARE 6 mm CONTINUOUS FILLET U.N.O.
8. ALL ERECTION HOLES ARE 17.5ø FOR 16ø BOLTS U.N.O. SHOWN THUS----⊕
9. ALL PERMANENT BOLTS SHALL BE GRADE 4.6 U.N.O. SHOWN THUS----✦
10. ALL FABRICATION AND ERECTION WORK SHALL CONFORM TO PROVISIONS OF IS:800–2007 & NTPC SPECIFICATION FOR STRUCTURAL STEEL WORKS.
11. ALL CONNECTIONS SHALL BE DESIGNED AS PER SECTION 12 OF IS:800(2007) & NTPC TECHNICAL SPECIFICATIONS.
12. ALL ERECTION AND FABRICATION TOLERANCES SHALL BE AS PER SPECIFICATION.
13. LENGTH OF ALL INCLINED MEMBERS AND THE SHAPE & SIZE OF GUSSET PLATES SHALL BE VERIFIED BY ACTUAL FULL SCALE LAYOUT BEFORE FABRICATION.
14. PAINTING OF STRUCTURAL STEEL MEMBERS SHALL BE AS PER NTPC SPECIFICATION.
15. THIS DWG. IS TO BE READ IN CONJUNCTION WITH DWG. NO. 9561–109–ISG–PVC–B–448.

ALL SIDE RUNNER ISMC 150 (TYP.) UPTO 5.250M SPAN &
ISMC 200 (TYP.) ABOVE 5.250M SPAN
ALL PURLIN ISMC 200 (TYP.) U.N.O.

REFERENCE DRAWINGS:

1. 9561–109–RP–PVM–F–386–R7 – PLANT LAYOUT OF FGD SYSTEM
2. 9561–109–ISG–PVM–B–572–R4 – GA OF LIMESTONE STORAGE SILOS
3. 9561–109–ISG–PVC–B–448–R2 – LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SUPERSTRUCTURE

OWNER/CONSULTANT: NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT: 2 x 500MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR: BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	B.D.		06.02.2021	
CHD.	A.B		06.02.2021	
APPD.	P.C.		06.02.2021	

R.No	DATE	BRIEF RECORD	BY	CKD	APPD
REVISION HISTORY					

JOB No. IS–1–18–2003
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.
DIRECTORY :
FILE NO. :
SCALE 1:100
WEIGHT(Kgs.)
NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-448B
ITEM NO.
NO.OF ITEMS
TITLE : LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SIDE RUNNERS & PURLINS
BHEL DRAWING NUMBER: IS-1-GA-721-200-C042B
REV. 00
SHEET NO. 1
NO.OF SHTS. 3

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

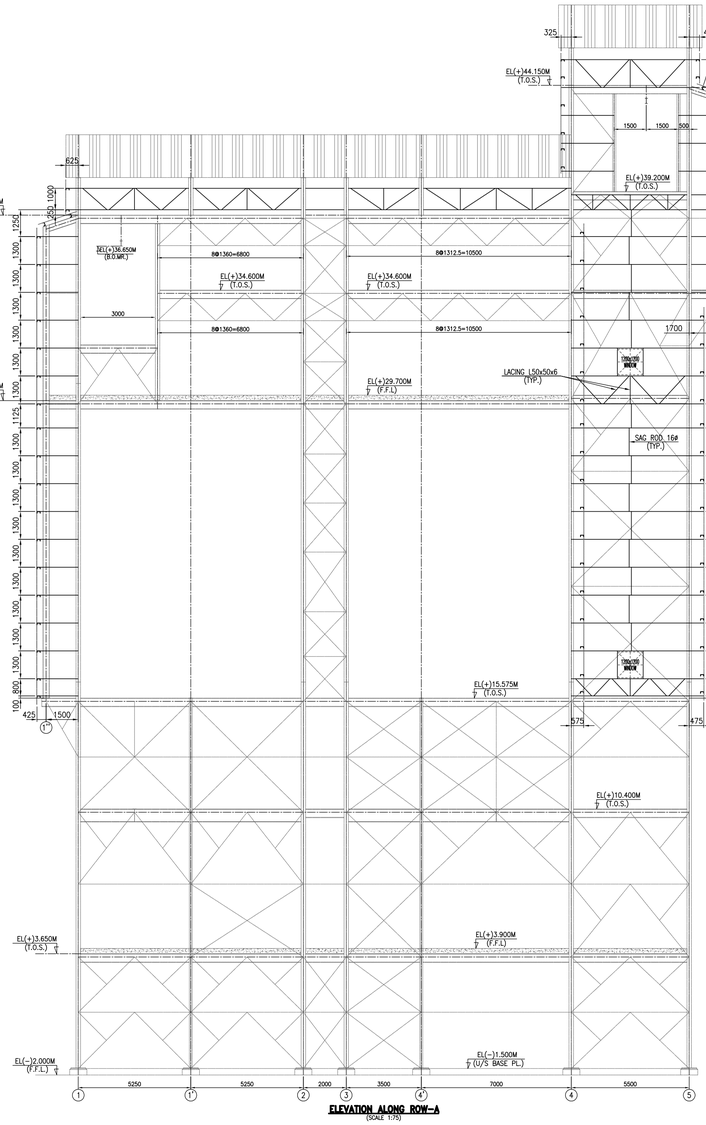
FORM–66.101
SIZE–A1

FIRST ANGLE PROJECTION

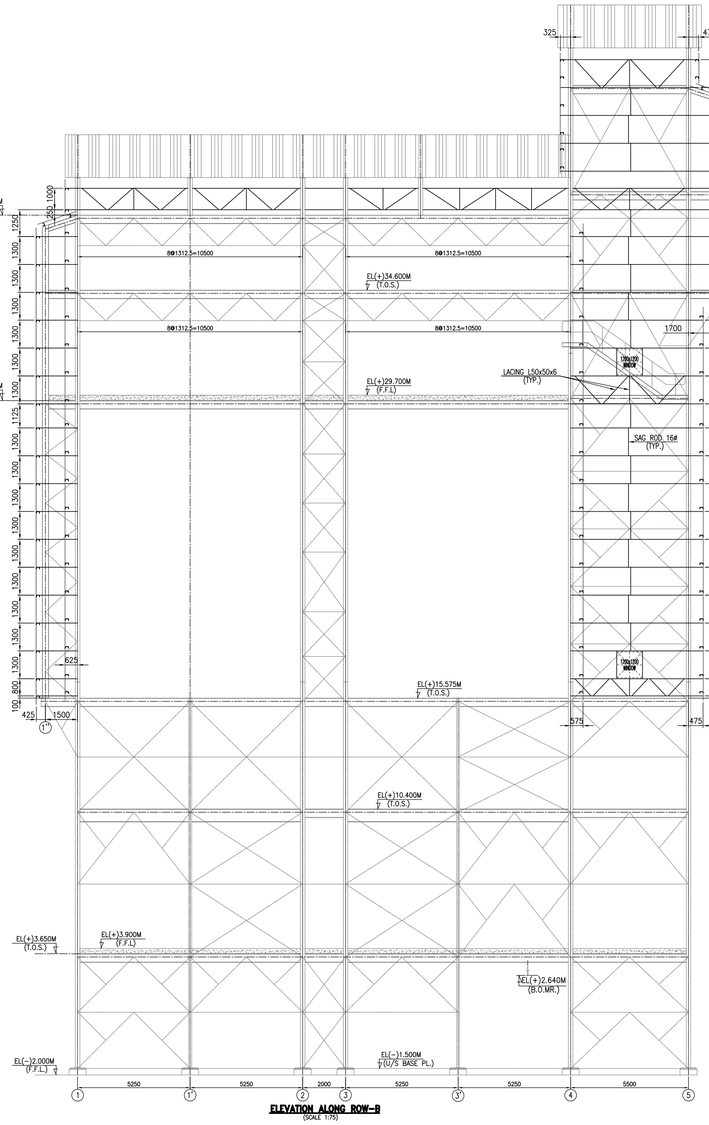
ALL DIMENSIONS ARE IN MM

NTPC DRAWING NO. 9561-109-ISG-PVC-B-448B

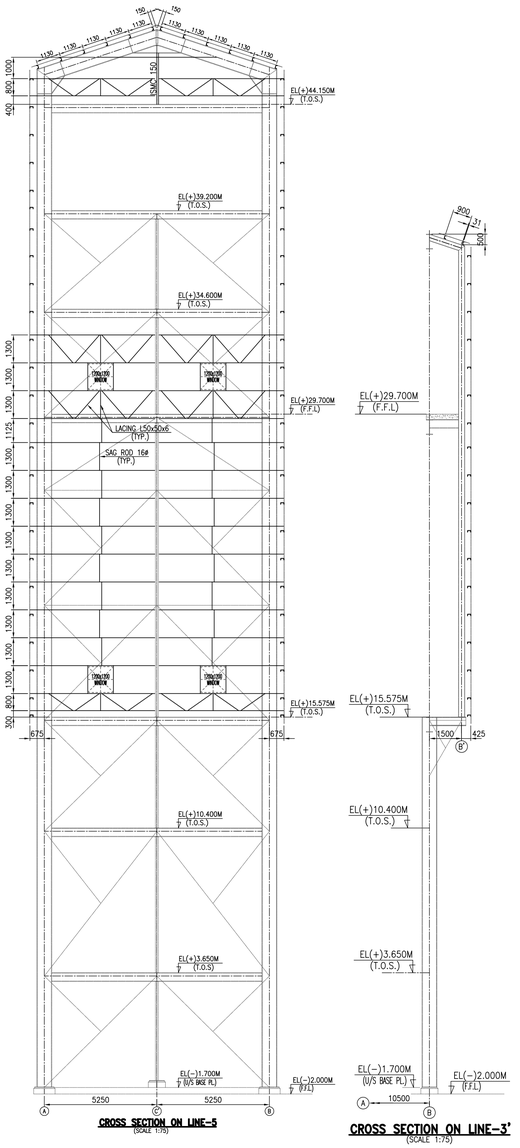
DO NOT SCALE. IF IN DOUBT, ASK.



ELEVATION ALONG ROW-A
(SCALE 1:75)



ELEVATION ALONG ROW-B
(SCALE 1:75)



CROSS SECTION ON LINE-5
(SCALE 1:75)

CROSS SECTION ON LINE-3'
(SCALE 1:75)

ALL SIDE RUNNER ISMC 150 (TYP.) UPTO 5.250M SPAN &
ISMC 200 (TYP.) ABOVE 5.250M SPAN
ALL PURLIN ISMC 200 (TYP.) U.N.O.

REFERENCE DRAWINGS:

1. 9561-109-RP-PVM-F-386-R7 – PLANT LAYOUT OF FGD SYSTEM
2. 9561-109-ISG-PVM-B-572-R4 – GA OF LIMESTONE STORAGE SILOS
3. 9561-109-ISG-PVC-B-448-R2 – LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SUPERSTRUCTURE

NOTES:-

1. ALL DIMENSIONS ARE IN mm & LEVELS ARE IN M.
2. EL(±)0.00 M CORRESPONDS TO RL.(+)271.500 M.
3. FOR DETAILED NOTES, REFER SHT. 1 OF THE SAME DRAWING.
4. THIS DWG. IS TO BE READ IN CONJUNCTION WITH STRUCTURAL DWG. NO. 9561-109-ISG-PVC-B-448, & 9561-109-ISG-PVC-B-448B SH. # 1 & 3.

OWNER/CONSULTANT:
NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
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CHD.	A.B		06.02.2021	
APPD.	P.C.		06.02.2021	

R.No:	DATE	BRIEF RECORD	BY	CKD	APPD
REVISION HISTORY					

DISTRIBUTION OF PRINTS QTY.

JOB No. IS-1-18-2003
STATUS OF DRAWING
DIRECTORY :
FILE NO. :
SCALE 1:100
WEIGHT(Kgs.)
NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-448B
ITEM NO.
NO.OF ITEMS
TITLE : LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SIDE RUNNERS & PURLINS
BHEL DRAWING NUMBER: IS-1-GA-721-200-C042B
REV. 00
SHEET NO. 2
NO.OF SHTS. 3

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

FORM-66.101

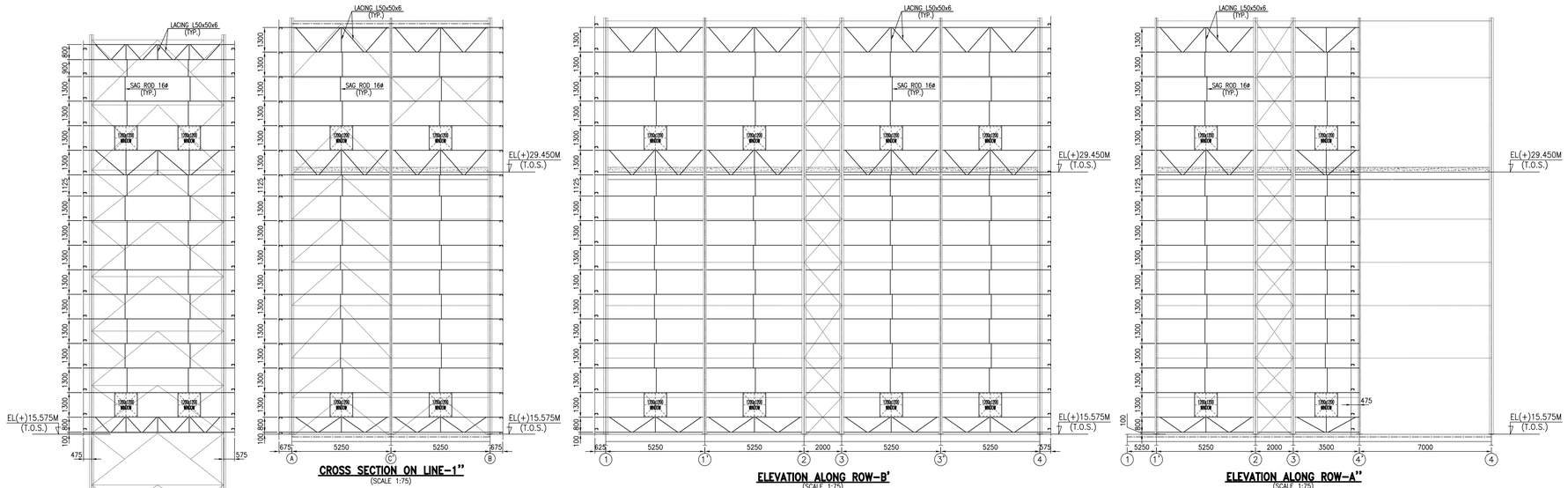
SIZE-A1

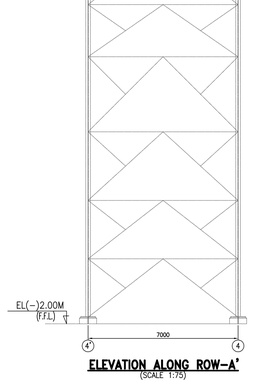
FIRST ANGLE PROJECTION

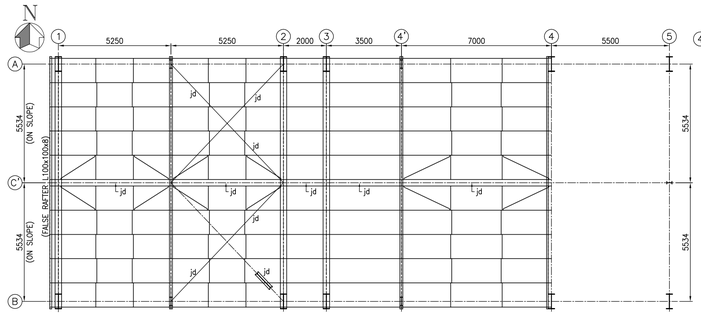
ALL DIMENSIONS ARE IN MM

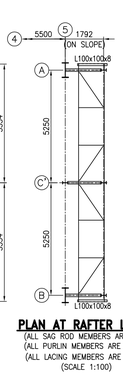
NTPC DRAWING NO. 9561-109-ISG-PVC-B-448B

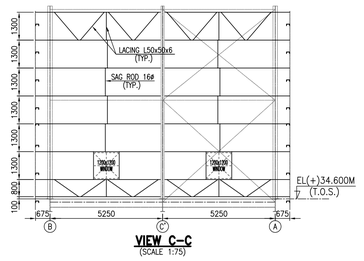
DO NOT SCALE. IF IN DOUBT, ASK.



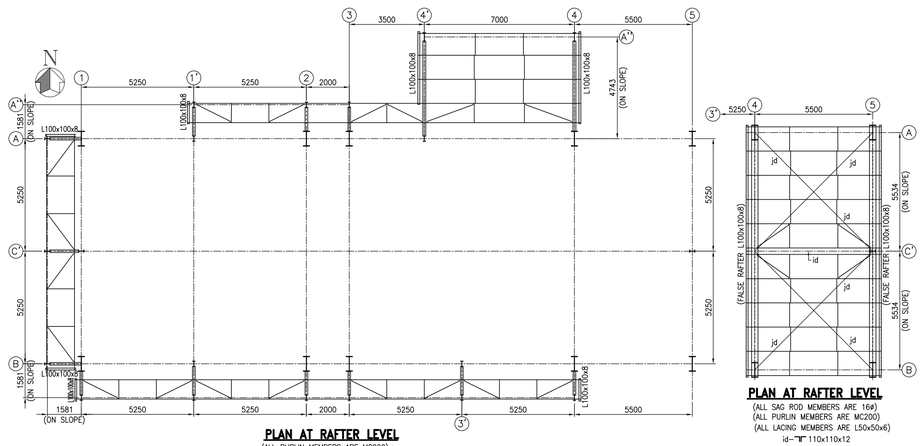


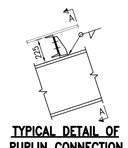


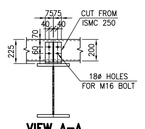


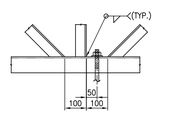


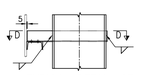
ALL SIDE RUNNER ISMC 150 (TYP.) UPTO 5.250M SPAN &
ISMC 200 (TYP.) ABOVE 5.250M SPAN
ALL PURLIN ISMC 200 (TYP.) U.N.O.

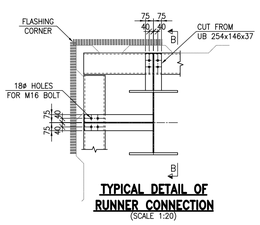


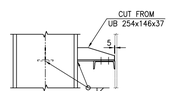


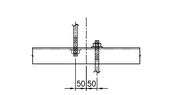


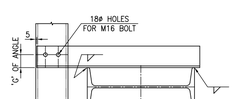












REFERENCE DRAWINGS:

1. 9561-109-RP-PVM-F-386-R7 – PLANT LAYOUT OF FGD SYSTEM
2. 9561-109-ISG-PVM-B-572-R4 – GA OF LIMESTONE STORAGE SILOS
3. 9561-109-ISG-PVC-B-448-R2 – LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SUPERSTRUCTURE

NOTES: –

1. ALL DIMENSIONS ARE IN mm & LEVELS ARE IN M.
2. EL(±)0.00 M CORRESPONDS TO RL.(+)271.500 M.
3. FOR DETAILED NOTES, REFER SHT. 1 OF THE SAME DRAWING.
4. THIS DWG. IS TO BE READ IN CONJUNCTION WITH STRUCTURAL DWG. NO. 9561-109-ISG-PVC-B-448, & 9561-109-ISG-PVC-B-448B SH. # 1 & 2.

OWNER/CONSULTANT:
एन टी पी सी NTPC
NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	B.D.		06.02.2021	
CHD.	A.B		06.02.2021	
APPD.	P.C.		06.02.2021	

JOB No. IS-1-18-2003	DIRECTORY :		SCALE	WEIGHT(Kgs.)	NTPC DRAWING NUMBER:	ITEM NO.	NO.OF ITEMS
STATUS OF DRAWING	FILE NO. :		1:100		9561-109-ISG-PVC-B-448B		
DISTRIBUTION OF PRINTS QTY.	TITLE : LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SIDE RUNNERS & PURLINS				BHEL DRAWING NUMBER: IS-1-GA-721-200-C042B		REV. 00
R.No. DATE BRIEF RECORD BY CKD APPD					SHEET NO. 3	NO.OF SHTS. 3	

REVISION HISTORY

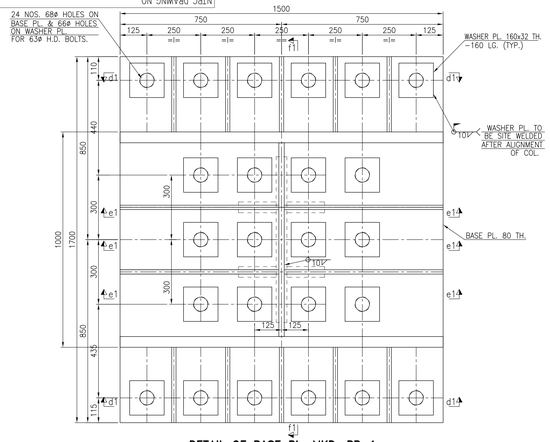
REF.DRG.NO. | SIGN & DATE | INVENTORY NO.

FORM-66.101

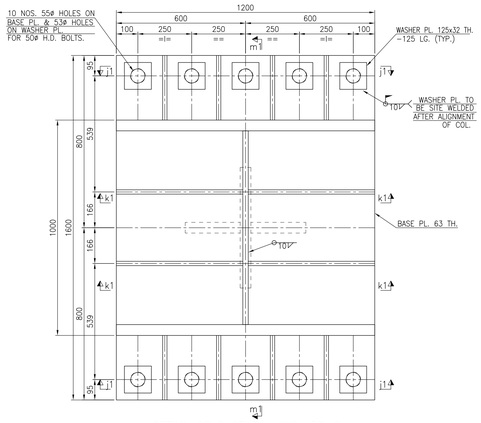
SIZE-A1

COMPLIANCE SHEET		
2 X 500 MW MAUDA FGD PACKAGE		
NTPC DWG / DOC NO AND TITLE : **9561-109-ISG-PVC-B-448** - (Limestone Silos-R1)		
SL NO	**NTPC COMMENTS**	**BHEL'S REPLY**
1	Compliance of observation marked in the design document required	Incorporated comments in the latest revision of drawings.

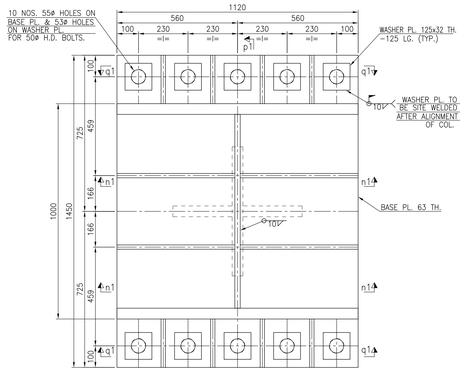
DO NOT SCALE, IF IN DOUBT, ASK.



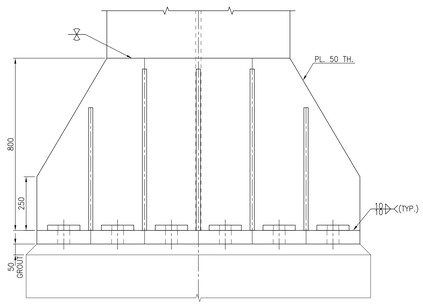
DETAIL OF BASE PL. MKD. BP-1
(SCALE 1:10)



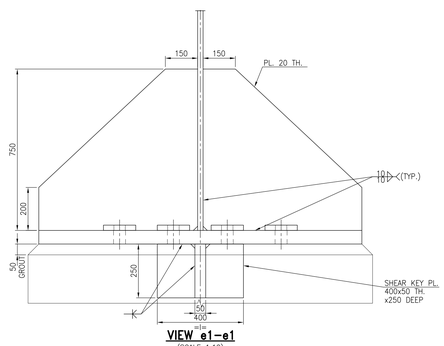
DETAIL OF BASE PL. MKD. BP-2
(SCALE 1:10)



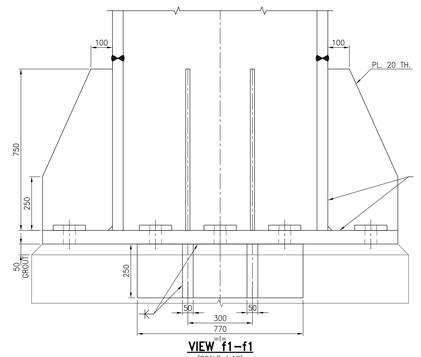
DETAIL OF BASE PL. MKD. BP-3
(SCALE 1:10)



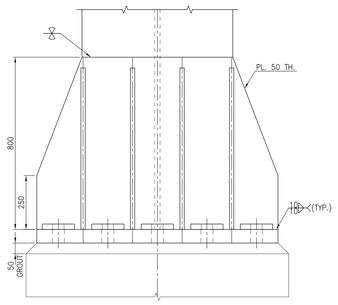
VIEW d1–d1
(SCALE 1:10)



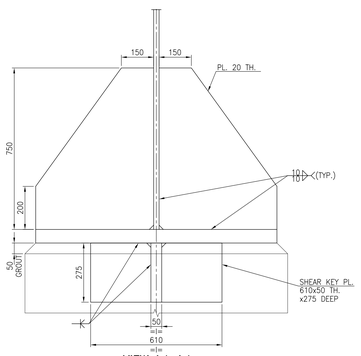
VIEW e1–e1
(SCALE 1:10)



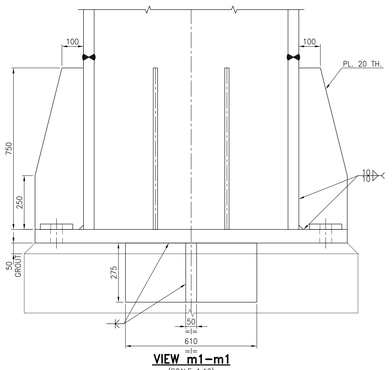
VIEW f1–f1
(SCALE 1:10)



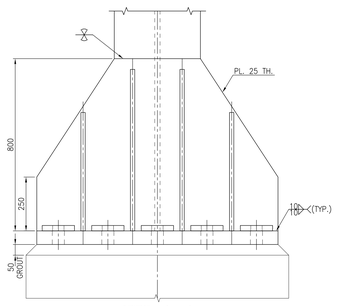
VIEW j1–j1
(SCALE 1:10)



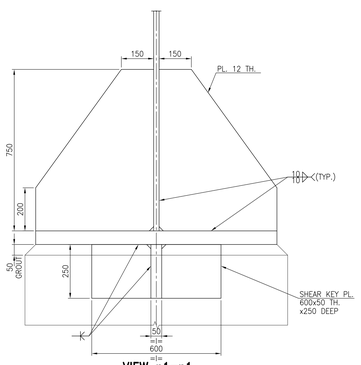
VIEW k1–k1
(SCALE 1:10)



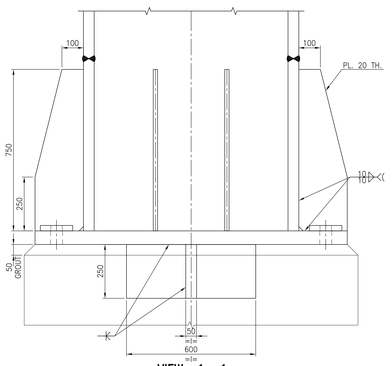
VIEW m1–m1
(SCALE 1:10)



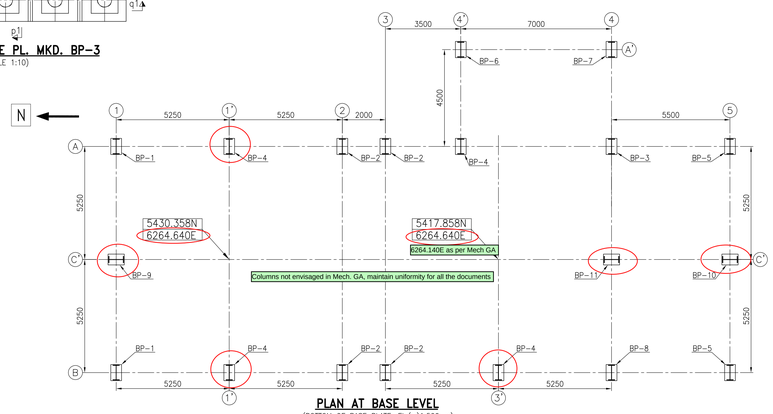
VIEW q1–q1
(SCALE 1:10)



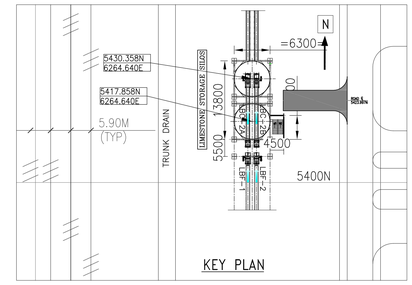
VIEW n1–n1
(SCALE 1:10)



VIEW p1–p1
(SCALE 1:10)



PLAN AT BASE LEVEL
(BOTTOM OF BASE PLATE: EL.(–)1.500 m)
(SCALE 1:100)



LEGEND:

FGL	– FINISHED GROUND LEVEL
FFL	– FINISHED FLOOR LEVEL
T.O.S	– TOP OF STEEL
B.O.F	– BOTTOM OF FOUNDATION
MS	– MONORAIL SUPPORT
W.P	– WORKING POINT
BP	– BASE PLATE
HR	– HANDRAIL
M.C	– MOMENT CONNECTION

REFERENCE DRAWINGS 2

SL.NO.	NTPC DRAWING NUMBER	REV.	DRAWING NAME
1.	9561-109-ISG-PVM-F-599	04	FLOW DIAGRAM FOR LHP & GHP
2.	9561-109-RP-PVM-F-386	07	PLANT LAYOUT OF FGD SYSTEM
3.	9561-109-ISG-PVM-B-572	04	GA OF CRUSHED LIMESTONE STORAGE SILOS

NOTES: –

1. ALL DIMENSIONS ARE IN mm & LEVELS ARE IN M.
2. EL(±)0.000 M CORRESPONDS TO RL.(+)271.500 M.
3. ALL WELD SHALL CONFORM TO IS: 9595–1996 AND IS: 816–1969.
4. ALL ROLLED SECTIONS STEEL SHALL CONFORM TO E250 A OF IS:2062(2011). 2
5. ALL MS PLATES SHALL CONFORM TO GRADE E250 BR (FULLY KILLED) CONFORMING TO IS:2062(2011). PLATES BEYOND 12 mm THICKNESS UP TO 40 mm THICKNESS SHALL BE NORMALIZED ROLLED. PLATES BEYOND 40 mm THICKNESS SHALL BE VACUUM DEGASSED & FURNACE NORMALISED AND SHALL ALSO BE 100% ULTRASONICALLY TESTED AS PER ASTM–A578 LEVEL B–S2. 2
6. ALL GUSSET PLATES SHALL BE 10mm (MINIMUM) U.N.O.
7. ALL WELDS ARE 6 mm CONTINUOUS FILLET U.N.O.
8. ALL ERECTION HOLES ARE 17.5ø FOR 16ø BOLTS U.N.O. SHOWN THUS---⊕
9. ALL PERMANENT BOLTS SHALL BE GRADE 4.6 U.N.O. SHOWN THUS---●
10. ALL FABRICATION AND ERECTION WORK SHALL CONFORM TO PROVISIONS OF IS:800–2007 & NTPC SPECIFICATION FOR STRUCTURAL STEEL WORKS.
11. ALL CONNECTIONS SHALL BE DESIGNED AS PER SECTION 12 OF IS:800(2007) & NTPC TECHNICAL SPECIFICATIONS. 2
12. ALL ERECTION AND FABRICATION TOLERANCES SHALL BE AS PER SPECIFICATION.
13. LENGTH OF ALL INCLINED MEMBERS AND THE SHAPE & SIZE OF GUSSET PLATES SHALL BE VERIFIED BY ACTUAL FULL SCALE LAYOUT BEFORE FABRICATION.
14. PAINTING OF STRUCTURAL STEEL MEMBERS SHALL BE AS PER NTPC SPECIFICATION.
15. THIS DWG. IS TO BE READ IN CONJUNCTION WITH DWG. NO. 9561–109–ISG–PVC–B–448 (SHT. 02 TO 09).

OWNER/CONSULTANT:

NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

		NAME	SIGN	DATE	NO.OF VAR
DRN.	S.M.			16.01.20	
CHD.	A.B.			17.01.20	
APPD.	P.C.			18.01.20	

R.No	DATE	REVISION HISTORY	BY	CKD	APPD
02	09.01.21	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C
01	10.06.20	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C

JOB No. IS–1–18–2003 | STATUS OF DRAWING | DISTRIBUTION OF PRINTS QTY. | DIRECTORY : | FILE NO. : | SCALE 1:100 | WEIGHT(Kgs.)

NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-448 | ITEM NO. | NO.OF ITEMS

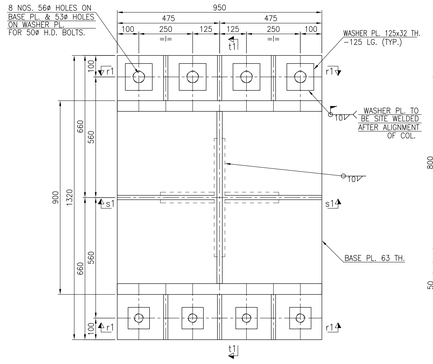
TITLE : LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SUPERSTRUCTURE (BASE PLATE DETAILS)

BHEL DRAWING NUMBER: IS-1-GA-721-200-C042 | REV. 02

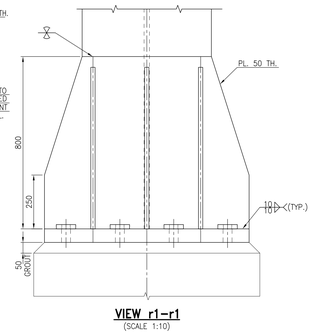
SHEET NO. 1 | NO.OF SHTS. 9

FORM–66.101

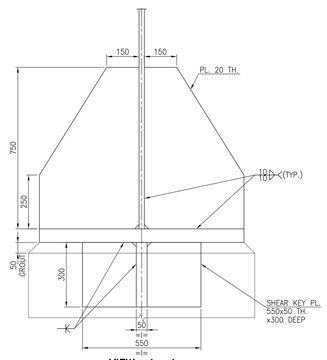
SIZE–A1



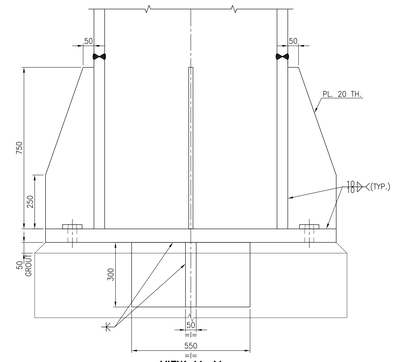
DETAIL OF BASE PL. MKD. BP-4
(SCALE 1:10)



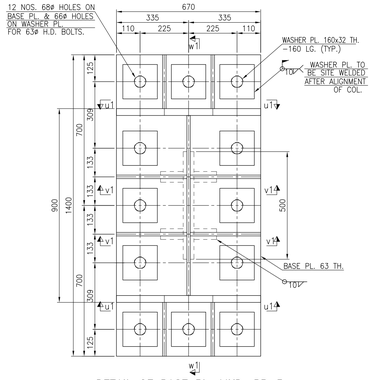
VIEW r1-r1
(SCALE 1:10)



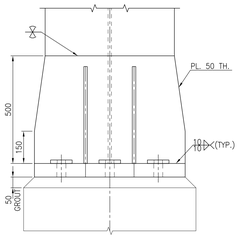
VIEW s1-s1
(SCALE 1:10)



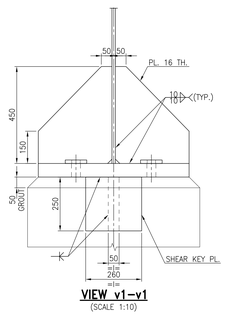
VIEW t1-t1
(SCALE 1:10)



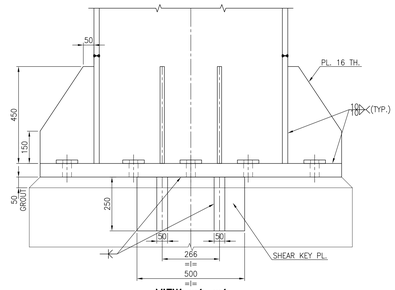
DETAIL OF BASE PL. MKD. BP-5
(SCALE 1:10)



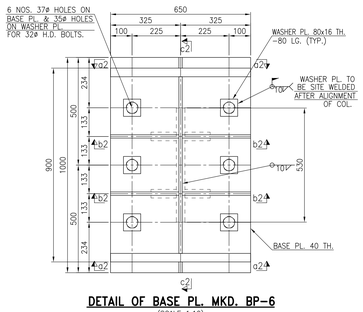
VIEW u1-u1
(SCALE 1:10)



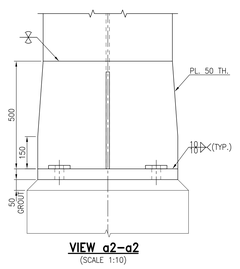
VIEW v1-v1
(SCALE 1:10)



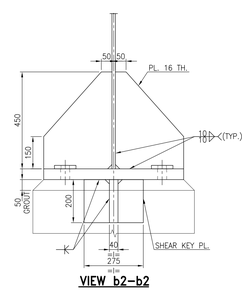
VIEW w1-w1
(SCALE 1:10)



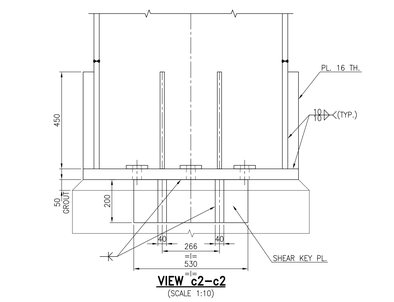
DETAIL OF BASE PL. MKD. BP-6
(SCALE 1:10)



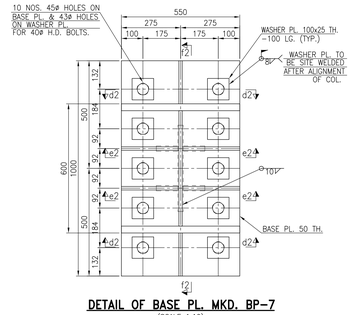
VIEW a2-a2
(SCALE 1:10)



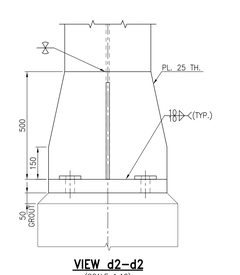
VIEW b2-b2



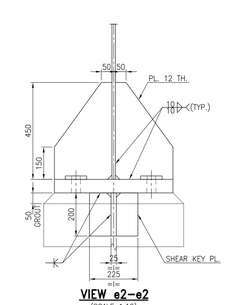
VIEW c2-c2
(SCALE 1:10)



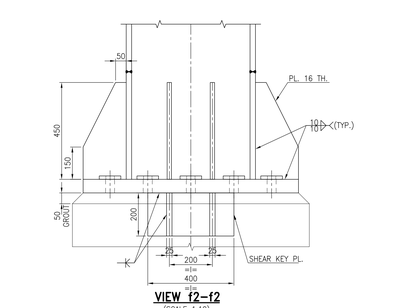
DETAIL OF BASE PL. MKD. BP-7
(SCALE 1:10)



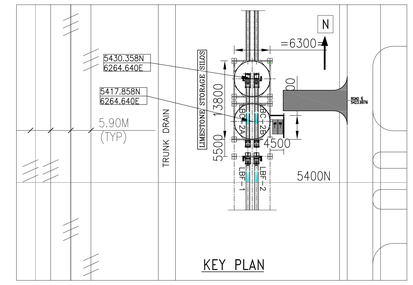
VIEW d2-d2
(SCALE 1:10)



VIEW e2-e2
(SCALE 1:10)



VIEW f2-f2
(SCALE 1:10)



LEGEND:

FGL	– FINISHED GROUND LEVEL
FFL	– FINISHED FLOOR LEVEL
T.O.S	– TOP OF STEEL
B.O.F	– BOTTOM OF FOUNDATION
MS	– MONORAIL SUPPORT
W.P	– WORKING POINT
BP	– BASE PLATE
HR	– HANDRAIL
M.C	– MOMENT CONNECTION

REFERENCE DRAWINGS 2

SL.NO.	NTPC DRAWING NUMBER	REV.	DRAWING NAME
1.	9561-109-ISG-PVM-F-599	04	FLOW DIAGRAM FOR LHP & GHP
2.	9561-109-RP-PVM-F-386	07	PLANT LAYOUT OF FGD SYSTEM
3.	9561-109-ISG-PVM-B-572	04	GA OF CRUSHED LIMESTONE STORAGE SILOS

NOTES: –

1. ALL DIMENSIONS ARE IN mm & LEVELS ARE IN M.
2. EL(±)0.000 M CORRESPONDS TO RL.(+)271.500 M.
3. LENGTH OF ALL INCLINED MEMBERS AND THE SHAPE & SIZE OF GUSSET PLATES SHALL BE VERIFIED BY ACTUAL FULL SCALE LAYOUT BEFORE FABRICATION.
4. FOR DETAILED NOTES, REFER SHEET # 1 OF THE SAME DRAWING.
5. THIS DWG. IS TO BE READ IN CONJUNCTION WITH DWG. NO. 9561-109-ISG-PVC-B-448 (SHT. 01 & 03 TO 09).

OWNER/CONSULTANT:
एन टी पी सी NTPC **NTPC Limited**
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHEL
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	S.M.		16.01.20	
CHD.	A.B.		17.01.20	
APPD.	P.C.		18.01.20	

R.No.	DATE	REVISION HISTORY	BY	CKD	APPD
02	09.01.21	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C
01	10.06.20	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C

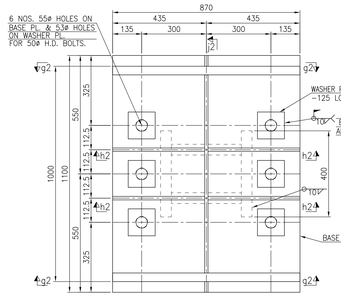
JOB No. IS-1-18-2003
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.
DIRECTORY :
FILE NO. :
SCALE 1:100
WEIGHT(Kgs.)
NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-448
ITEM NO.
NO.OF ITEMS
TITLE : LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SUPERSTRUCTURE (BASE PLATE DETAILS)
BHEL DRAWING NUMBER: IS-1-GA-721-200-C042
REV. 02
SHEET NO. 2
NO.OF SHTS. 9

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

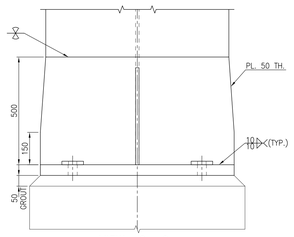
FORM-66.101

SIZE-A1

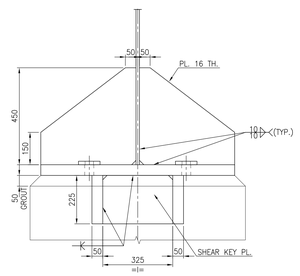
DO NOT SCALE, IF IN DOUBT, ASK.



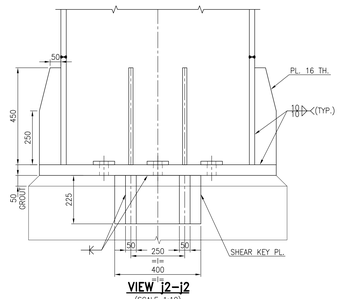
DETAIL OF BASE PL. MKD. BP-8
(SCALE 1:10)



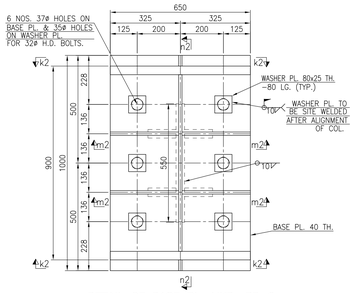
VIEW g2-g2
(SCALE 1:10)



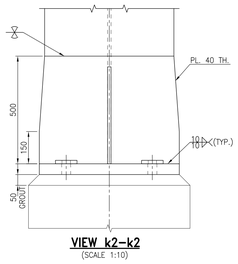
VIEW h2-h2



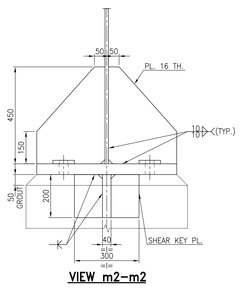
VIEW i2-i2
(SCALE 1:10)



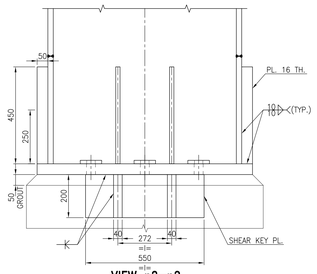
DETAIL OF BASE PL. MKD. BP-9
(SCALE 1:10)



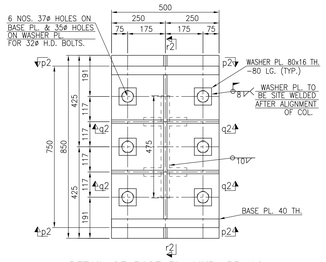
VIEW k2-k2
(SCALE 1:10)



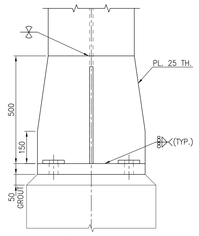
VIEW m2-m2



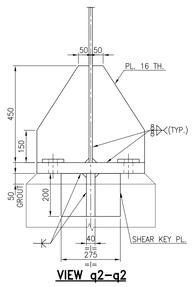
VIEW n2-n2
(SCALE 1:10)



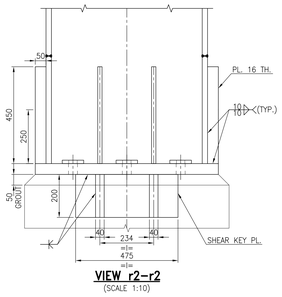
DETAIL OF BASE PL. MKD. BP-10
(SCALE 1:10)



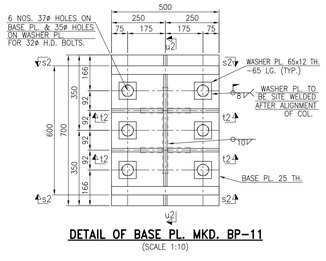
VIEW p2-p2
(SCALE 1:10)



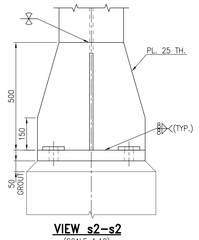
VIEW q2-q2



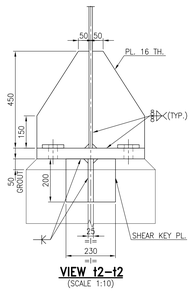
VIEW r2-r2
(SCALE 1:10)



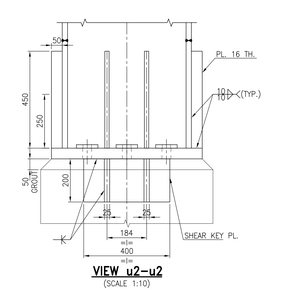
DETAIL OF BASE PL. MKD. BP-11
(SCALE 1:10)



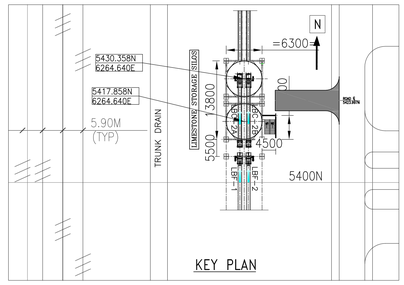
VIEW s2-s2
(SCALE 1:10)



VIEW t2-t2
(SCALE 1:10)



VIEW u2-u2
(SCALE 1:10)



LEGEND:

FGL	– FINISHED GROUND LEVEL
FFL	– FINISHED FLOOR LEVEL
T.O.S	– TOP OF STEEL
B.O.F	– BOTTOM OF FOUNDATION
MS	– MONORAIL SUPPORT
W.P	– WORKING POINT
BP	– BASE PLATE
HR	– HANDRAIL
M.C	– MOMENT CONNECTION

REFERENCE DRAWINGS 2

SL.NO.	NTPC DRAWING NUMBER	REV.	DRAWING NAME
1.	9561-109-ISG-PVM-F-599	04	FLOW DIAGRAM FOR LHP & GHP
2.	9561-109-RP-PVM-F-386	07	PLANT LAYOUT OF FGD SYSTEM
3.	9561-109-ISG-PVM-B-572	04	GA OF CRUSHED LIMESTONE STORAGE SILOS

NOTES: –

1. ALL DIMENSIONS ARE IN mm & LEVELS ARE IN M.
2. EL(±)0.000 M CORRESPONDS TO RL(+)271.500 M.
3. LENGTH OF ALL INCLINED MEMBERS AND THE SHAPE & SIZE OF GUSSET PLATES SHALL BE VERIFIED BY ACTUAL FULL SCALE LAYOUT BEFORE FABRICATION.
4. FOR DETAILED NOTES, REFER SHEET # 1 OF THE SAME DRAWING.
5. THIS DWG. IS TO BE READ IN CONJUNCTION WITH DWG. NO. 9561-109-ISG-PVC-B-448 (SHT. 01, 02 & 04 TO 09).

OWNER/CONSULTANT:

NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500MW MAUDA STPP
FGD – PACKAGE

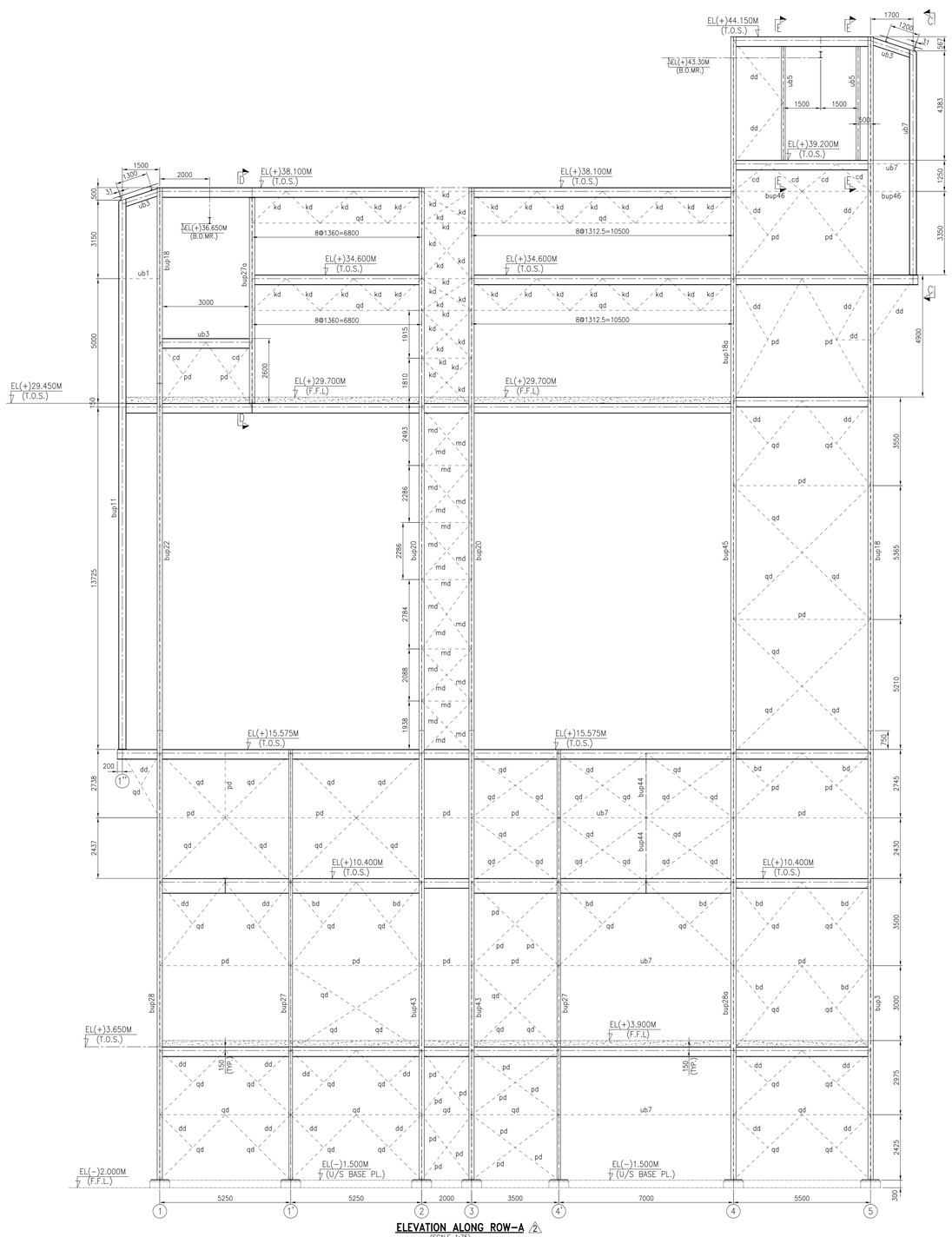
MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	S.M.		16.01.20	
CHD.	A.B.		17.01.20	
APPD.	P.C.		18.01.20	

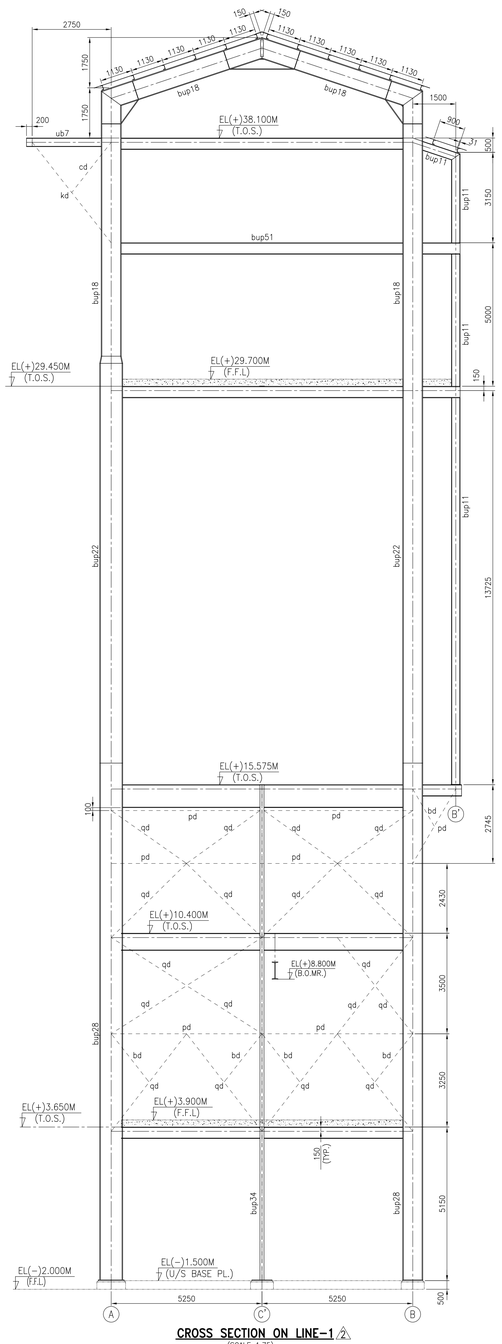
R.No.	DATE	REVISION HISTORY	BY	CKD	APPD
02	09.01.21	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C
01	10.06.20	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C

JOB No. IS-1-18-2003
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.
DIRECTORY :
FILE NO. :
SCALE 1:100
WEIGHT(Kgs.)
NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-448
ITEM NO.
NO.OF ITEMS
TITLE : LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SUPERSTRUCTURE (BASE PLATE DETAILS)
BHEL DRAWING NUMBER: IS-1-GA-721-200-C042
REV. 02
SHEET NO. 3
NO.OF SHTS. 9

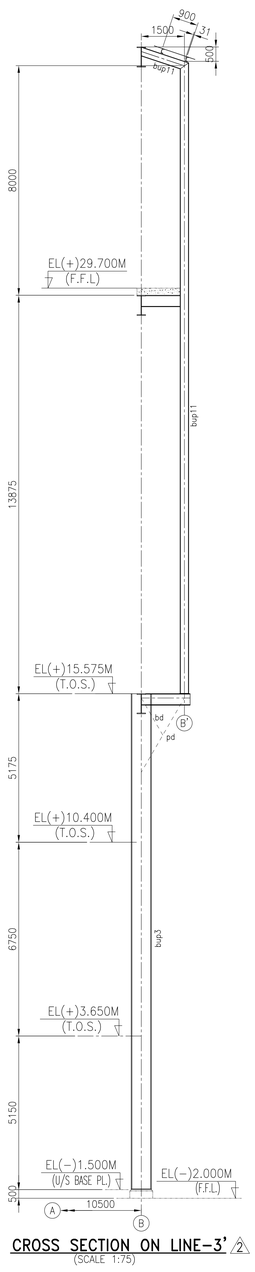
INVENTORY NO. | SIGN & DATE | REF.DRG.NO.



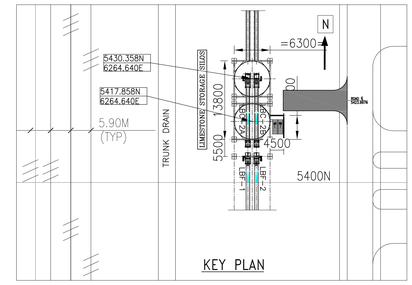
ELEVATION ALONG ROW-A 2
(SCALE 1:75)



CROSS SECTION ON LINE-1 2
(SCALE 1:75)



CROSS SECTION ON LINE-3' 2
(SCALE 1:75)



LEGEND:

FGL	– FINISHED GROUND LEVEL
FFL	– FINISHED FLOOR LEVEL
T.O.S	– TOP OF STEEL
B.O.F	– BOTTOM OF FOUNDATION
MS	– MONORAIL SUPPORT
W.P	– WORKING POINT
BP	– BASE PLATE
HR	– HANDRAIL
M.C	– MOMENT CONNECTION

REFERENCE DRAWINGS 2

SL.NO.	NTPC DRAWING NUMBER	REV.	DRAWING NAME
1.	9561-109-ISG-PVM-F-599	04	FLOW DIAGRAM FOR LHP & GHP
2.	9561-109-RP-PVM-F-386	07	PLANT LAYOUT OF FGD SYSTEM
3.	9561-109-ISG-PVM-B-572	04	GA OF CRUSHED LIMESTONE STORAGE SILOS

NOTES: –

1. ALL DIMENSIONS ARE IN mm & LEVELS ARE IN M.
2. EL(±)0.000 M CORRESPONDS TO RL.(+)271.500 M.
3. LENGTH OF ALL INCLINED MEMBERS AND THE SHAPE & SIZE OF GUSSET PLATES SHALL BE VERIFIED BY ACTUAL FULL SCALE LAYOUT BEFORE FABRICATION.
4. FOR DETAILED NOTES, REFER SHEET # 1 OF THE SAME DRAWING.
5. THIS DWG. IS TO BE READ IN CONJUNCTION WITH DWG. NO. 9561-109-ISG-PVC-B-448 (SHT. 01 TO 03 & 05 TO 09).

OWNER/CONSULTANT:
एन टी पी सी NTPC **NTPC Limited**
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	S.M.		16.01.20	
CHD.	A.B.		17.01.20	
APPD.	P.C.		18.01.20	

02	09.01.21	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C
01	10.06.20	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C
R.No:	DATE	BRIEF RECORD	BY	CKD	APPD

REVISION HISTORY

JOB No. IS-1-18-2003 | DIRECTORY : | SCALE 1:100 | WEIGHT(Kgs.) | NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-448 | ITEM NO. | NO.OF ITEMS

STATUS OF DRAWING | FILE NO. :

DISTRIBUTION OF PRINTS | QTY.

TITLE : LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SUPERSTRUCTURE

BHEL DRAWING NUMBER: IS-1-GA-721-200-C042 | REV. 02

SHEET NO. 4 | NO.OF SHTS. 9

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

FORM-66.101

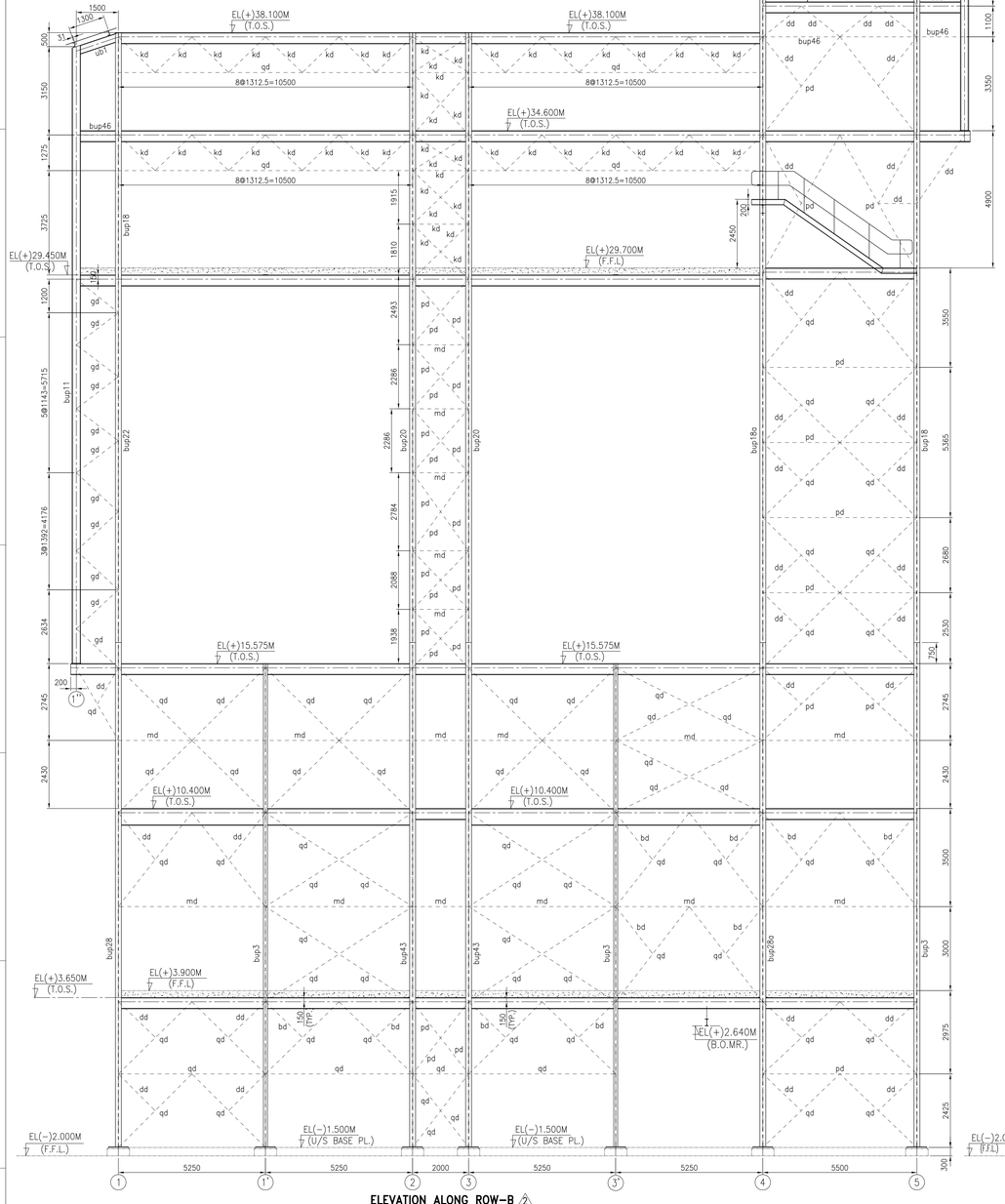
SIZE-A1

FIRST ANGLE PROJECTION

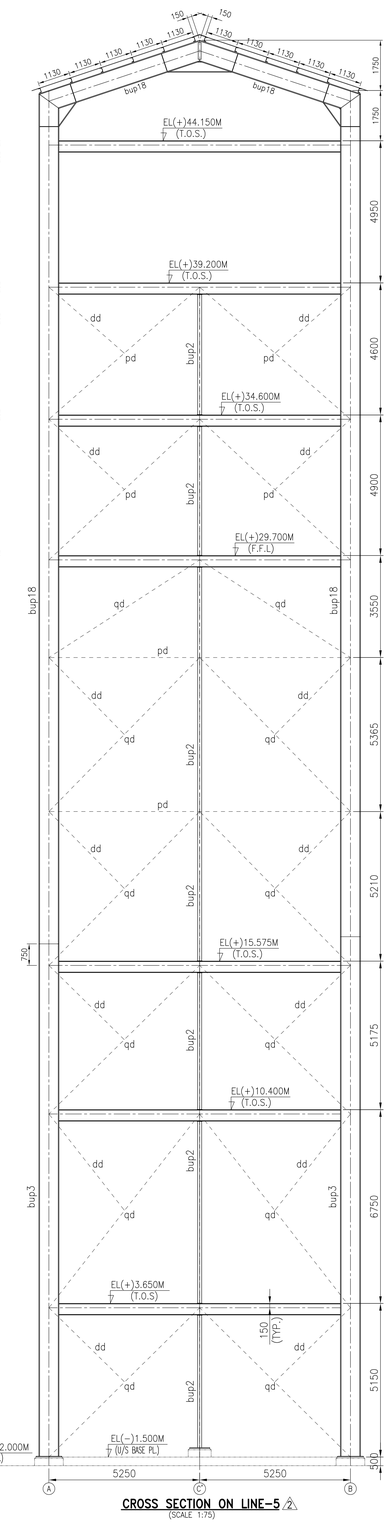
ALL DIMENSIONS ARE IN MM

NTPC DRAWING NO. 9561-109-ISG-PVC-B-448

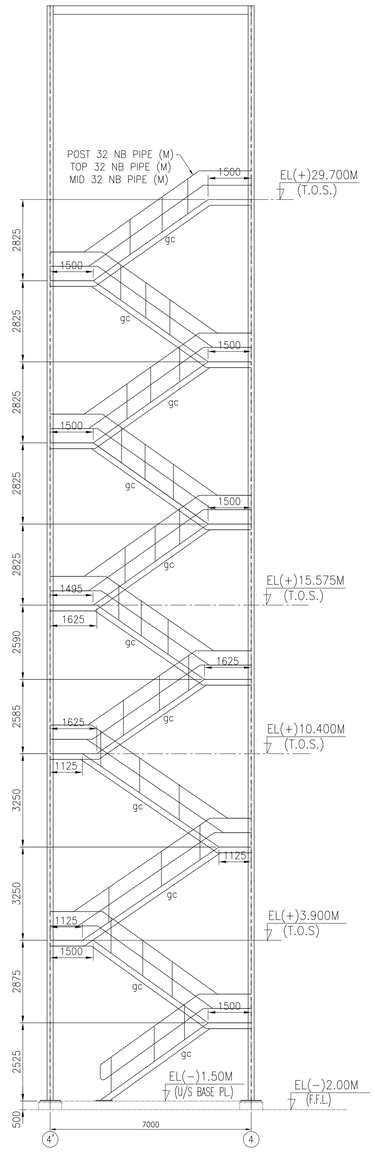
DO NOT SCALE, IF IN DOUBT, ASK.



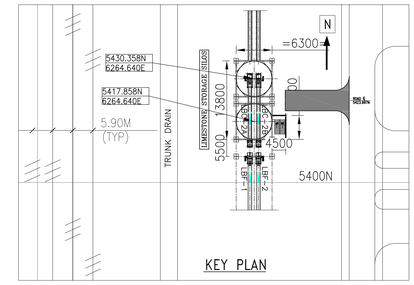
ELEVATION ALONG ROW–B 2
(SCALE 1:75)



CROSS SECTION ON LINE–5 2
(SCALE 1:75)



ELEVATION ALONG ROW–A' 2
(SCALE 1:75)



KEY PLAN

LEGEND:

FGL	–	FINISHED GROUND LEVEL
FFL	–	FINISHED FLOOR LEVEL
T.O.S	–	TOP OF STEEL
B.O.F	–	BOTTOM OF FOUNDATION
MS	–	MONORAIL SUPPORT
W.P	–	WORKING POINT
BP	–	BASE PLATE
HR	–	HANDRAIL
M.C	–	MOMENT CONNECTION

REFERENCE DRAWINGS 2

SL.NO.	NTPC DRAWING NUMBER	REV.	DRAWING NAME
1.	9561–109–ISG–PVM–F–599	04	FLOW DIAGRAM FOR LHP & GHP
2.	9561–109–RP–PVM–F–386	07	PLANT LAYOUT OF FGD SYSTEM
3.	9561–109–ISG–PVM–B–572	04	GA OF CRUSHED LIMESTONE STORAGE SILOS

NOTES: –

1. ALL DIMENSIONS ARE IN mm & LEVELS ARE IN M.
2. EL(±)0.000 M CORRESPONDS TO RL.(+)271.500 M.
3. LENGTH OF ALL INCLINED MEMBERS AND THE SHAPE & SIZE OF GUSSET PLATES SHALL BE VERIFIED BY ACTUAL FULL SCALE LAYOUT BEFORE FABRICATION.
4. FOR DETAILED NOTES, REFER SHEET # 1 OF THE SAME DRAWING.
5. THIS DWG. IS TO BE READ IN CONJUNCTION WITH DWG. NO. 9561–109–ISG–PVC–B–448 (SHT. 01 TO 04 & 06 TO 09).

OWNER/CONSULTANT:

NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	S.M.		16.01.20	
CHD.	A.B.		17.01.20	
APPD.	P.C.		18.01.20	

REV.	DATE	BRIEF RECORD	BY	CKD	APPD
02	09.01.21	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C
01	10.06.20	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C

REVISION HISTORY

JOB No. IS–1–18–2003 | DIRECTORY : | SCALE 1:100 | WEIGHT(Kgs.) | NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-448 | ITEM NO. | NO.OF ITEMS

STATUS OF DRAWING | FILE NO. :

DISTRIBUTION OF PRINTS | QTY.

TITLE : LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SUPERSTRUCTURE

BHEL DRAWING NUMBER: IS-1-GA-721-200-C042 | REV. 02

SHEET NO. 5 | NO.OF SHTS. 9

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

FORM–66.101

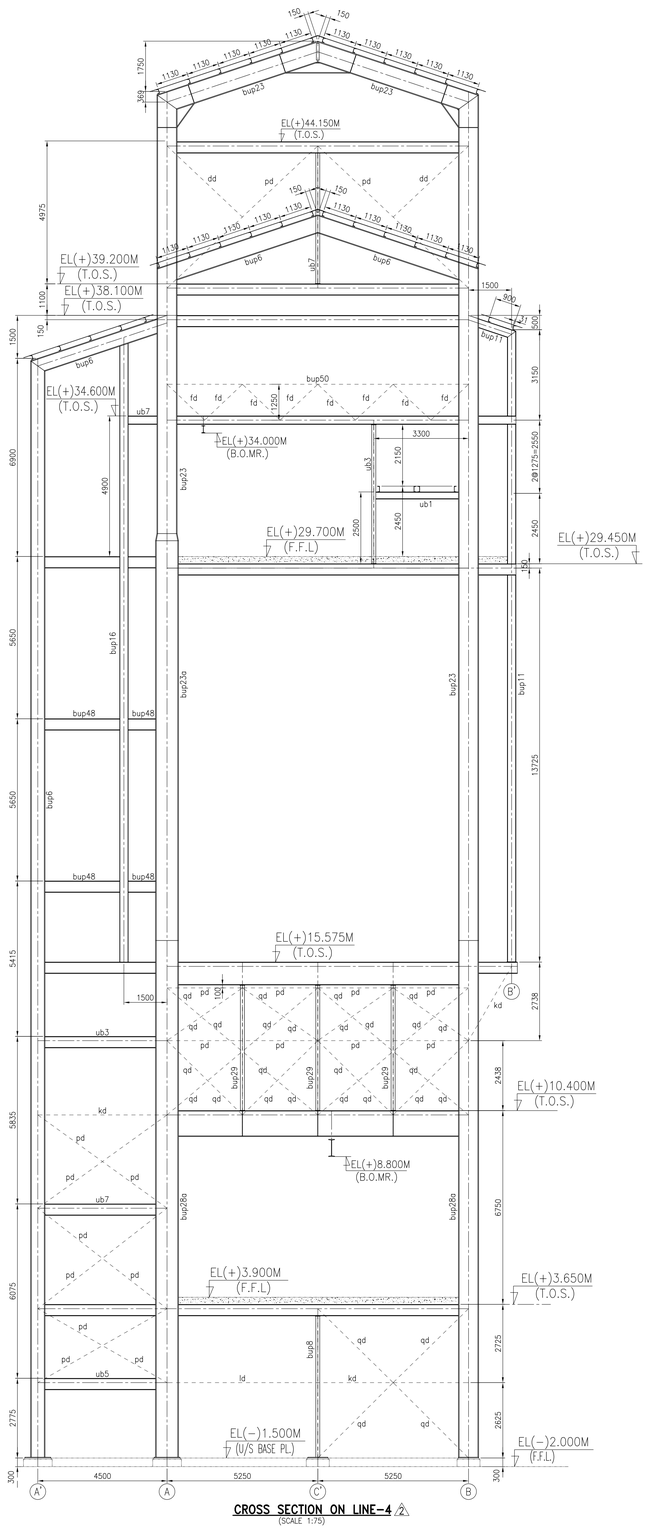
SIZE–A1

FIRST ANGLE PROJECTION

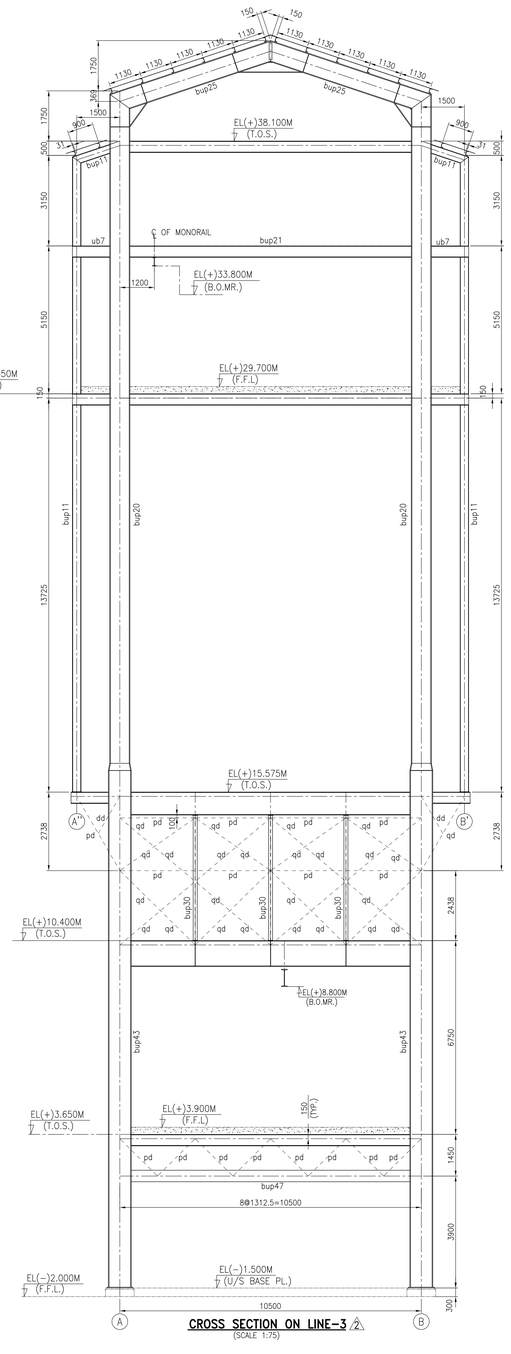
ALL DIMENSIONS ARE IN MM

DO NOT SCALE, IF IN DOUBT, ASK.

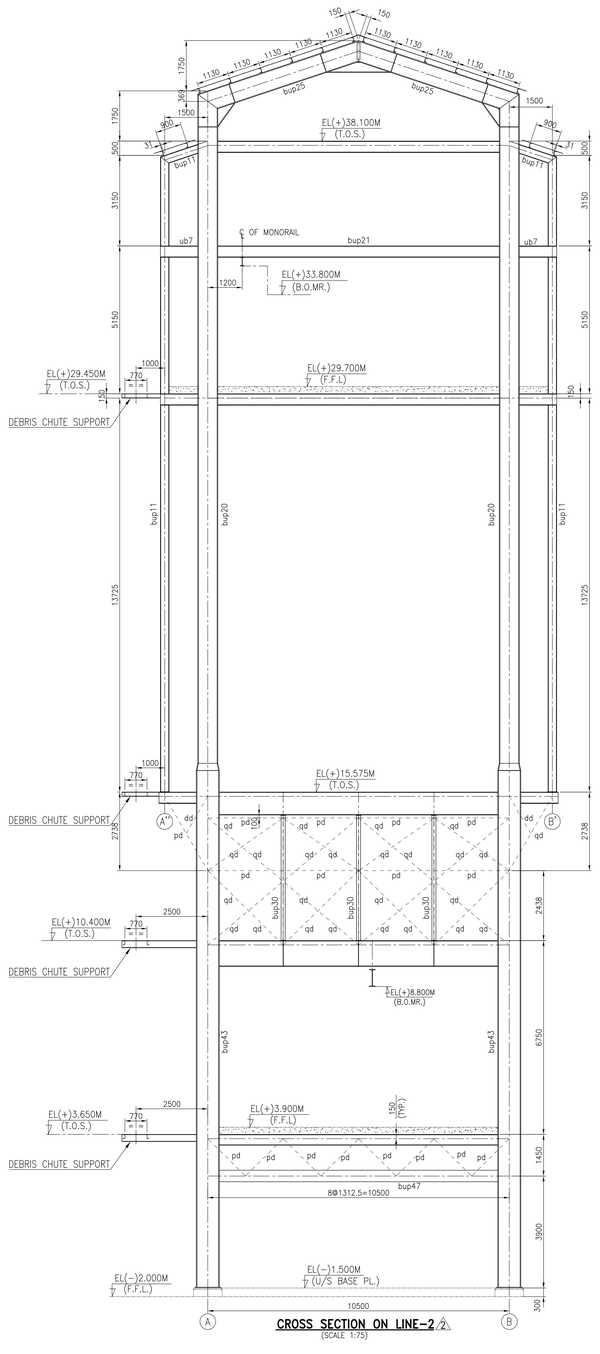
NTPC DRAWING NO. 9561-109-ISG-PVC-B-448



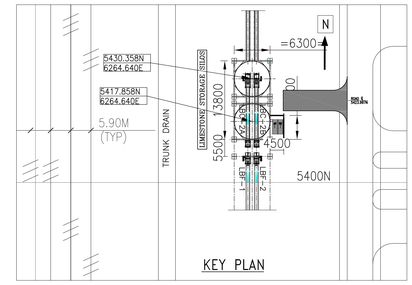
CROSS SECTION ON LINE-4 2
(SCALE 1:75)



CROSS SECTION ON LINE-3 2
(SCALE 1:75)



CROSS SECTION ON LINE-2 2
(SCALE 1:75)



LEGEND:

FGL	– FINISHED GROUND LEVEL
FFL	– FINISHED FLOOR LEVEL
T.O.S	– TOP OF STEEL
B.O.F	– BOTTOM OF FOUNDATION
MS	– MONORAIL SUPPORT
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REFERENCE DRAWINGS 2

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NOTES: –

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OWNER/CONSULTANT:

NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:

2 x 500MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:

BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	S.M.		16.01.20	
CHD.	A.B.		17.01.20	
APPD.	P.C.		18.01.20	

REV.	DATE	BRIEF RECORD	BY	CKD	APPD
02	09.01.21	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C
01	10.06.20	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C

REVISION HISTORY

JOB No. IS-1-18-2003	DIRECTORY :	SCALE	WEIGHT(Kgs.)	NTPC DRAWING NUMBER:	ITEM NO.	NO.OF ITEMS
STATUS OF DRAWING	FILE NO. :	1:100		9561-109-ISG-PVC-B-448		
DISTRIBUTION OF PRINTS QTY.						

TITLE : LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SUPERSTRUCTURE

BHEL DRAWING NUMBER: IS-1-GA-721-200-C042 — REV. 02

SHEET NO. 6 — NO.OF SHTS. 9

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

FORM-66.101

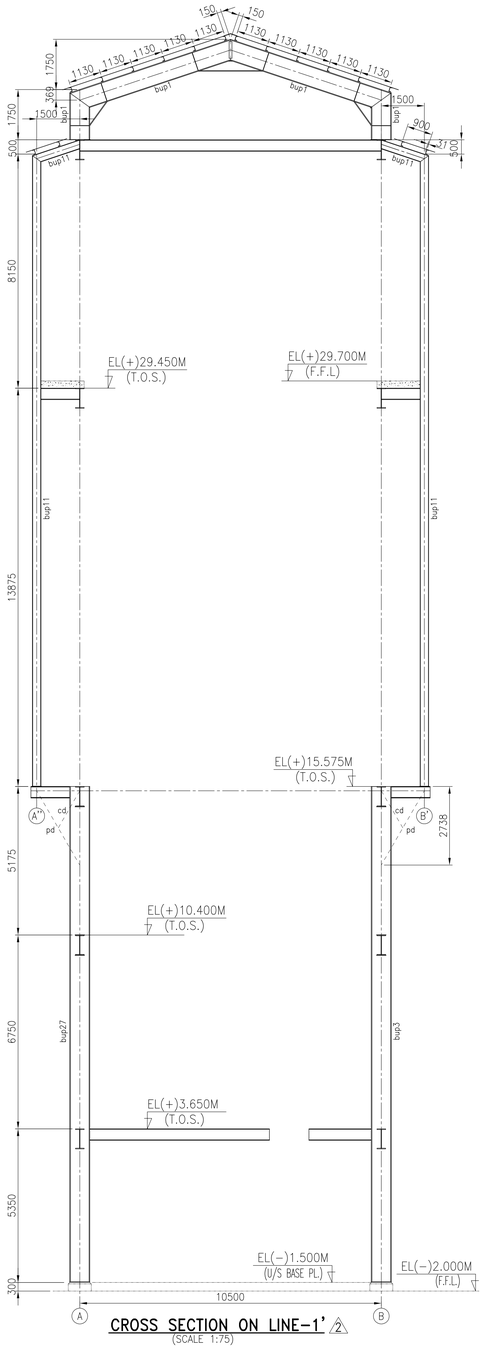
SIZE-A1

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

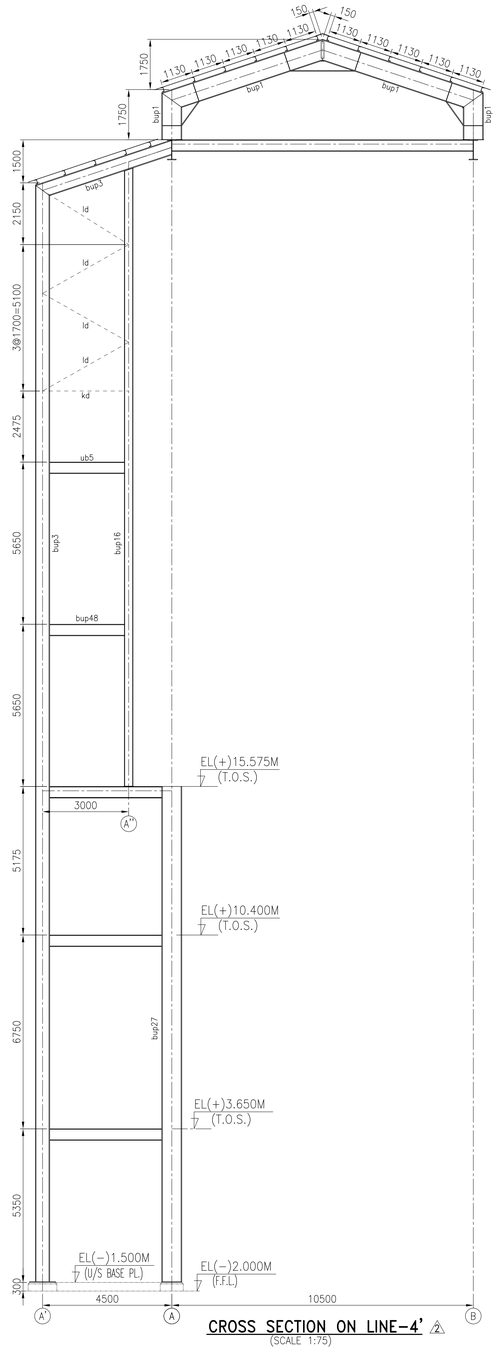
NTPC DRAWING NO. 9561-109-ISG-PVC-B-448

DO NOT SCALE, IF IN DOUBT, ASK.



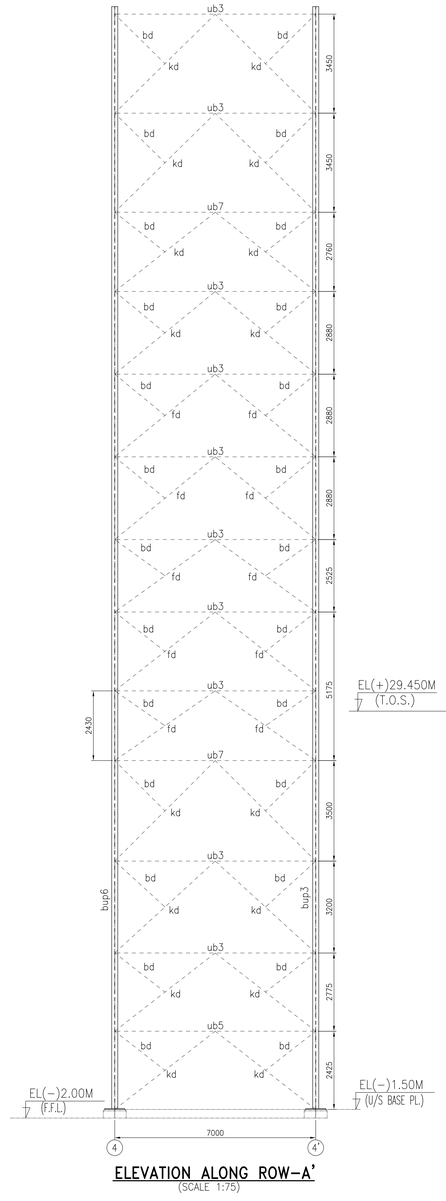
CROSS SECTION ON LINE–1' 2

(SCALE 1:75)



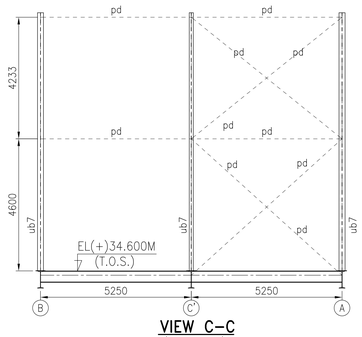
CROSS SECTION ON LINE–4' 2

(SCALE 1:75)



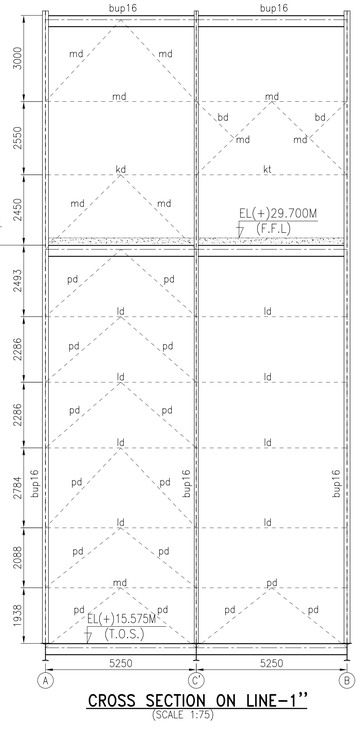
ELEVATION ALONG ROW–A'

(SCALE 1:75)



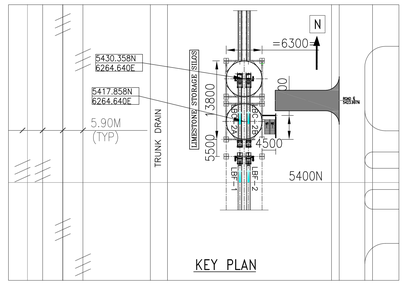
VIEW C–C

(SCALE 1:75)



CROSS SECTION ON LINE–1'' 2

(SCALE 1:75)



KEY PLAN

LEGEND:

FGL	– FINISHED GROUND LEVEL
FFL	– FINISHED FLOOR LEVEL
T.O.S	– TOP OF STEEL
B.O.F	– BOTTOM OF FOUNDATION
MS	– MONORAIL SUPPORT
W.P	– WORKING POINT
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M.C	– MOMENT CONNECTION

REFERENCE DRAWINGS 2

SL.NO.	NTPC DRAWING NUMBER	REV.	DRAWING NAME
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NOTES: –

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4. FOR DETAILED NOTES, REFER SHEET # 1 OF THE SAME DRAWING.
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OWNER/CONSULTANT:

एन टी पी सी NTPC **NTPC Limited**

ENGINEERING DIVISION

(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:

2 x 500MW MAUDA STPP

FGD – PACKAGE

MAIN CONTRACTOR:

BHARAT HEAVY ELECTRICALS LIMITED

INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	S.M.		16.01.20	
CHD.	A.B.		17.01.20	
APPD.	P.C.		18.01.20	

JOB No. IS–1–18–2003	DIRECTORY :		SCALE	WEIGHT(Kgs.)	NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-448
STATUS OF DRAWING	FILE NO. :		1:100		ITEM NO.
DISTRIBUTION OF PRINTS QTY.					NO.OF ITEMS

R.No.	DATE	BRIEF RECORD	BY	CKD	APPD
02	09.01.21	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C
01	10.06.20	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C

REVISION HISTORY

TITLE : LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SUPERSTRUCTURE

BHEL DRAWING NUMBER: IS-1-GA-721-200-C042

REV. 02

SHEET NO. 7 NO.OF SHTS. 9

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

FORM–66.101

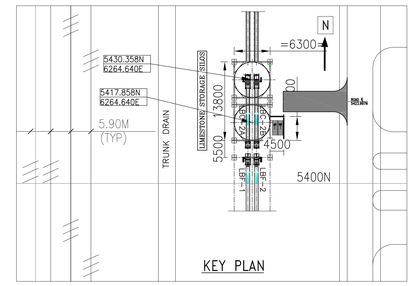
SIZE–A1

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

NTPC DRAWING NO. 9561-109-ISG-PVC-B-448

DO NOT SCALE, IF IN DOUBT, ASK.



KEY PLAN

SCHEDULE OF MEMBERS:-

MEMBER MKD.	SECTION	SHAPE
ub1	UB 254X146X43	I
ub2	UB 305X165X46	I
ub3	UB 356X171X67	I
ub5	UB 457X191X133	I
ub7	UB 533X210X101	I
cc	ISMC 125	C
dc	ISMC 150	C
fc	ISMC 200	C
gc	ISMC 250	C
cs	L 75X75X6	L
ds	L 90X90X6	L
ks	L 110X110X12	L
bd	2L 65X65X6	T
cd	2L 75X75X6	T
dd	2L 90X90X6	T
fd	2L 90X90X8	T
gd	2L 100X100X8	T
kd	2L 110X110X12	T
ld	2L 130X130X12	T
md	2L 130X130X16	T
pd	2L 150X150X16	T
qd	2L 200X200X20	T
pt	2L 150X150X16	+
bup1	2FLG. PL. 350x25TH. WEB PL. 550x16TH.	I
bup2	2FLG. PL. 400x25TH. WEB PL. 700x20TH.	I
bup3	2FLG. PL. 600x50TH. WEB PL. 800x20TH.	I
bup5	2FLG. PL. 400x32TH. WEB PL. 736x16TH.	I
bup6	2FLG. PL. 400x25TH. WEB PL. 550x12TH.	I
bup7	2FLG. PL. 400x32TH. WEB PL. 636x16TH.	I
bup8	2FLG. PL. 375x25TH. WEB PL. 550x12TH.	I
bup9	2FLG. PL. 400x32TH. WEB PL. 586x16TH.	I
bup11	2FLG. PL. 300x25TH. WEB PL. 450x12TH.	I
bup12	2FLG. PL. 300x25TH. WEB PL. 600x12TH.	I
bup14	2FLG. PL. 350x25TH. WEB PL. 600x12TH.	I
bup16	2FLG. PL. 300x25TH. WEB PL. 450x12TH.	I
bup18	2FLG. PL. 600x32TH. WEB PL. 636x20TH.	I
bup19	2FLG. PL. 400x40TH. WEB PL. 720x20TH.	I
bup20	2FLG. PL. 600x50TH. WEB PL. 700x20TH.	I
bup21	2FLG. PL. 400x32TH. WEB PL. 436x20TH.	I
bup22	2FLG. PL. 650x50TH. WEB PL. 900x20TH.	I
bup23	2FLG. PL. 600x40TH. WEB PL. 620x20TH.	I
bup23a	2FLG. PL. 600x50TH. WEB PL. 900x20TH.	I
bup24	2FLG. PL. 500x50TH. WEB PL. 800x20TH.	I
bup25	2FLG. PL. 600x40TH. WEB PL. 720x20TH.	I
bup26	2FLG. PL. 600x50TH. WEB PL. 800x20TH.	I
bup27	2FLG. PL. 600x32TH. WEB PL. 836x20TH.	I
bup27a	2FLG. PL. 450x40TH. WEB PL. 486x20TH.	I
bup28	2FLG. PL. 950x50TH. WEB PL. 900x32TH.	I
bup29	2FLG. PL. 400x40TH. WEB PL. 420x20TH.	I
bup30	2FLG. PL. 400x40TH. WEB PL. 520x20TH.	I
bup32	2FLG. PL. 400x36TH. WEB PL. 528x16TH.	I
bup33	2FLG. PL. 600x50TH. WEB PL. 1100x25TH.	I
bup34	2FLG. PL. 600x40TH. WEB PL. 820x20TH.	I
bup35	2FLG. PL. 600x50TH. WEB PL. 900x25TH.	I
bup36	2FLG. PL. 600x50TH. WEB PL. 1000x25TH.	I
bup38	2FLG. PL. 400x25TH. WEB PL. 550x16TH.	I
bup40	2FLG. PL. 350x25TH. WEB PL. 650x16TH.	I
bup41	2FLG. PL. 475x40TH. WEB PL. 570x20TH.	I
bup42	2FLG. PL. 300x25TH. WEB PL. 500x12TH.	I
bup43	2FLG. PL. 750x50TH. WEB PL. 900x20TH.	I
bup44	2FLG. PL. 250x25TH. WEB PL. 350x12TH.	I
bup45	2FLG. PL. 600x50TH. WEB PL. 900x20TH.	I
bup46	2FLG. PL. 350x25TH. WEB PL. 550x16TH.	I
bup47	2FLG. PL. 400x36TH. WEB PL. 528x16TH.	I
bup48	2FLG. PL. 350x32TH. WEB PL. 536x12TH.	I
bup49	2FLG. PL. 300x32TH. WEB PL. 236x16TH.	I
bup50	2FLG. PL. 300x25TH. WEB PL. 350x12TH.	I
bup51	2FLG. PL. 400x25TH. WEB PL. 700x12TH.	I
bup18a	2FLG. PL. 600x40TH. WEB PL. 620x20TH.	I
bup28a	2FLG. PL. 850x50TH. WEB PL. 900x25TH.	I
bup44a	2FLG. PL. 400x40TH. WEB PL. 670x20TH.	I
kt	2L 110X110X12	+
bup52	2FLG. PL. 250x25TH. WEB PL. 550x12TH.	I
bup53	2FLG. PL. 500x50TH. WEB PL. 600x20TH.	I

LEGEND:

FGL	– FINISHED GROUND LEVEL
FFL	– FINISHED FLOOR LEVEL
T.O.S	– TOP OF STEEL
B.O.F	– BOTTOM OF FOUNDATION
MS	– MONORAIL SUPPORT
W.P	– WORKING POINT
BP	– BASE PLATE
HR	– HANDRAIL
M.C	– MOMENT CONNECTION

REFERENCE DRAWINGS 2

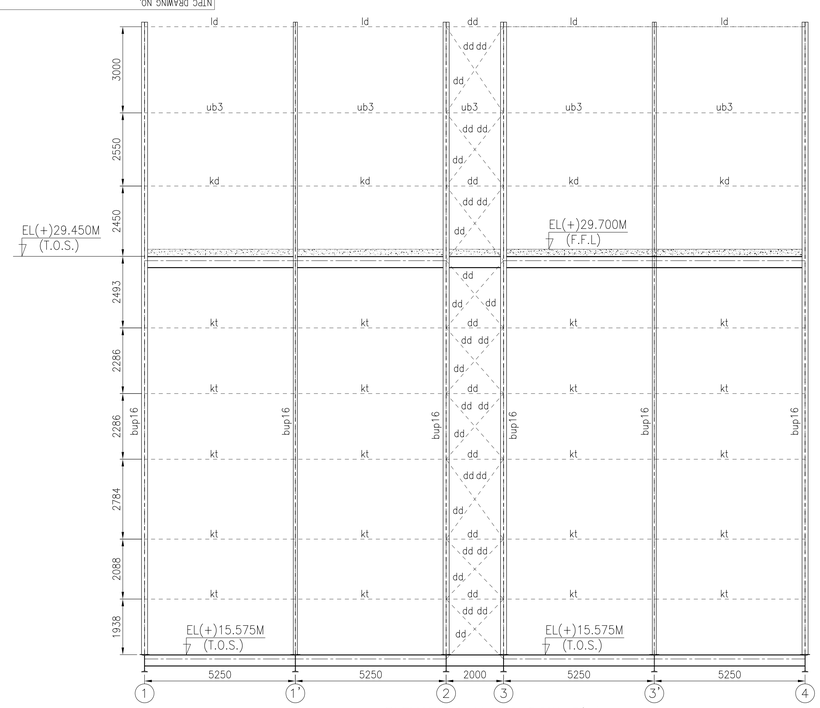
SL.NO.	NTPC DRAWING NUMBER	REV.	DRAWING NAME
1.	9561-109-ISG-PVM-F-599	04	FLOW DIAGRAM FOR LHP & GHP
2.	9561-109-RP-PVM-F-386	07	PLANT LAYOUT OF FGD SYSTEM
3.	9561-109-ISG-PVM-B-572	04	GA OF CRUSHED LIMESTONE STORAGE SILOS

NOTES: –

1. ALL DIMENSIONS ARE IN mm & LEVELS ARE IN M.
2. EL(±)0.000 M CORRESPONDS TO RL.(+)271.500 M.
3. LENGTH OF ALL INCLINED MEMBERS AND THE SHAPE & SIZE OF GUSSET PLATES SHALL BE VERIFIED BY ACTUAL FULL SCALE LAYOUT BEFORE FABRICATION.
4. FOR DETAILED NOTES, REFER SHEET # 1 OF THE SAME DRAWING.
5. THIS DWG. IS TO BE READ IN CONJUNCTION WITH DWG. NO. 9561-109-ISG-PVC-B-448 (SHT. 01 TO 07 & 09).

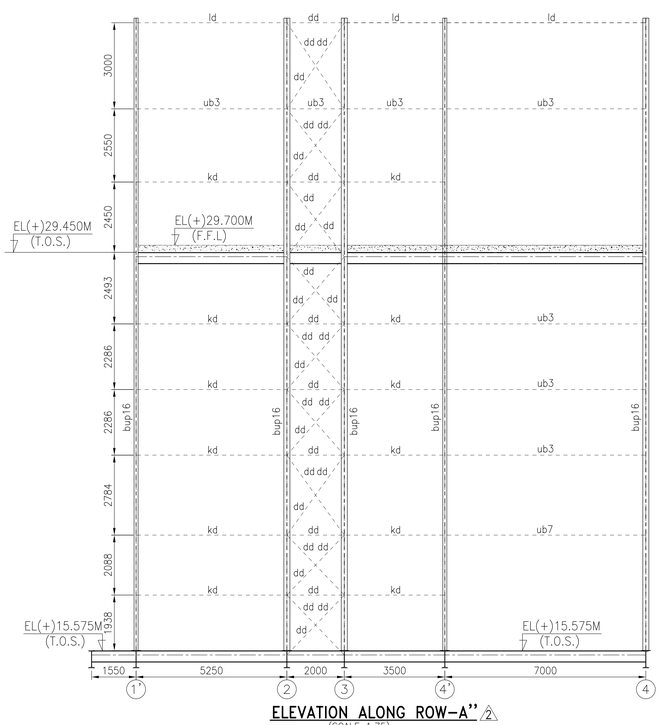
ELEVATION ALONG ROW–B' 2

(SCALE 1:75)



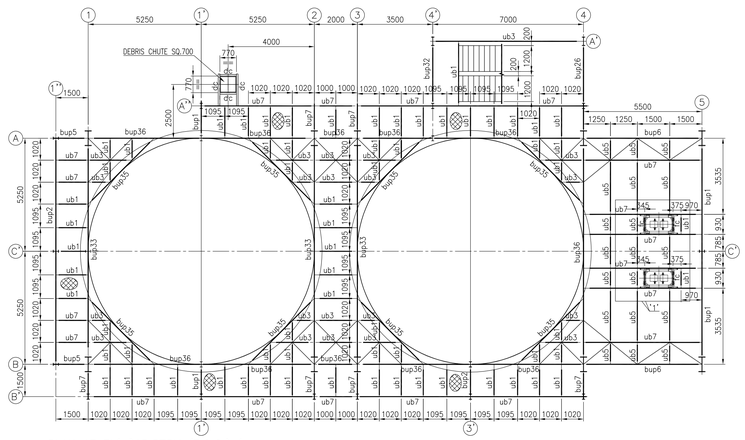
ELEVATION ALONG ROW–A'' 2

(SCALE 1:75)



PLAN AT EL(+)15.575M (T.O.S.) 2

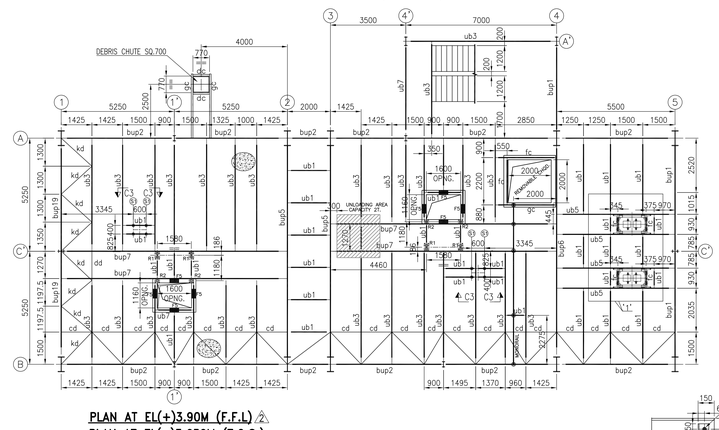
ALL FLOOR BRCG. MEMBER ARE kd
ALL FLOOR BRCG. GUSSET PL. 10 THK.
ALL FLOOR BRCG. MEMBER
ARE BELOW –75mm. FROM (T.O.S.)
CHQD. PL. 6 O/P WITH STFN. 50x6 O/P CHQD. PL.
@ 700 C/C(TYP) [FOR ABOVE SPAN 0.75M]
(SCALE 1:100)



PLAN AT EL(+)3.90M (F.F.L) 2

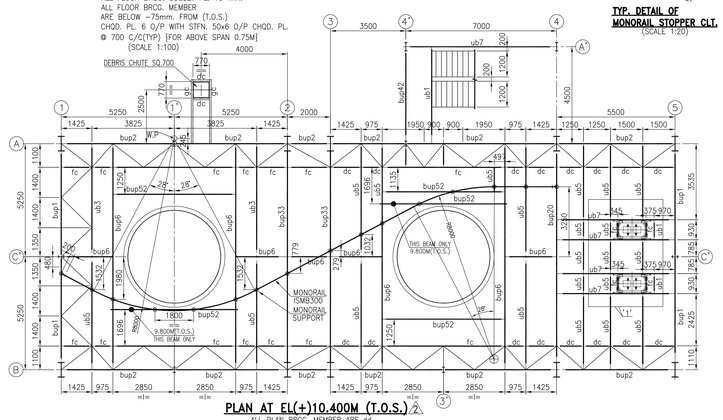
PLAN AT EL(+)3.650M (T.O.S.)

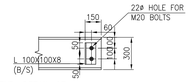
ALL FLOOR BRCG. MEMBER ARE dd
ALL FLOOR BRCG. GUSSET PL. 10 THK.
ALL FLOOR BRCG. MEMBER
ARE BELOW –75mm. FROM (T.O.S.)
CHQD. PL. 6 O/P WITH STFN. 50x6 O/P CHQD. PL.
@ 700 C/C(TYP) [FOR ABOVE SPAN 0.75M]
(SCALE 1:100)



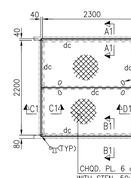
PLAN AT EL(+)10.400M (T.O.S.) 2

ALL PLAN BRCG. MEMBER ARE dd
ALL PLAN BRCG. GUSSET PL. 10 THK.
ALL PLAN BRCG. MEMBER
ARE BELOW –75mm. FROM (T.O.S.)
(SCALE 1:100)

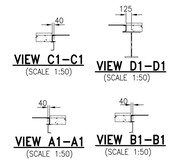


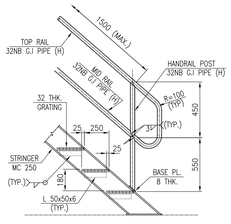


TYP. DETAIL OF MONORAIL STOPPER CLT.
(SCALE 1:20)

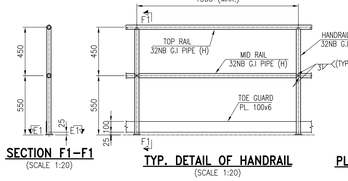


TYP. DETAIL OF REMOVABLE CHQD. PL.
(SCALE 1:50)



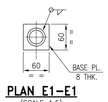


TYP. DETAIL OF STAIRCASE
(SCALE 1:20)

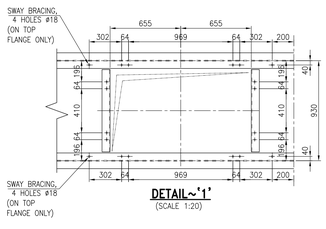


SECTION F1–F1
(SCALE 1:20)

TYP. DETAIL OF HANDRAIL
(SCALE 1:20)



PLAN E1–E1
(SCALE 1:5)



DETAIL~'1'
(SCALE 1:20)

02	09.01.21	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C
01	10.06.20	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C
R.No.	DATE	BRIEF RECORD	BY	CKD	APPD

REVISION HISTORY

OWNER/CONSULTANT:

NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	S.M.		16.01.20	
CHD.	A.B.		17.01.20	
APPD.	P.C.		18.01.20	

JOB No. IS-1-18-2003
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.

DIRECTORY :
FILE NO. :

SCALE 1:100
WEIGHT(Kgs.)

NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-448
ITEM NO.
NO.OF ITEMS

TITLE : LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SUPERSTRUCTURE

BHEL DRAWING NUMBER: IS-1-GA-721-200-C042
REV. 02

SHEET NO. 8 NO.OF SHTS. 9

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

FORM-66.101

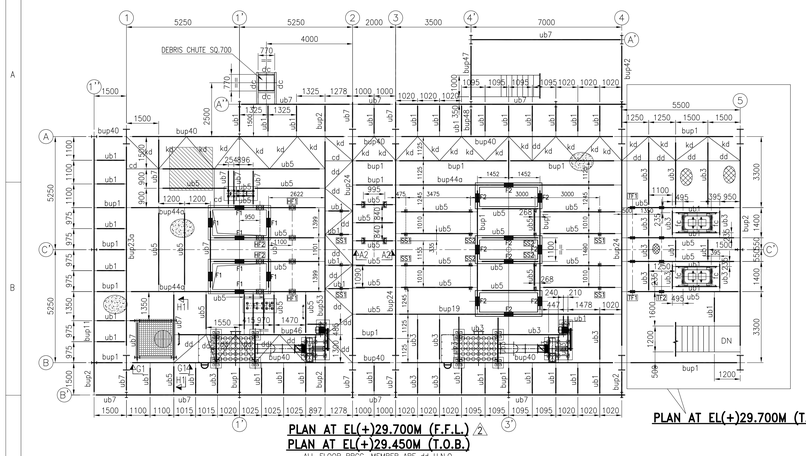
SIZE-A1

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

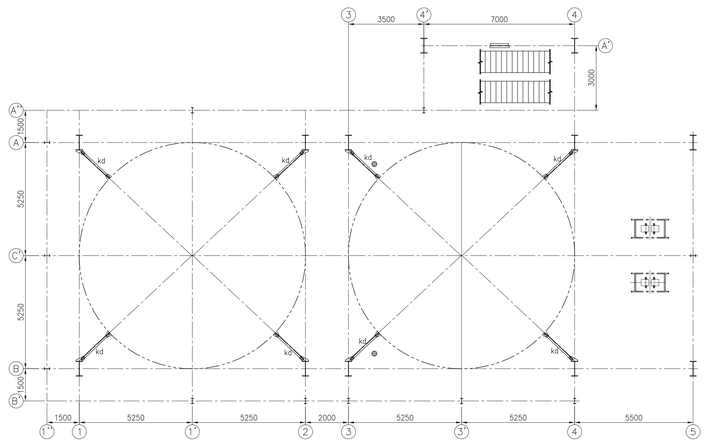
NTPC DRAWING NO. 9561-109-ISG-PVC-B-448

DO NOT SCALE, IF IN DOUBT, ASK.



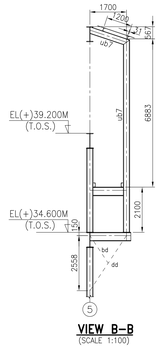
PLAN AT EL(+)29.700M (F.F.L.) 2
PLAN AT EL(+)29.450M (T.O.B.)

ALL FLOOR BRCG. MEMBER ARE dd U.N.O
ALL FLOOR BRCG. GUSSET PL. 10 THK.
ALL FLOOR BRCG. MEMBER
ARE BELOW –75mm. FROM (T.O.S.)
CHQD. PL. 6 O/P WITH STFN. 50x6 O/P CHQD. PL.
@ 700 C/C(TYP) [FOR ABOVE SPAN 0.75M]
(SCALE 1:100)

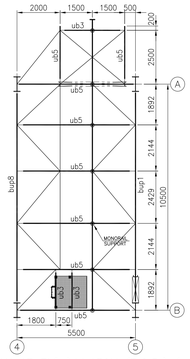


PLAN AT EL(+)22.385M (T.O.S.) 2

ALL FLOOR BRCG. GUSSET PL. 10 THK.
(SCALE 1:100)

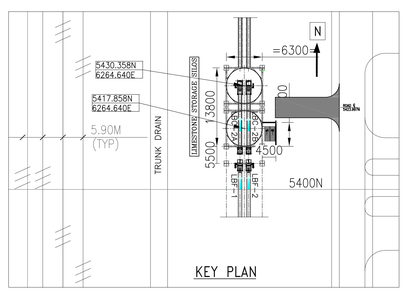


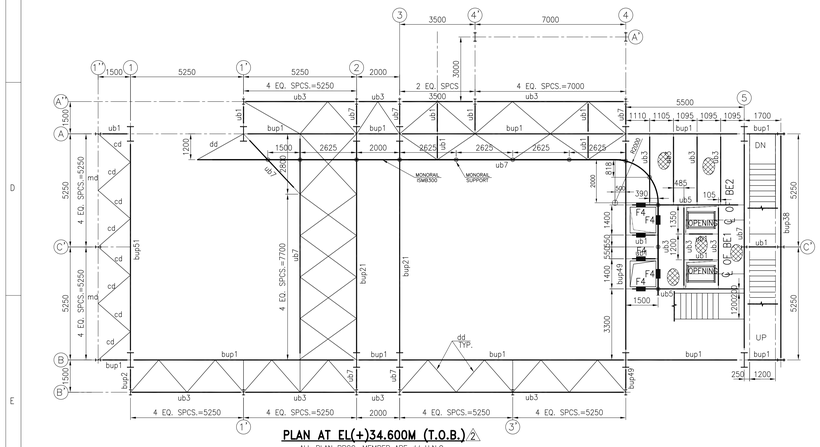
VIEW B–B
(SCALE 1:100)



PLAN AT EL(+)44.150M (T.O.B.) 2

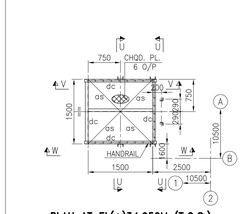
ALL PLAN BRCG. MEMBER ARE cd U.N.O
ALL PLAN BRCG. GUSSET PL. 10 THK.
ALL PLAN BRCG. MEMBER
ARE BELOW –75mm. FROM (T.O.S.)
(SCALE 1:100)



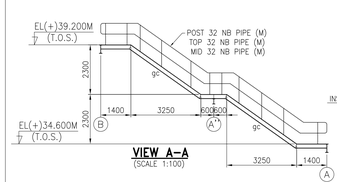


PLAN AT EL(+)34.600M (T.O.B.) 2

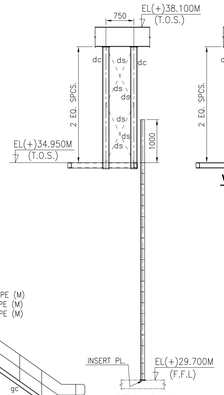
ALL PLAN BRCG. MEMBER ARE dd U.N.O
ALL PLAN BRCG. GUSSET PL. 10 THK.
ALL PLAN BRCG. MEMBER
ARE BELOW –75mm. FROM (T.O.S.)
(SCALE 1:100)



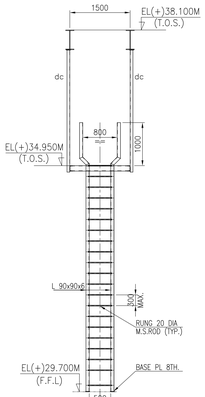
PLAN AT EL(+)34.950M (T.O.S.)
(HOIST MAINTENANCE PLATFORM AT LBC–2A/B FLOOR)
(SCALE 1:50)



VIEW A–A
(SCALE 1:100)

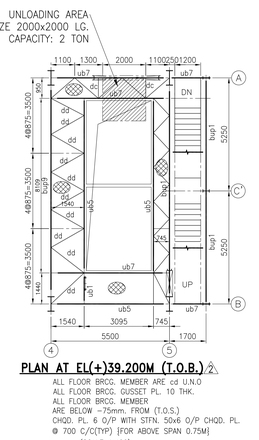


VIEW W–W
(SCALE 1:50)



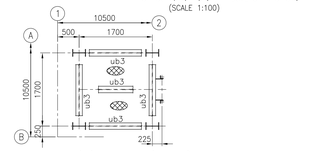
VIEW V–V
(SCALE 1:50)

VIEW U–U
(SCALE 1:50)

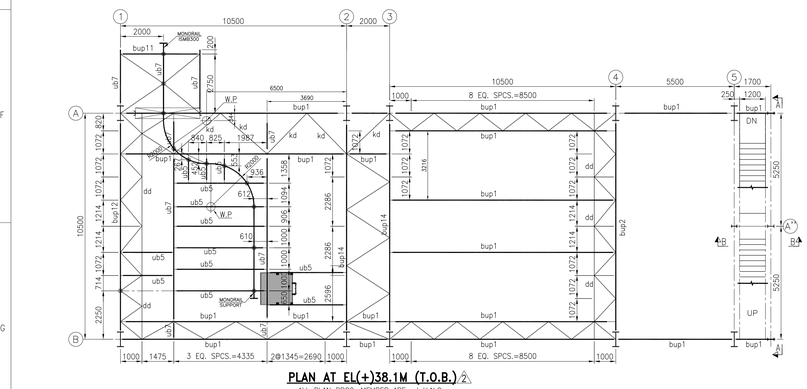


PLAN AT EL(+)39.200M (T.O.B.) 2

ALL FLOOR BRCG. MEMBER ARE cd U.N.O
ALL FLOOR BRCG. GUSSET PL. 10 THK.
ALL FLOOR BRCG. MEMBER
ARE BELOW –75mm. FROM (T.O.S.)
CHQD. PL. 6 O/P WITH STFN. 50x6 O/P CHQD. PL.
@ 700 C/C(TYP) [FOR ABOVE SPAN 0.75M]
(SCALE 1:100)

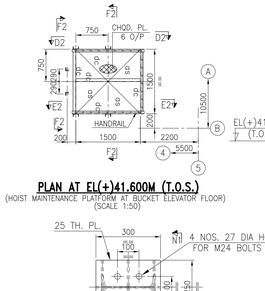


PLAN AT EL(+)32.200M (T.O.S.)
(STRUCTURE FOR PVC WATER TANK)
(SCALE 1:50)

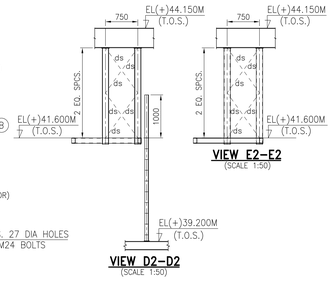


PLAN AT EL(+)38.1M (T.O.B.) 2

ALL PLAN BRCG. MEMBER ARE cd U.N.O
ALL PLAN BRCG. GUSSET PL. 10 THK.
ALL PLAN BRCG. MEMBER
ARE BELOW –75mm. FROM (T.O.S.)
(SCALE 1:100)

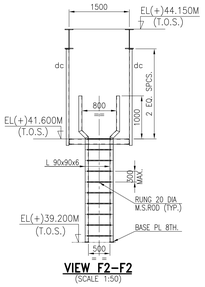


PLAN AT EL(+)41.600M (T.O.S.)
(HOIST MAINTENANCE PLATFORM AT BUCKET ELEVATOR FLOOR)
(SCALE 1:50)

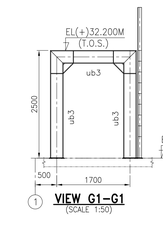


VIEW D2–D2
(SCALE 1:50)

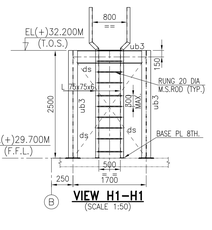
VIEW E2–E2
(SCALE 1:50)



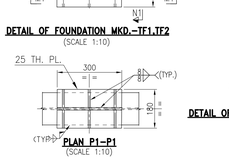
VIEW F2–F2
(SCALE 1:50)



VIEW G1–G1
(SCALE 1:50)

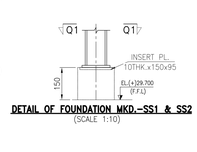


VIEW H1–H1
(SCALE 1:50)

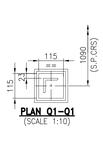


DETAIL OF FOUNDATION MKD.–TF1.TF2
(SCALE 1:10)

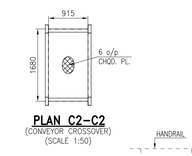
PLAN P1–P1
(SCALE 1:10)



DETAIL OF FOUNDATION MKD.–SS1 & SS2
(SCALE 1:10)

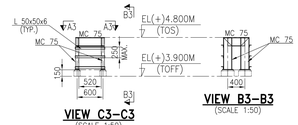


PLAN Q1–Q1
(SCALE 1:10)



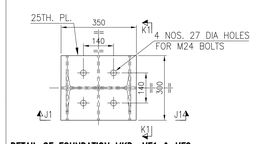
PLAN C2–C2
(CONVEYOR CROSSOVER)
(SCALE 1:50)

PLAN A3–A3
(PLATFORM FOR ROD GATE–2 NOS.)
(SCALE 1:50)

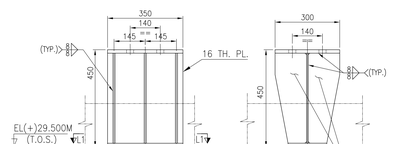


VIEW B3–B3
(SCALE 1:50)

VIEW C3–C3
(SCALE 1:50)

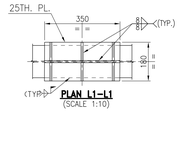


DETAIL OF FOUNDATION MKD.–HF1 & HF2
(SCALE 1:10)

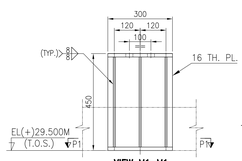


VIEW J1–J1
(SCALE 1:10)

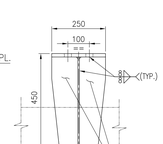
VIEW K1–K1
(SCALE 1:10)



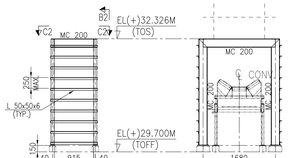
PLAN L1–L1
(SCALE 1:10)



VIEW M1–M1
(SCALE 1:10)



VIEW N1–N1
(SCALE 1:10)



VIEW A2–A2
(SCALE 1:50)

VIEW B2–B2
(SCALE 1:50)

VIEW C3–C3
(SCALE 1:50)

VIEW B3–B3
(SCALE 1:50)

LEGEND:

FGL	– FINISHED GROUND LEVEL
FFL	– FINISHED FLOOR LEVEL
T.O.S	– TOP OF STEEL
B.O.F	– BOTTOM OF FOUNDATION
MS	– MONORAIL SUPPORT
W.P	– WORKING POINT
BP	– BASE PLATE
HR	– HANDRAIL
M.C	– MOMENT CONNECTION

REFERENCE DRAWINGS 2

SL.NO.	NTPC DRAWING NUMBER	REV.	DRAWING NAME
1.	9561–109–ISG–PVM–F–599	04	FLOW DIAGRAM FOR LHP & GHP
2.	9561–109–RP–PVM–F–386	07	PLANT LAYOUT OF FGD SYSTEM
3.	9561–109–ISG–PVM–B–572	04	GA OF CRUSHED LIMESTONE STORAGE SILOS

NOTES: –

1. ALL DIMENSIONS ARE IN mm & LEVELS ARE IN M.
2. EL(±)0.000 M CORRESPONDS TO RL(+)271.500 M.
3. LENGTH OF ALL INCLINED MEMBERS AND THE SHAPE & SIZE OF GUSSET PLATES SHALL BE VERIFIED BY ACTUAL FULL SCALE LAYOUT BEFORE FABRICATION.
4. FOR DETAILED NOTES, REFER SHEET # 1 OF THE SAME DRAWING.
5. THIS DWG. IS TO BE READ IN CONJUNCTION WITH DWG. NO. 9561–109–ISG–PVC–B–448 (SHT. 01 TO 08).

OWNER/CONSULTANT:

एन टी पी सी NTPC

NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	S.M.		16.01.20	
CHD.	A.B.		17.01.20	
APPD.	P.C.		18.01.20	

R.No.	DATE	BRIEF RECORD	BY	CKD	APPD
02	09.01.21	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C
01	10.06.20	REVISED AS PER NTPC COMMENTS	S.M	A.B	P.C

REVISION HISTORY

JOB No. IS–1–18–2003
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.

DIRECTORY :
FILE NO. :
SCALE 1:100
WEIGHT(Kgs.)
NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-448
ITEM NO.
NO.OF ITEMS

TITLE : LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SUPERSTRUCTURE

BHEL DRAWING NUMBER: IS-1-GA-721-200-C042
REV. 02

SHEET NO. 9 NO.OF SHTS. 9

FORM–66.101

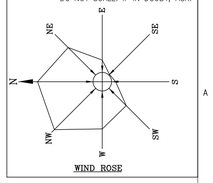
SIZE–A1

FIRST ANGLE PROJECTION

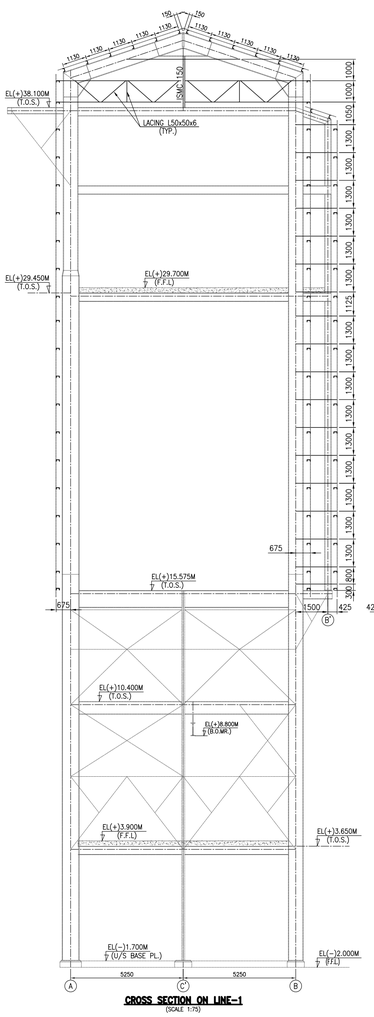
ALL DIMENSIONS ARE IN MM

NTPC DRAWING NO. 9561-109-ISG-PVC-B-448A

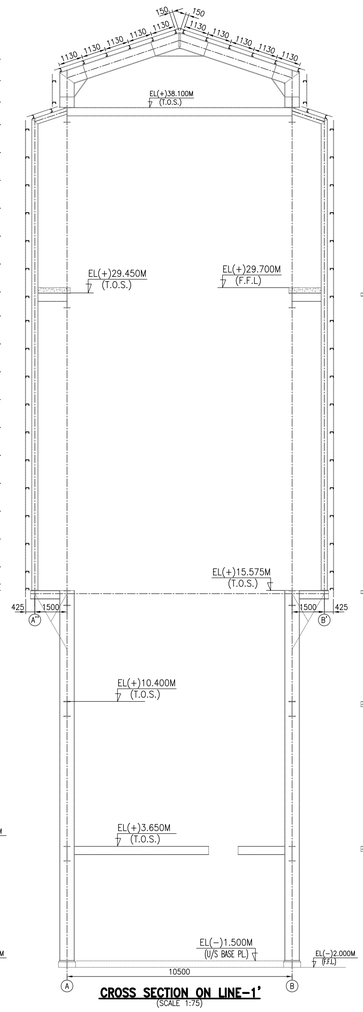
DO NOT SCALE. IF IN DOUBT, ASK.



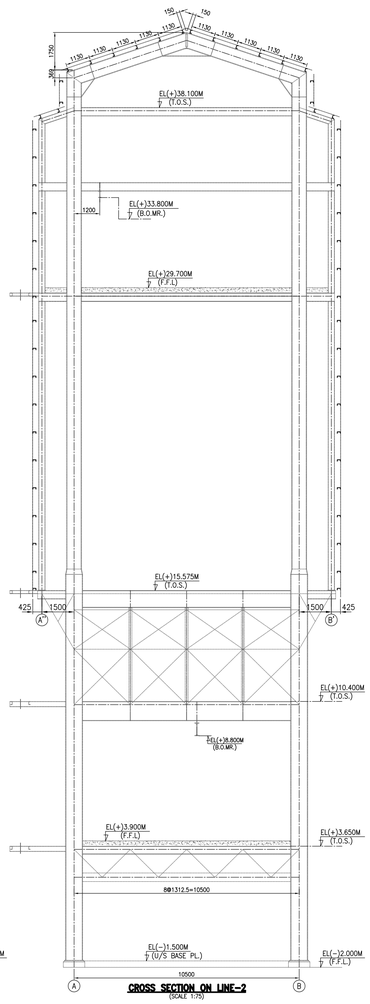
WIND ROSE



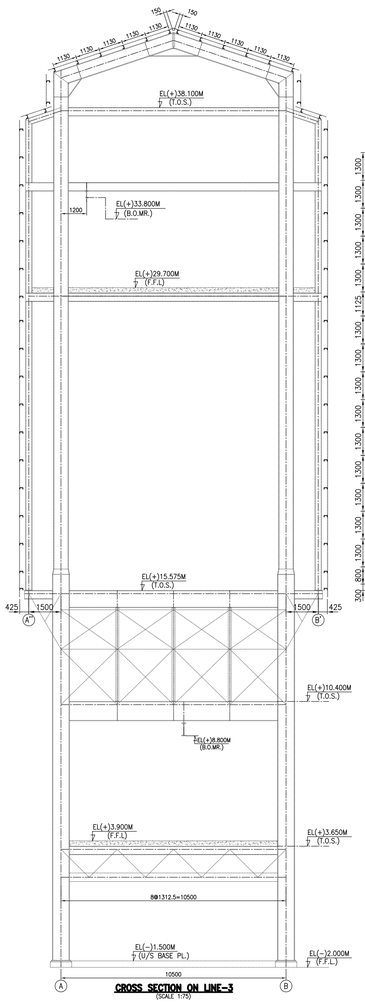
CROSS SECTION ON LINE-1
(SCALE 1:75)



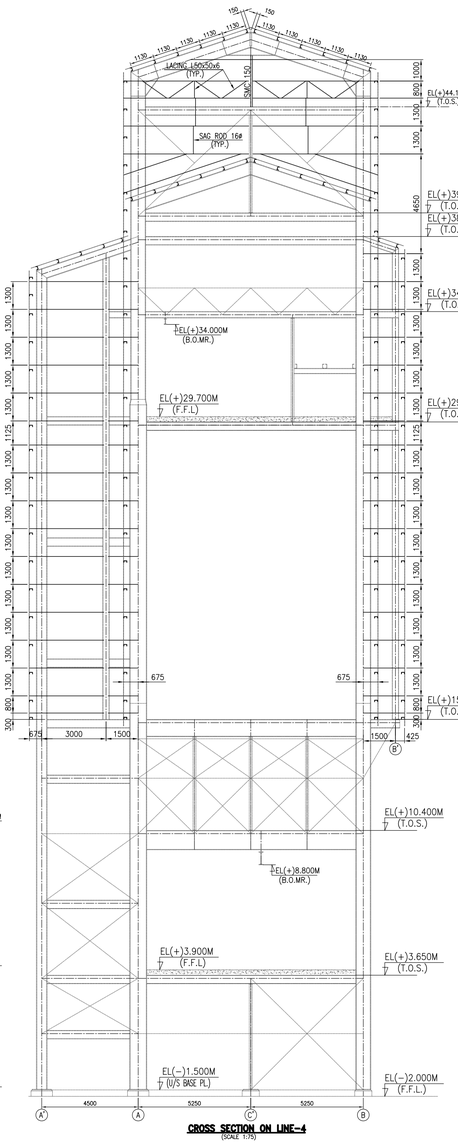
CROSS SECTION ON LINE-1'
(SCALE 1:75)



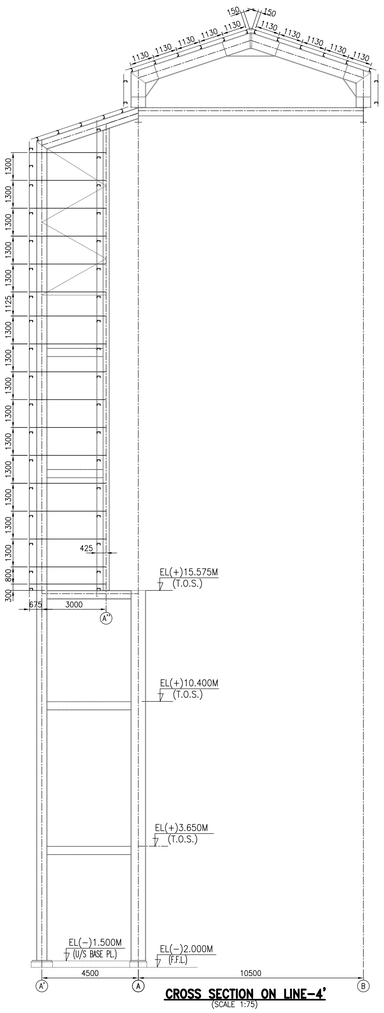
CROSS SECTION ON LINE-2
(SCALE 1:75)



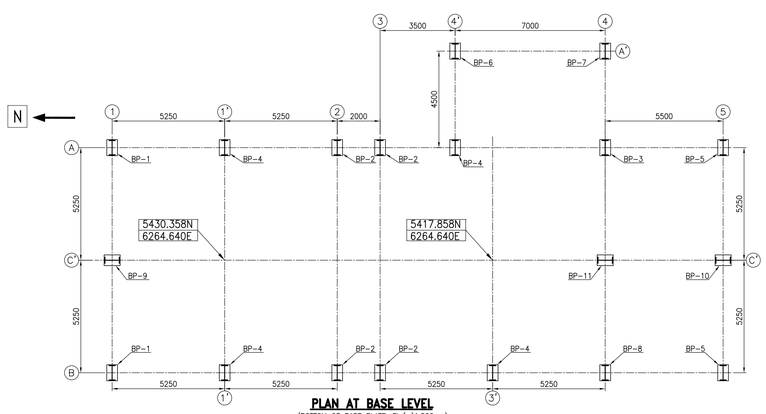
CROSS SECTION ON LINE-3
(SCALE 1:75)



CROSS SECTION ON LINE-4
(SCALE 1:75)



CROSS SECTION ON LINE-4'
(SCALE 1:75)



PLAN AT BASE LEVEL
(BOTTOM OF BASE PLATE: EL.(-)1.500 m)
(SCALE 1:100)

NOTES: -

1. ALL DIMENSIONS ARE IN mm & LEVELS ARE IN M.
2. EL(±)0.000 M CORRESPONDS TO RL.(+)271.500 M.
3. ALL WELD SHALL CONFORM TO IS: 9595-1996 AND IS: 816-1969.
4. ALL ROLLED SECTIONS STEEL SHALL CONFORM TO E250 A OF IS:2062(2011).
5. ALL MS PLATES SHALL CONFORM TO GRADE E250 BR (FULLY KILLED) CONFORMING TO IS:2062(2011). PLATES BEYOND 12 mm THICKNESS UP TO 40 mm THICKNESS SHALL BE NORMALIZED ROLLED. PLATES BEYOND 40 mm THICKNESS SHALL BE VACUUM DEGASSED & FURNACE NORMALISED AND SHALL ALSO BE 100% ULTRASONICALLY TESTED AS PER ASTM-A578 LEVEL B-S2.
6. ALL GUSSET PLATES SHALL BE 10mm (MINIMUM) U.N.O.
7. ALL WELDS ARE 6 mm CONTINUOUS FILLET U.N.O.
8. ALL ERECTION HOLES ARE 17.5ø FOR 16ø BOLTS U.N.O. SHOWN THUS----⊕
9. ALL PERMANENT BOLTS SHALL BE GRADE 4.6 U.N.O. SHOWN THUS----✦
10. ALL FABRICATION AND ERECTION WORK SHALL CONFORM TO PROVISIONS OF IS:800-2007 & NTPC SPECIFICATION FOR STRUCTURAL STEEL WORKS.
11. ALL CONNECTIONS SHALL BE DESIGNED AS PER SECTION 12 OF IS:800(2007) & NTPC TECHNICAL SPECIFICATIONS.
12. ALL ERECTION AND FABRICATION TOLERANCES SHALL BE AS PER SPECIFICATION.
13. LENGTH OF ALL INCLINED MEMBERS AND THE SHAPE & SIZE OF GUSSET PLATES SHALL BE VERIFIED BY ACTUAL FULL SCALE LAYOUT BEFORE FABRICATION.
14. PAINTING OF STRUCTURAL STEEL MEMBERS SHALL BE AS PER NTPC SPECIFICATION.
15. THIS DWG. IS TO BE READ IN CONJUNCTION WITH DWG. NO. 9561-109-ISG-PVC-B-448.

ALL SIDE RUNNER ISMC 150 (TYP.) UPTO 5.250M SPAN &
ISMC 200 (TYP.) ABOVE 5.250M SPAN
ALL PURLIN ISMC 200 (TYP.) U.N.O.

REFERENCE DRAWINGS:

1. 9561-109-RP-PVM-F-386-R7 – PLANT LAYOUT OF FGD SYSTEM
2. 9561-109-ISG-PVM-B-572-R4 – GA OF LIMESTONE STORAGE SILOS
3. 9561-109-ISG-PVC-B-448-R2 – LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SUPERSTRUCTURE

OWNER/CONSULTANT:
एन टी पी सी NTPC
NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	B.D.		06.02.2021	
CHD.	A.B		06.02.2021	
APPD.	P.C.		06.02.2021	

R.No.	DATE	BRIEF RECORD	BY	CKD	APPD
		REVISION HISTORY			

JOB No. IS-1-18-2003
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.
DIRECTORY :
FILE NO. :
SCALE 1:100
WEIGHT(Kgs.)
NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-448A
ITEM NO.
NO.OF ITEMS
TITLE : LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SIDE RUNNERS & PURLINS
BHEL DRAWING NUMBER: IS-1-GA-721-200-C042A
REV. 00
SHEET NO. 1
NO.OF SHTS. 3

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

FORM-66.101

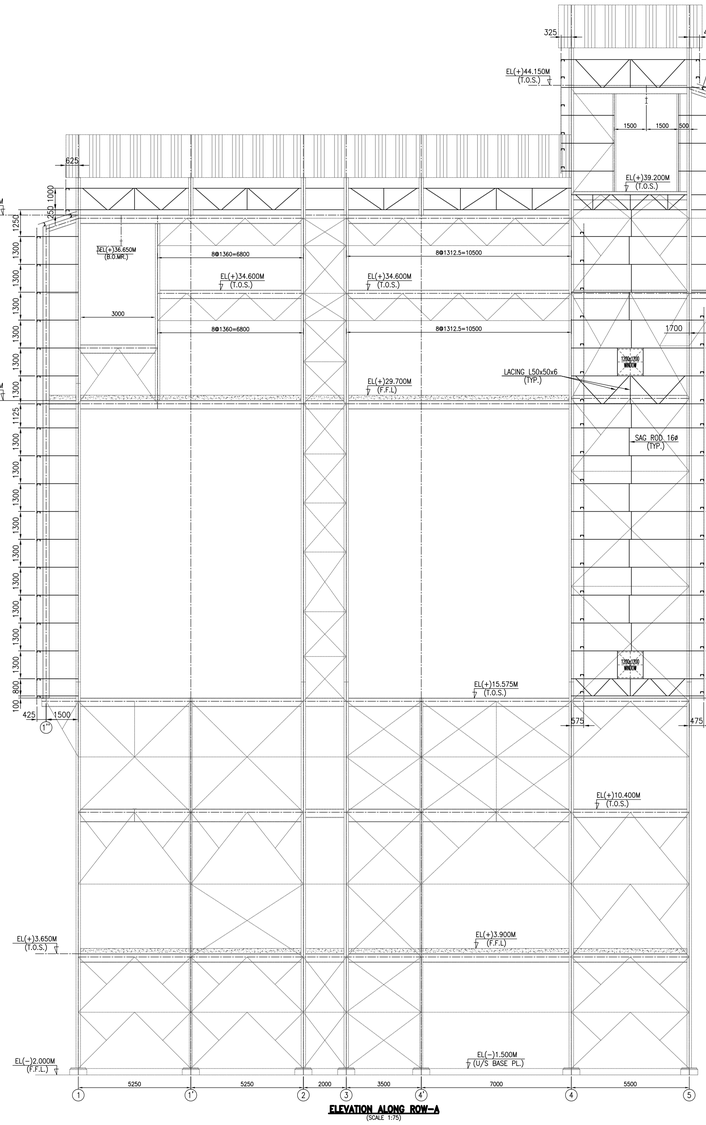
SIZE-A1

FIRST ANGLE PROJECTION

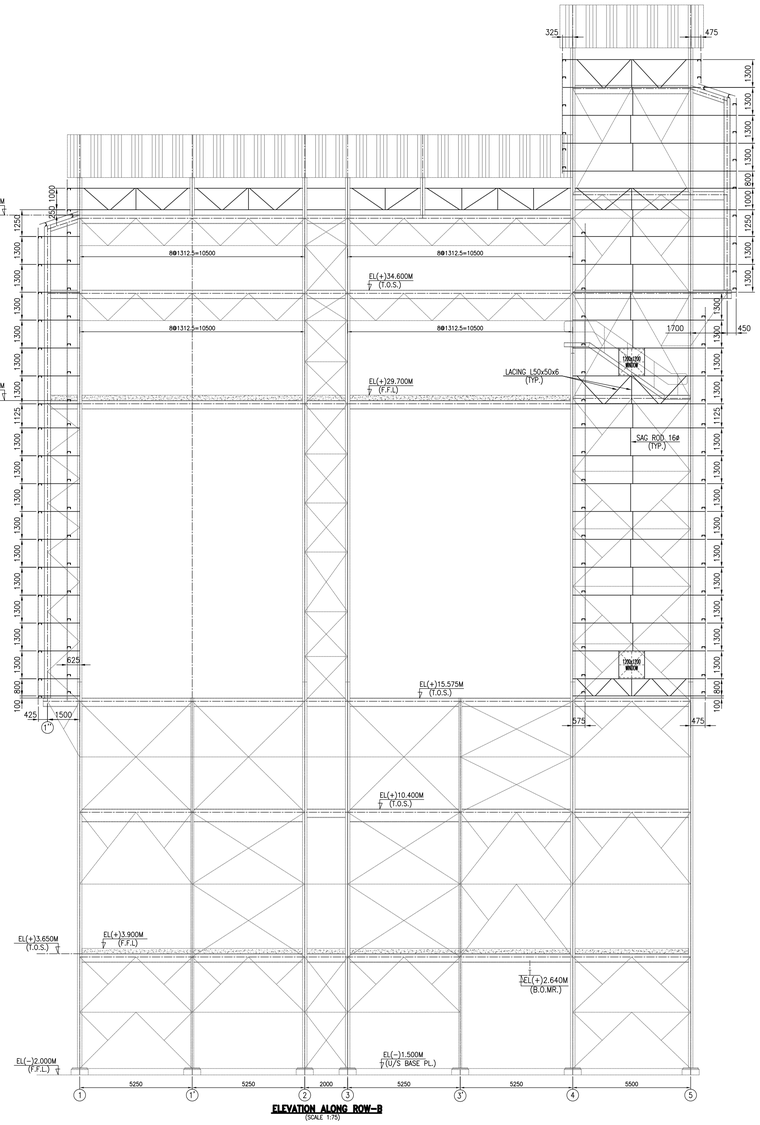
ALL DIMENSIONS ARE IN MM

DO NOT SCALE. IF IN DOUBT, ASK.

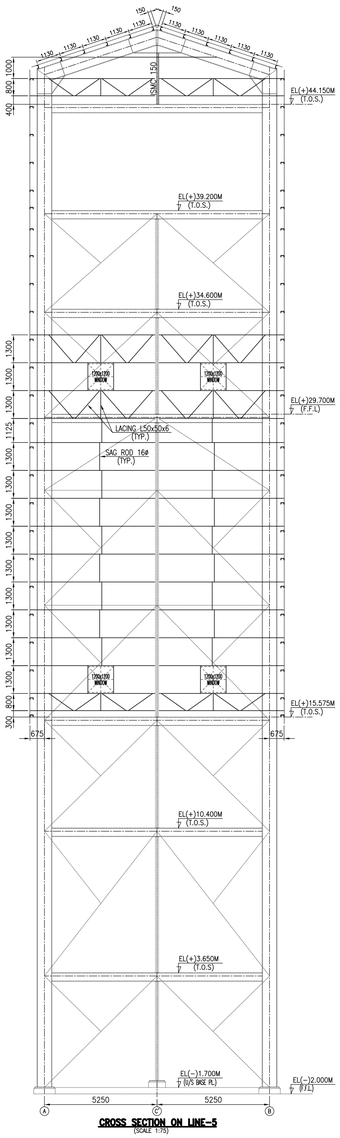
NTPC DRAWING NO. 9561-109-ISG-PVC-B-448A



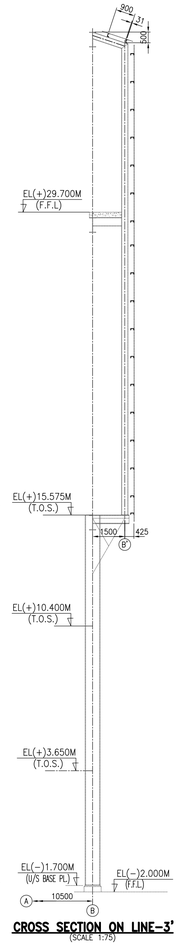
ELEVATION ALONG ROW-A
(SCALE 1:75)



ELEVATION ALONG ROW-B
(SCALE 1:75)



CROSS SECTION ON LINE-5
(SCALE 1:75)



CROSS SECTION ON LINE-3'
(SCALE 1:75)

ALL SIDE RUNNER ISMC 150 (TYP.) UPTO 5.250M SPAN &
ISMC 200 (TYP.) ABOVE 5.250M SPAN
ALL PURLIN ISMC 200 (TYP.) U.N.O.

REFERENCE DRAWINGS:

1. 9561-109-RP-PVM-F-386-R7 – PLANT LAYOUT OF FGD SYSTEM
2. 9561-109-ISG-PVM-B-572-R4 – GA OF LIMESTONE STORAGE SILOS
3. 9561-109-ISG-PVC-B-448-R2 – LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SUPERSTRUCTURE

NOTES:-

1. ALL DIMENSIONS ARE IN mm & LEVELS ARE IN M.
2. EL(±)0.00 M CORRESPONDS TO RL.(+)271.500 M.
3. FOR DETAILED NOTES, REFER SHT. 1 OF THE SAME DRAWING.
4. THIS DWG. IS TO BE READ IN CONJUNCTION WITH STRUCTURAL DWG. NO. 9561-109-ISG-PVC-B-448, & 9561-109-ISG-PVC-B-448A SH. # 1 & 3.

OWNER/CONSULTANT:
NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	B.D.		06.02.2021	
CHD.	A.B		06.02.2021	
APPD.	P.C.		06.02.2021	

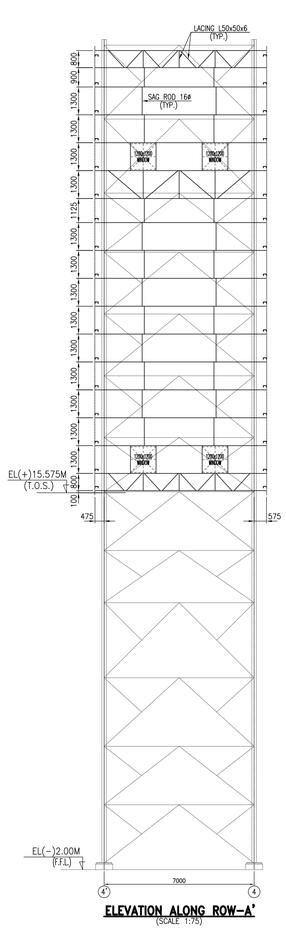
R.No.	DATE	BRIEF RECORD	BY	CKD	APPD
REVISION HISTORY					

JOB No. IS-1-18-2003
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.
DIRECTORY :
FILE NO. :
SCALE 1:100
WEIGHT(Kgs.)
NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-448A
ITEM NO.
NO.OF ITEMS
TITLE : LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SIDE RUNNERS & PURLINS
BHEL DRAWING NUMBER: IS-1-GA-721-200-C042A
REV. 00
SHEET NO. 2
NO.OF SHTS. 3

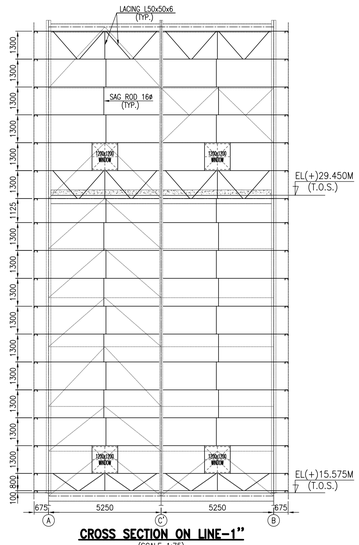
REF.DRG.NO. | SIGN & DATE | INVENTORY NO.

FORM-66.101

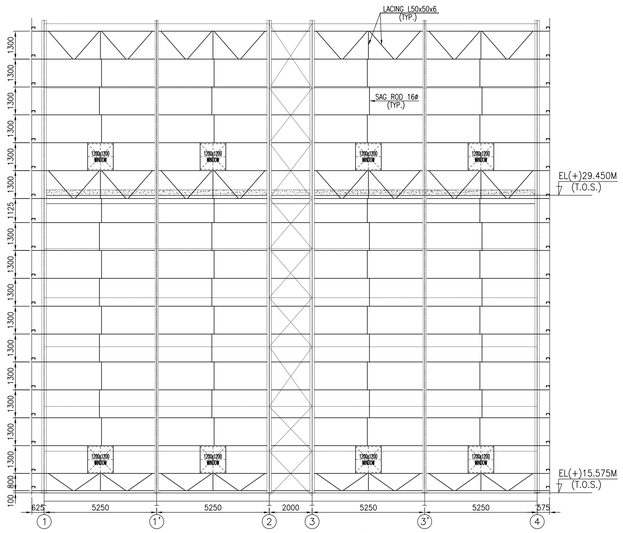
SIZE-A1



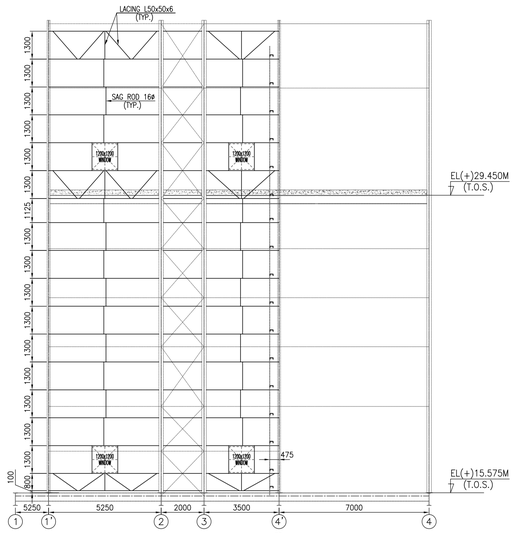
ELEVATION ALONG ROW-A'
(SCALE 1:75)



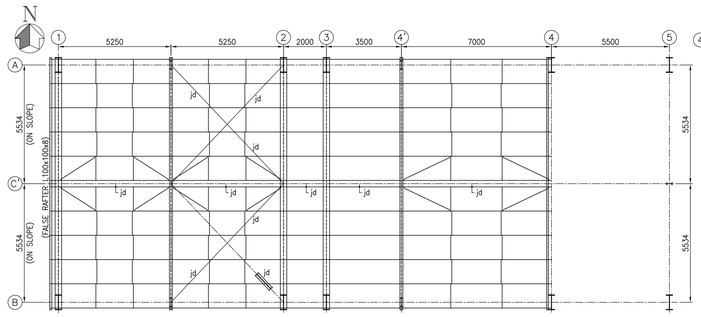
CROSS SECTION ON LINE-1"
(SCALE 1:75)



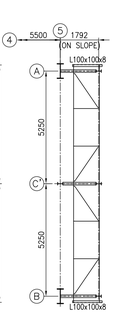
ELEVATION ALONG ROW-B'
(SCALE 1:75)



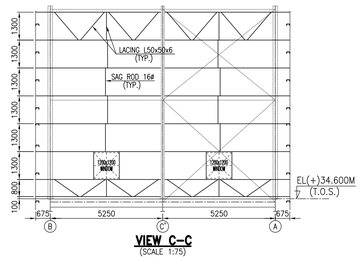
ELEVATION ALONG ROW-A"
(SCALE 1:75)



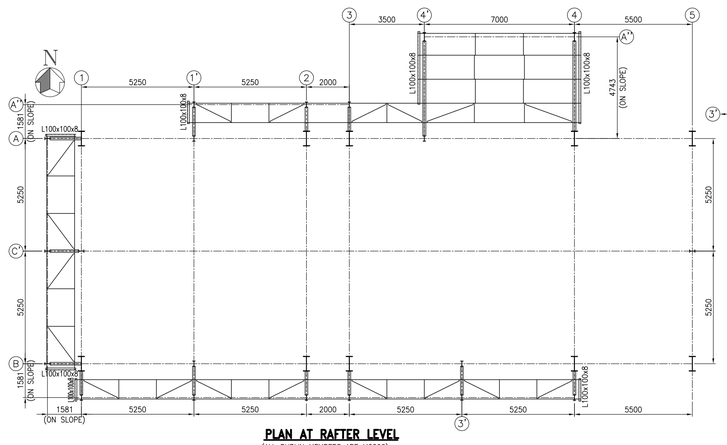
PLAN AT RAFTER LEVEL
(ALL SAG ROD MEMBERS ARE 16ø)
(ALL PURLIN MEMBERS ARE MC200 U.O.N)
(ALL LACING MEMBERS ARE L50x50x6)
jd- ⊤ 130x130x12
(SCALE 1:100)



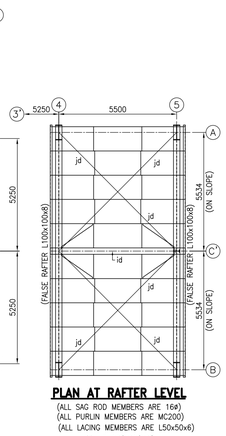
PLAN AT RAFTER LEVEL
(ALL SAG ROD MEMBERS ARE 16ø)
(ALL PURLIN MEMBERS ARE MC200)
(ALL LACING MEMBERS ARE L50x50x6)
(SCALE 1:100)



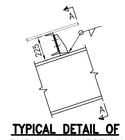
VIEW C-C
(SCALE 1:75)



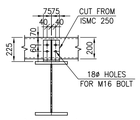
PLAN AT RAFTER LEVEL
(ALL PURLIN MEMBERS ARE MC200)
(ALL SAG ROD MEMBERS ARE 16ø)
(ALL LACING MEMBERS ARE L50x50x6)
(SCALE 1:100)



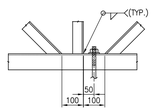
PLAN AT RAFTER LEVEL
(ALL SAG ROD MEMBERS ARE 16ø)
(ALL PURLIN MEMBERS ARE MC200)
(ALL LACING MEMBERS ARE L50x50x6)
jd- ⊤ 110x110x12
jd- ⊤ 130x130x12
(SCALE 1:100)



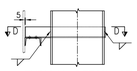
TYPICAL DETAIL OF PURLIN CONNECTION
(SCALE 1:20)



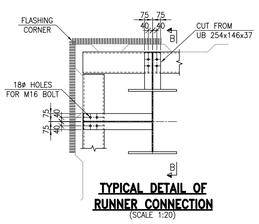
VIEW A-A
(SCALE 1:20)



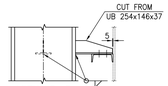
TYPICAL DETAIL OF LACED RUNNER CONNECTION
(SCALE 1:10)



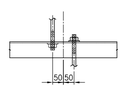
TYPICAL DETAIL OF RUNNER CONNECTION
(AT COLUMN FACE)
(SCALE 1:20)



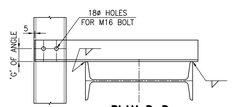
TYPICAL DETAIL OF RUNNER CONNECTION
(SCALE 1:20)



VIEW B-B
(SCALE 1:20)



TYPICAL DETAIL OF SAG ROD CONNECTION
(SCALE 1:10)



PLAN D-D
(SCALE 1:10)

ALL SIDE RUNNER ISMC 150 (TYP.) UPTO 5.250M SPAN &
ISMC 200 (TYP.) ABOVE 5.250M SPAN
ALL PURLIN ISMC 200 (TYP.) U.N.O.

REFERENCE DRAWINGS:

1. 9561-109-RP-PVM-F-386-R7 – PLANT LAYOUT OF FGD SYSTEM
2. 9561-109-ISG-PVM-B-572-R4 – GA OF LIMESTONE STORAGE SILOS
3. 9561-109-ISG-PVC-B-448-R2 – LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SUPERSTRUCTURE

NOTES: –

1. ALL DIMENSIONS ARE IN mm & LEVELS ARE IN M.
2. EL(±)0.00 M CORRESPONDS TO RL.(+)271.500 M.
3. FOR DETAILED NOTES, REFER SHT. 1 OF THE SAME DRAWING.
4. THIS DWG. IS TO BE READ IN CONJUNCTION WITH STRUCTURAL DWG. NO. 9561-109-ISG-PVC-B-448, & 9561-109-ISG-PVC-B-448A SH. # 1 & 2.

OWNER/CONSULTANT:
एन टी पी सी NTPC
NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	B.D.		06.02.2021	
CHD.	A.B		06.02.2021	
APPD.	P.C.		06.02.2021	

JOB No. IS-1-18-2003	DIRECTORY :		SCALE	WEIGHT(Kgs.)	NTPC DRAWING NUMBER:	ITEM NO.	NO.OF ITEMS
STATUS OF DRAWING	FILE NO. :		1:100		9561-109-ISG-PVC-B-448A		
DISTRIBUTION OF PRINTS QTY.							

R.No.	DATE	BRIEF RECORD	BY	CKD	APPD
REVISION HISTORY					

TITLE :
LIMESTONE SILOS & BUCKET ELEVATOR:
GA OF SIDE RUNNERS & PURLINS

BHEL DRAWING NUMBER: IS-1-GA-721-200-C042A

REV. 00

SHEET NO. 3 NO.OF SHTS. 3

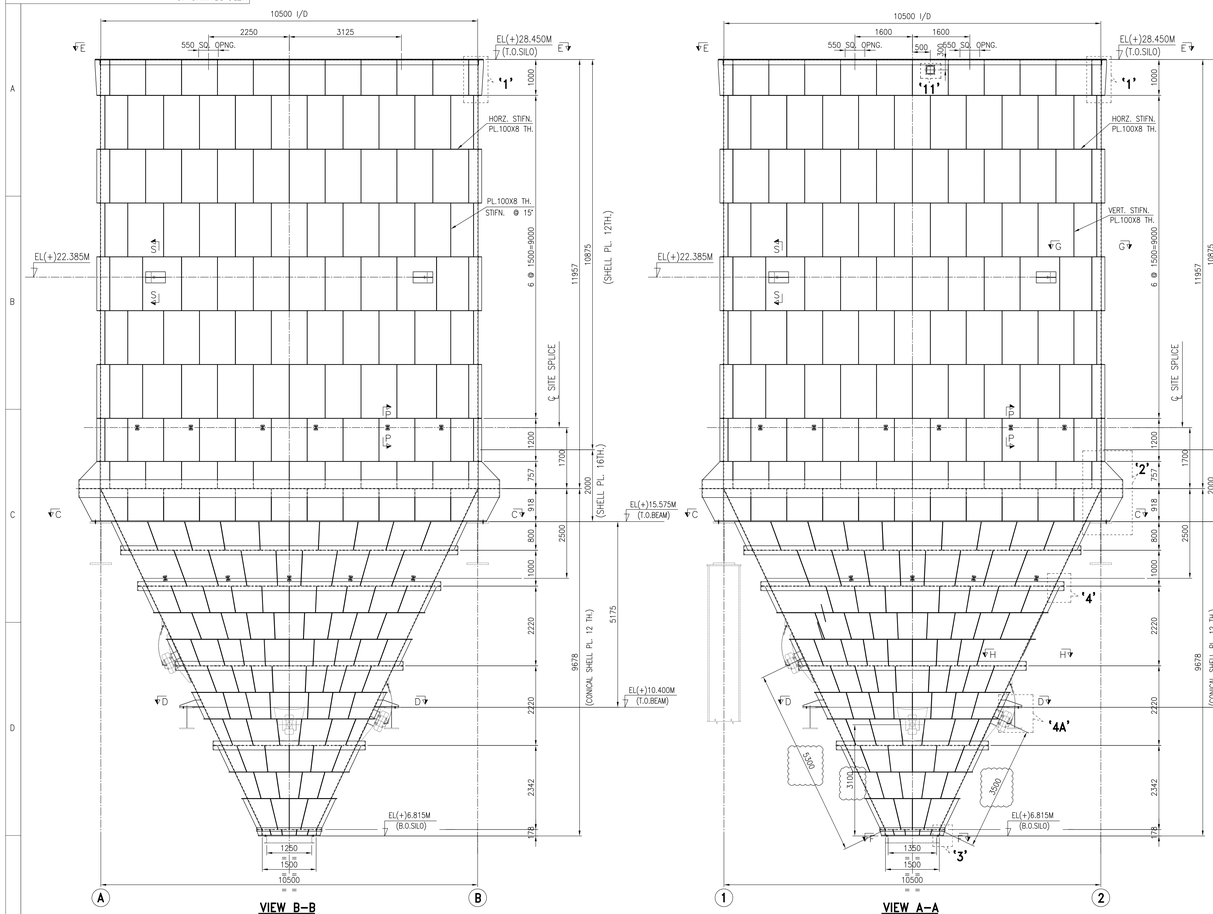
REF.DRG.NO. | SIGN & DATE | INVENTORY NO.

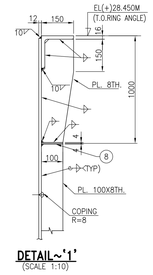
FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

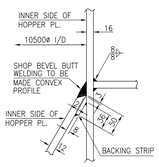
NTPC DRAWING NO. 9561-109-ISG-PVC-B-448A

DO NOT SCALE, IF IN DOUBT, ASK.



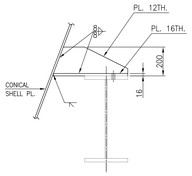


DETAIL~'1'
(SCALE 1:10)



DETAIL~'8'
(SCALE 1:5)

DETAIL-2
(SCALE 1:15)



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DETAIL~'7'
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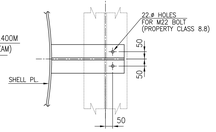

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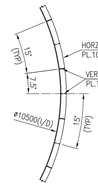
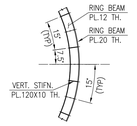
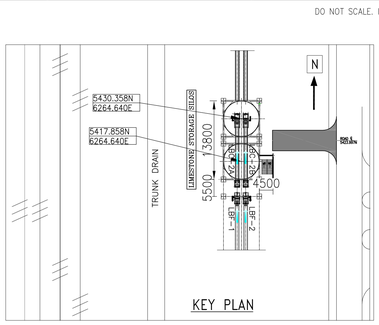


PLAN G-G
(SCALE 1:60)



PLAN H-H
(SCALE 1:60)

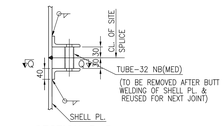


KEY PLAN

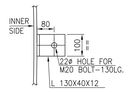
LEGEND:	
FGL	– FINISHED GROUND LEVEL
FFL	– FINISHED FLOOR LEVEL
T.O.S	– TOP OF STEEL
F.F.L	– FINISHED FLOOR LEVEL
F.G.L	– FINISHED GROUND LEVEL
B.O.F	– BOTTOM OF FOUNDATION
MS	– MONORAIL SUPPORT
W.P	– WORKING POINT
BP	– BASE PLATE
HR	– HANDRAIL
M.C	– MOMENT CONNECTION

REFERENCE DRAWING

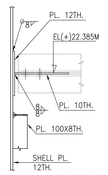
SL.NO.	NTPC DRAWING NUMBER	REV.	DRAWING NAME
1.	9561-109-RP-PVM-F-386	07	PLANT LAYOUT OF FGD SYSTEM
2.	9561-109-ISG-PVM-B-572	04	G.A. OF CRUSHED LIMESTONE STORAGE SILOS



SECTION P-P
(SCALE 1:10)

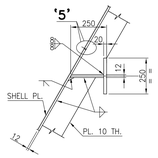


PLAN Q-Q



SECTION S-S
(SCALE 1:15)

DETAIL~'5'
(SCALE 1:5)



DETAIL-4
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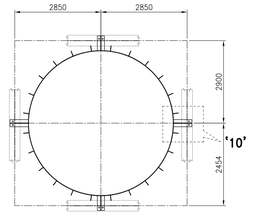
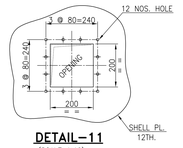
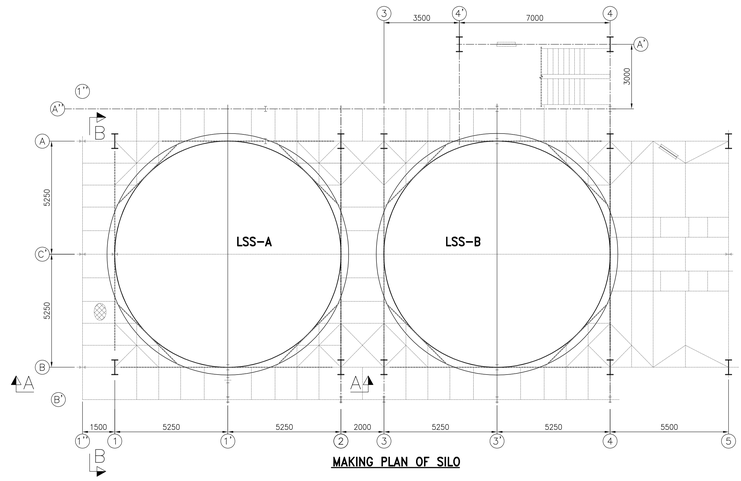


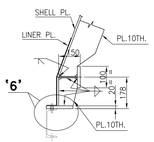
PLAN D-D
(SCALE 1:60)



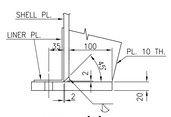
DETAIL-11
(SCALE 1:10)



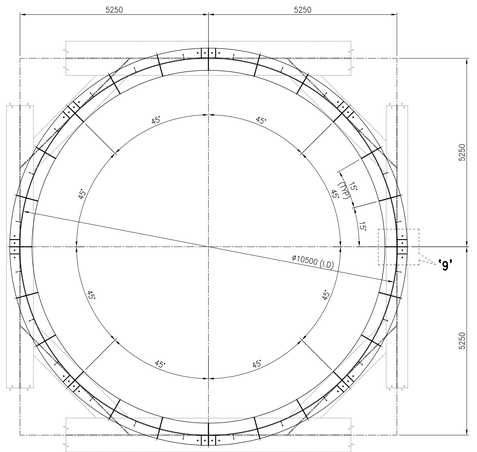
MAKING PLAN OF SILO



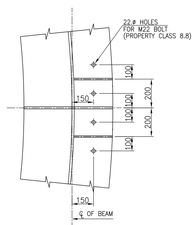
DETAIL-3
(SCALE 1:15)



DETAIL~'6'
(SCALE 1:5)



PLAN C-C
(SCALE 1:60)



DETAIL-9
(SCALE 1:15)

NOTES: –

1. ALL DIMENSIONS ARE IN mm & LEVELS ARE IN M.
2. EL.(±)0.000 M CORRESPONDS TO RL.(+)271.500 M.
3. LENGTH OF ALL INCLINED MEMBERS AND THE SHAPE & SIZE OF GUSSET PLATES SHALL BE VERIFIED BY ACTUAL FULL SCALE LAYOUT BEFORE FABRICATION.
4. VERTICAL JOINTS IN SILO SHELL SHALL BE STAGGERED
5. BEFORE COMMENCING FABRICATION OF SILO SHELL, TRIAL ASSEMBLY OF SILO INCLUDING HOPPER SHALL BE MADE FOR ATLEAST ONE SILO.

Documents / Drawings are being submitted to NTPC for Information.
Contractor/Vendor hereby confirms full compliance to all the specified requirements of the tender specification, without any deviation, whatsoever. In case during the tenure of the contract it is observed/found that the data/ information in approved Drg/ document is not meeting the tender specification, Contractor/vendor will modify/ rectify/replace the Equipments/ System/Utilities to meet the specification without any commercial implication or any time extension to NTPC in this regard.

(Mr S.K.SAMANTA)
AGM - MOUDA TF
PROJ. ENGG. NTPC
EOC: SECTOR-24,
NOIDA . UP. - 201301

Digitally signed by S.K. Samanta
DN: cn=S.K.Samanta, c=IN, o=NTPC LTD., ou=EOC, email=sksamanta@ntpc.co.in
Reason: Cat-Rel
Date: 2021.03.01 11:32:03 +05'30'

OWNER/CONSULTANT:

NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	NIHAR		19.02.21	
CHD.	A.B.		20.02.21	
APPD.	P.C.		20.02.21	

R.No.	DATE	BRIEF RECORD REVISION HISTORY	BY	CKD	APPD

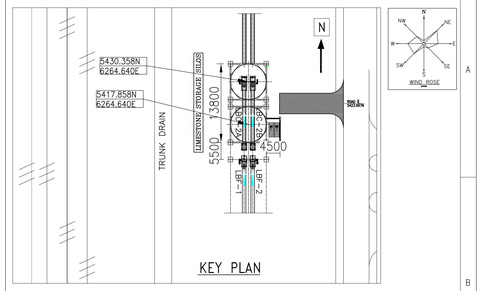
JOB No. IS-1-18-2003
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.
DIRECTORY :
FILE NO. :
SCALE 1:100
WEIGHT(Kgs.)
NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-448A
ITEM NO.
NO.OF ITEMS
TITLE : LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SHELL
BHEL DRAWING NUMBER: IS-1-GA-721-200-C042
REV. 0
SHEET NO. 1
NO.OF SHTS. 2

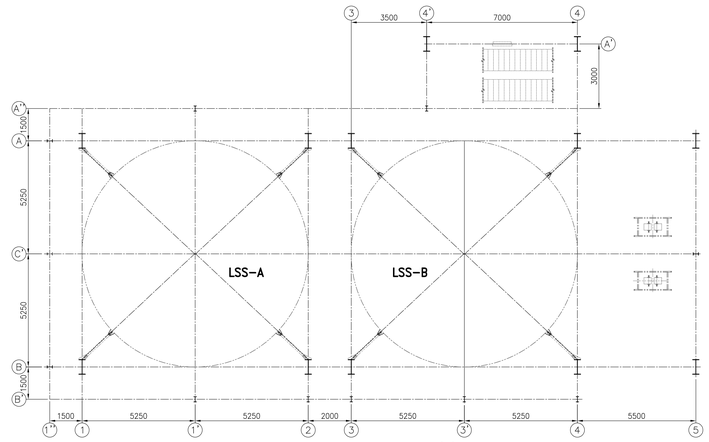
INVENTORY NO. | SIGN & DATE | REF.DRG.NO.

FORM-66.101

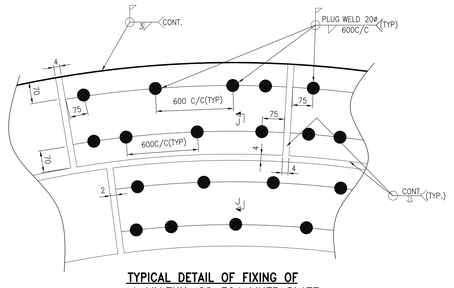
SIZE-A0

DO NOT SCALE, IF IN DOUBT, ASK.

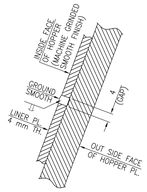




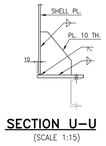
PLAN SHOWING HORZ. SUPPORT OF SILO AT EL(+)22.385M



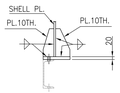
TYPICAL DETAIL OF FIXING OF 4-MM.THK. SS-304 LINER PLATE
(SCALE 1:50)



SECTION J-J
(SCALE 1:1)



SECTION U-U
(SCALE 1:15)



SECTION V-V
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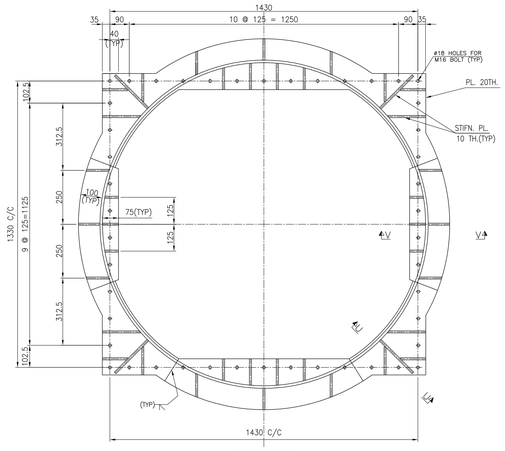
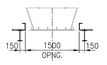
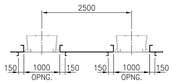


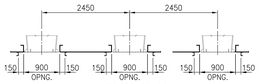
VIEW F-F
(SCALE 1:10)



PLAN K-K
(SCALE 1:60)

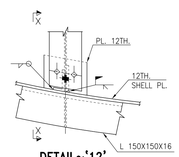


PLAN L-L
(SCALE 1:60)

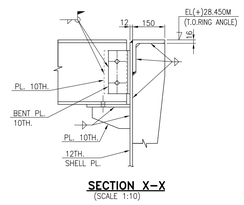


PLAN M-M
(SCALE 1:60)

PLAN SHOWING SILO ROOF AT EL(+)28.450M (T.O.S)
(SCALE 1:60)



DETAIL-'12'
(SCALE 1:10)



SECTION X-X
(SCALE 1:10)

LEGEND:

FGL	–	FINISHED GROUND LEVEL
FFL	–	FINISHED FLOOR LEVEL
T.O.S	–	TOP OF STEEL
F.F.L	–	FINISHED FLOOR LEVEL
F.G.L	–	FINISHED GROUND LEVEL
B.O.F	–	BOTTOM OF FOUNDATION
MS	–	MONORAIL SUPPORT
W.P	–	WORKING POINT
BP	–	BASE PLATE
HR	–	HANDRAIL
M.C	–	MOMENT CONNECTION

REFERENCE DRAWING

SL.NO.	NTPC DRAWING NUMBER	REV.	DRAWING NAME
1.	9561-109-RP-PVM-F-386	07	PLANT LAYOUT OF FGD SYSTEM
2.	9561-109-ISG-PVM-B-572	04	G.A. OF CRUSHED LIMESTONE STORAGE SILOS

NOTES: -

1. ALL DIMENSIONS ARE IN mm & LEVELS ARE IN M.
2. EL.(±)0.000 M CORRESPONDS TO RL.(+)271.500 M.
3. LENGTH OF ALL INCLINED MEMBERS AND THE SHAPE & SIZE OF GUSSET PLATES SHALL BE VERIFIED BY ACTUAL FULL SCALE LAYOUT BEFORE FABRICATION.
4. VERTICAL JOINTS IN SILO SHELL SHALL BE STAGGERED
5. BEFORE COMMENCING FABRICATION OF SILO SHELL, TRIAL ASSEMBLY OF SILO INCLUDING HOPPER SHALL BE MADE FOR ATLEAST ONE SILO.

OWNER/CONSULTANT:
NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	NIHAR		19.02.21	
CHD.	A.B.		20.02.21	
APPD.	P.C.		20.02.21	

JOB No. IS-1-18-2003	DIRECTORY :		SCALE	WEIGHT(Kgs.)	NTPC DRAWING NUMBER:	ITEM NO. / NO.OF ITEMS
STATUS OF DRAWING	FILE NO. :		1:100		9561-109-ISG-PVC-B-448A	
DISTRIBUTION OF PRINTS QTY.	TITLE : LIMESTONE SILOS & BUCKET ELEVATOR: GA OF SHELL				BHEL DRAWING NUMBER: IS-1-GA-721-200-C042	REV. 0

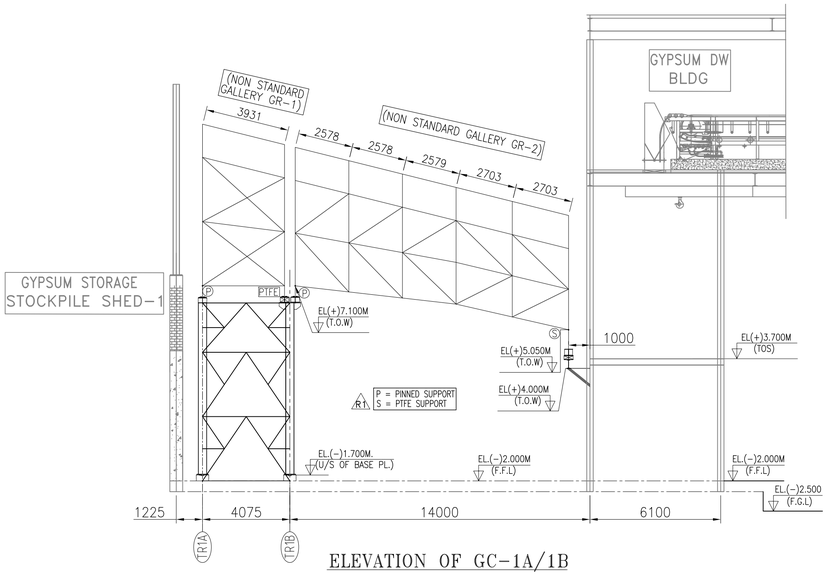
R.No.	DATE	BRIEF RECORD	BY	CKD	APPD
REVISION HISTORY					

SHEET NO. 2 NO.OF SHTS. 2

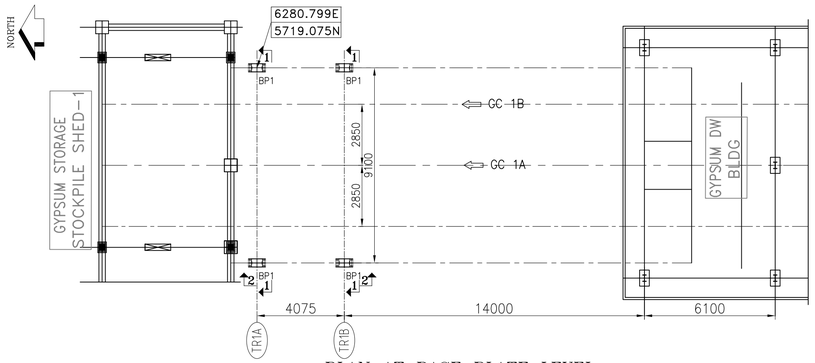
INVENTORY NO. | SIGN & DATE | REF.DRG.NO.

FORM-66.101

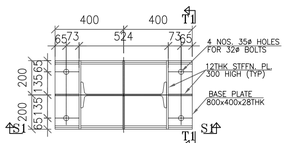
SIZE-A0



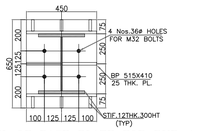
ELEVATION OF GC-1A/1B



PLAN AT BASE PLATE LEVEL

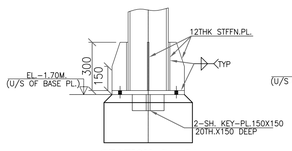


DETAIL OF BASE PLATE (BP-1)
(FOR TR-1A&1B)

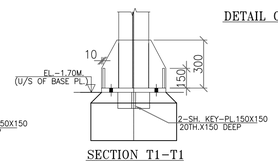


DETAIL OF BASE PLATE FOR BUP-1

BUP-1



SECTION S1-S1



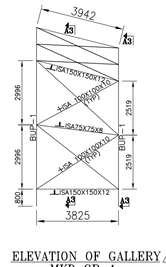
SECTION T1-T1

NOTES:

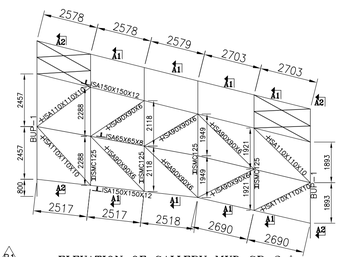
1. ALL DIMENSIONS ARE IN MILLIMETRES
2. ALL FILLET WELDS SHALL BE MINIMUM 6mm THK UN OTHERWISE.
3. EL(±)0.00 M CORRESPONDS TO RL.(+)271.500 M.
4. ALL HOLES ARE 21.5ø DRILLED HOLES FOR M20 ERECTION BOLTS UNO.
5. ALL GUSSET PLATES ARE 10mm THK UN OTHERWISE.
6. GRADE OF STEEL E 250 AS PER IS:2062.
7. STEPPED WALKWAY SHALL BE PROVIDED FOR CONVEYOR GALLERY INCLINATION GREATER THAN 10°
8. DESIGN AND DETAILING OF CONNECTIONS SHALL BE DONE AS PER SECTION-10 AND SECTION-12 OF IS 800:2007
9. GALLERY SHOULD AS FAR AS POSSIBLE BE ERECTED AS A BOX SECTION KEEPING ALL THE VERTICAL AND HORIZONTAL BRACING TIED IN PROPER POSITION DURING HANDLING AND ERECTION.
10. STEPPED WALKWAY SHALL BE PROVIDED FOR CONVEYOR GALLERY INCLINATION GREATER THAN 10°

REFERENCE DWG

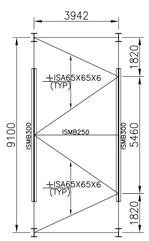
1. GA & LOAD DATA OF CONVEYOR GBC-1AB : 9561-109-ISG-PVM-B-568B-02



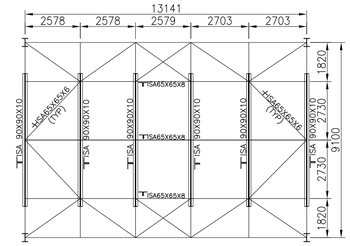
ELEVATION OF GALLERY MKD GR-1 (R1)



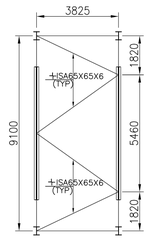
ELEVATION OF GALLERY MKD GR-2 (R1)



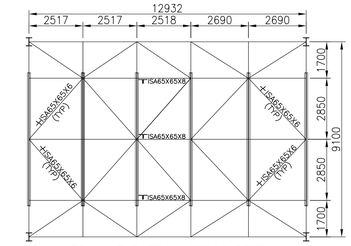
PLAN AT TOP CHORD LEVEL



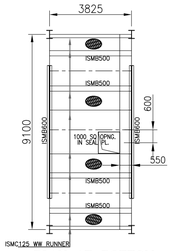
PLAN AT TOP CHORD LEVEL



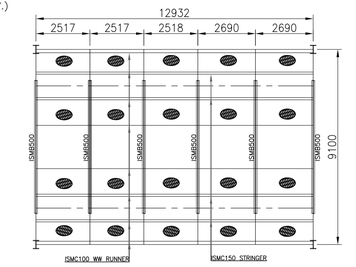
PLAN AT BOTTOM CHORD LEVEL
(SHOWING BRACING MEMBERS ONLY.)



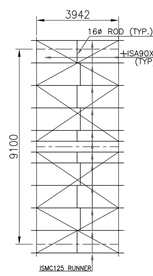
PLAN AT BOTTOM CHORD LEVEL
(SHOWING BRACING MEMBERS ONLY.)



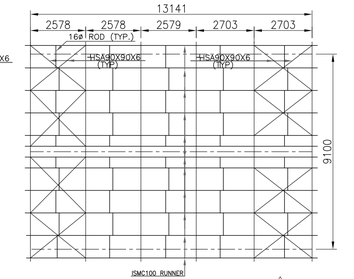
PLAN AT BOTTOM CHORD LEVEL
(SHOWING RUNNERS, STRINGERS & WALKWAYS.)



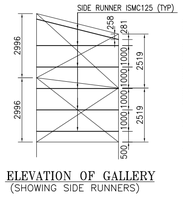
PLAN AT BOTTOM CHORD LEVEL
(SHOWING RUNNERS, STRINGERS & WALKWAYS.)



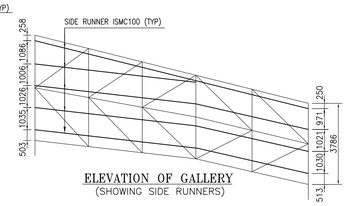
R1 PLAN AT RAFTER LEVEL



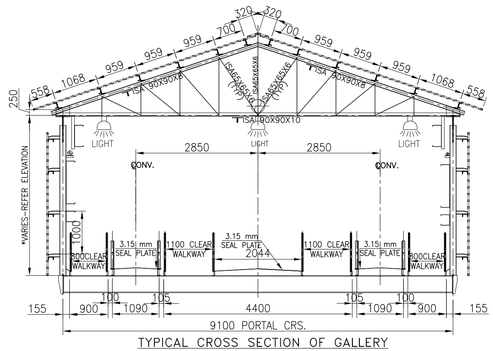
PLAN AT RAFTER LEVEL R1



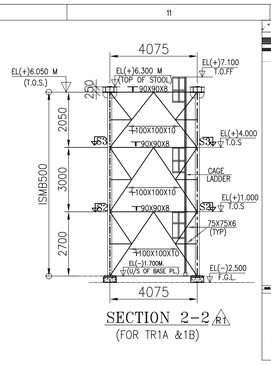
ELEVATION OF GALLERY
(SHOWING SIDE RUNNERS)



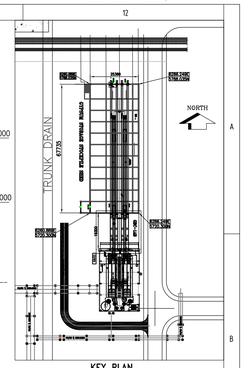
ELEVATION OF GALLERY
(SHOWING SIDE RUNNERS)

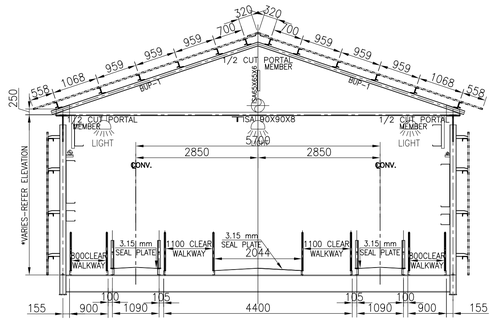


TYPICAL CROSS SECTION OF GALLERY
A1-A1

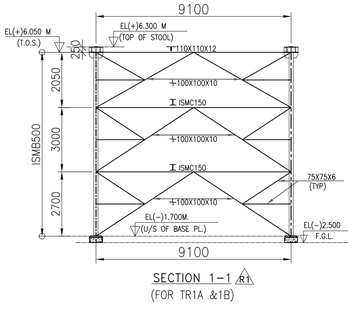


SECTION 2-2 (R1)
(FOR TR1A &1B)

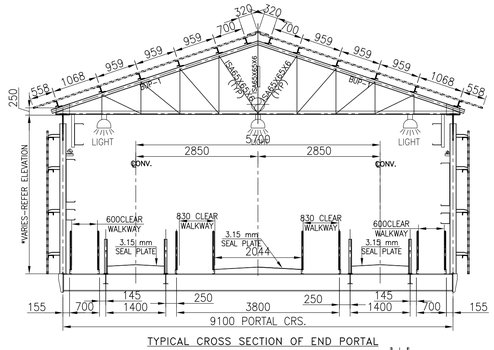




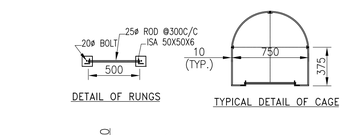
TYPICAL CROSS SECTION OF END PORTAL
A2-A2

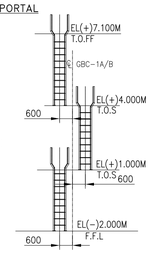


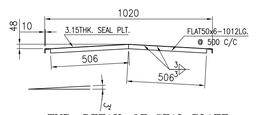
SECTION 1-1 (R1)
(FOR TR1A &1B)



TYPICAL CROSS SECTION OF END PORTAL
A3-A3







OWNER/CONSULTANT:
NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT: 2 x 500 MW MAUDA STPP
FGD - PACKAGE

MAIN CONTRACTOR: BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	RAKSHITHA	-	30.01.2020	
CHD.	ANIMESH	-	30.01.2020	
APPD.	SBM	-	30.01.2020	

R.No	DATE	REVISED AS PER NTPC COMMENTS	BY	CKD	APPD
R1	03.03.2020		RAKSHITHA	ADA	SBM

REVISION HISTORY

JOB No. IS-1-18-2003
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.
DIRECTORY :
FILE NO. :
SCALE
WEIGHT(Kgs.)
NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-449
ITEM NO.
NO.OF ITEMS

TITLE: CONVEYOR GC-1A/B - GA OF GALLERY & TRESTLES
BHEL DRAWING NUMBER: IS-1-GA-721-200-C052
REV. R1
SHEET NO. 1
NO.OF SHTS. 1

REF.DRGNO.
SIGN & DATE
INVENTORY NO.

FORM-66.101
SIZE-A1

COMPLIANCE REPORT

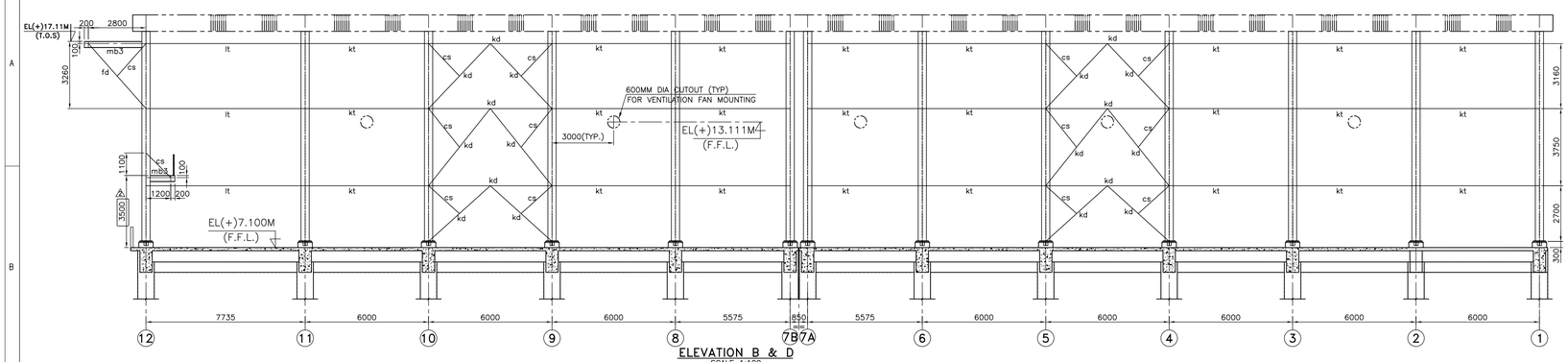
2 X 500 MW MAUDA STPP-FGD PACKAGE		
DWG / DOC NO AND TITLE : 9561-109-ISG-PVC-B-456 - STRUCTURAL DESIGN CALCULATION FOR GBC-1AB GALLERY & TRESTLES-R0		
SL NO	**NTPC COMMENTS**	**BHEL REPLY**
1	DESIGN/DRAWING TO CONFORM TO LATEST MECHANICAL/ELECTRICAL GA DRG.	Accepted. Trestle Tr-1A has been introduced as per structural requirement. The same has been informed to mechanical after discussion.
2	ALL FURTHER CHANGES TO BE INCORPORATED IF ANY.	Agreed.
3	ALL PREVIOUS COMMENTS, IF ANY, ARE DEEMED TO HAVE BEEN INCORPORATED.	Noted.
4	Vendor to recheck before taking up construction-Approval does not absolve the turnkey contractor from ensuring structural safety and functional adequacy of the structure.	Accepted.
5	utilization ratio is high and some of the members are failing please check and provide next higher section	Members revised in staad and drawings
6	incorporate comment marked in structural document	Incorporated
7	incorporate comments marked in structural drawing	Incorporated

FIRST ANGLE PROJECTION

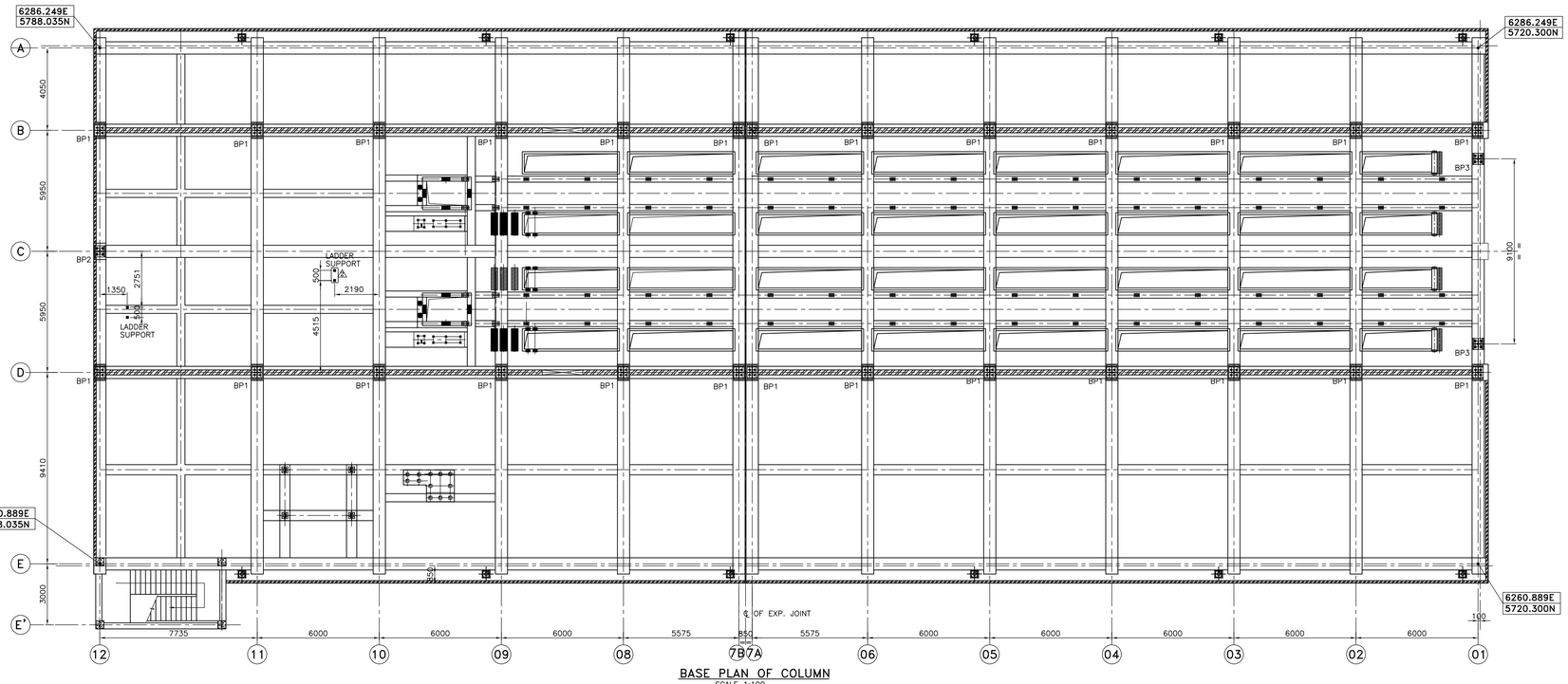
ALL DIMENSIONS ARE IN MM

NTPC DRAWING NO. 9561-109-ISG-PVC-B-457

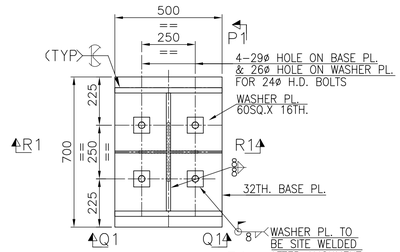
DO NOT SCALE. IF IN DOUBT, ASK.



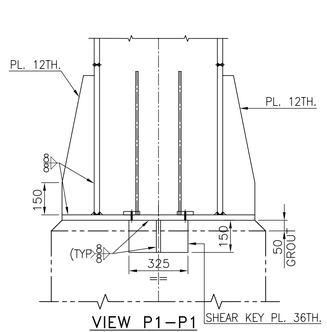
ELEVATION B & D
SCALE 1:100



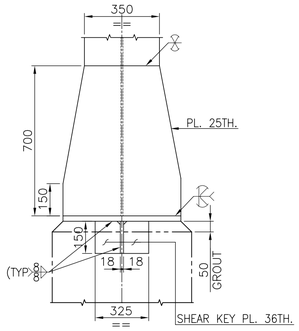
BASE PLAN OF COLUMN
SCALE 1:100



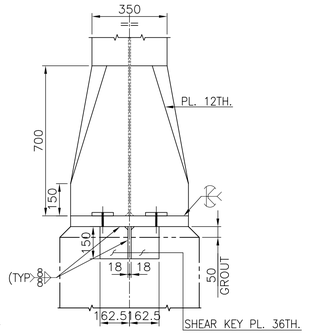
DETAIL OF BASE PL. P1 FOR MKD. BP1
(SCALE 1:15)



VIEW P1–P1
(SCALE 1:15)



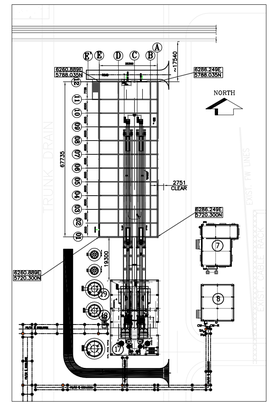
VIEW Q1–Q1
(SCALE 1:15)



VIEW R1–R1
(SCALE 1:15)

SCHEDULE OF MEMBERS:-

MEMBER MKD.	SECTION	SHAPE
mb1	MB 200	I
mb2	MB 250	I
mb3	MB 300	I
npb4	NPB 400X200X90.7	I
npb5	NPB 500X200X90.7	I
npb5a	NPB 500X200X90.7 +PL. 250X10TH(TOP & BOTTOM)	I
npb6	NPB 600X220X122.5	I
ac	ISMC 75	[
bc	ISMC 100	[
cc	ISMC 125	[
dc	ISMC 150	[
fc	ISMC 200	[
gc	ISMC 250	[
hc	ISMC 300	[
jc	ISMC 400	[
as	L 50X50X6	L
bs	L 65X65X6	L
cs	L 75X75X8	L
ds	L 90X90X6	L
fs	L 90X90X8	L
gs	L 100X100X8	L
hs	L 100X100X10	L
js	L 110X110X10	L
ks	L 110X110X12	L
ls	L 130X130X12	L
ms	L 130X130X16	L
ns	L 150X150X12	L
ps	L 150X150X16	L
ad	2L 50X50X6	T
bd	2L 65X65X6	T
cd	2L 75X75X8	T
dd	2L 90X90X6	T
fd	2L 90X90X8	T
gd	2L 100X100X8	T
hd	2L 100X100X10	T
jd	2L 110X110X10	T
kd	2L 110X110X12	T
ld	2L 130X130X12	T
md	2L 130X130X16	T
nd	2L 150X150X12	T
pd	2L 150X150X16	T
at	2ZL 50X50X6	ZT
bt	2ZL 65X65X6	ZT
ct	2ZL 75X75X6	ZT
dt	2L 90X90X6	ZT
ft	2L 90X90X8	ZT
gt	2L 100X100X8	ZT
ht	2L 100X100X10	ZT
jt	2L 110X110X10	ZT
kt	2L 110X110X12	ZT
lt	2L 130X130X12	ZT
mt	2L 130X130X16	ZT
nt	2L 150X150X12	ZT
pt	2L 150X150X16	ZT
bup1	2FLG. PL. 425x40TH. WEB PL. 520x16TH.	I
bup2	2FLG. PL. 300x25TH. WEB PL. 450x12TH.	I
mb5	NPB 250X150X39.78	I



KEY PLAN

Digitally signed by S.K. SAMANTA
DN: cn=S.K.SAMANTA, c=IN, o=EOC-NOIDA, ou=AGM-ENGG. NTPC. LTD., email=sksamanta@ntpc.co.in
Reason: CAT-IV
Date: 2020.07.12 23:23:52 +05'30'

LEGEND:

T.O.S	–	TOP OF STEEL
F.F.L	–	FINISHED FLOOR LEVEL
F.G.L	–	FINISHED GROUND LEVEL
B.O.F	–	BOTTOM OF FOUNDATION
MS	–	MONORAIL SUPPORT
W.P	–	WORKING POINT
BP	–	BASE PLATE
HR	–	HANDRAIL
MC	–	MOMENT CONNECTION

REFERENCE DRAWINGS

SL. NO.	NTPC DRAWING NUMBER	REV.	DRAWING NAME
1.	9561-109-RP-PVM-F-386	05	PLANT LAYOUT OF FGD SYSTEM
2.	9561-109-ISG-PVM-B-573	03	GA OF GYPSUM STORAGE SHED

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRE & ELEVATIONS ARE IN METRE UNLESS NOTED OTHERWISE.
2. EL(±)0.00 M CORRESPONDS TO RL.(+)271.500 M.
3. ALL FABRICATION AND ERECTION WORK SHALL CONFORM TO PROVISIONS OF IS:800-2007 & NTPC'S TECHNICAL SPECIFICATION.
4. ALL FILLET WELDS SHALL BE MINIMUM 6mm THK UN OTHERWISE.
5. ALL HOLES ARE 21.5ø DRILLED HOLES FOR M20 ERECTION BOLTS UNO.
6. ALL GUSSET PLATES ARE 10mm THK UN OTHERWISE.
7. GRADE OF STEEL E 250 AS PER IS:2062.
8. DESIGN AND DETAILING OF CONNECTIONS SHALL BE DONE AS PER SECTION 10 AND SECTION 12 OF IS 800:2007
9. PAINTING OF STRUCTURAL STEEL MEMBERS SHALL BE AS PER SPECIFICATION.
10. THIS SHEET SHALL BE READ IN CONJUNCTION WITH SHEET # 2, 3 & 4 OF THE SAME DRAWING.

OWNER/CONSULTANT:
एन टी पी सी NTPC

NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500 MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	S.MONDAL	–	20.02.2020	
CHD.	A.B.	–	20.02.2020	
APPD.	P.C.	–	20.02.2020	

REV	DATE	BRIEF RECORD	BY	CKD	APPD
2	01.07.20	REVISED AS PER NTPC'S COMMENTS			
1	24.04.20	REVISED AS PER NTPC'S COMMENTS			

REVISION HISTORY

JOB No. IS-1-18-2003
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.

DIRECTORY :
FILE NO. :

SCALE 1:100
WEIGHT (Kgs.)

NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-457
ITEM NO.
NO.OF ITEMS

TITLE :
STRUCTURAL GA OF GYPSUM STORAGE SHED – PLAN & ELEVATIONS

BHEL DRAWING NUMBER: IS-1-GA-721-200-C072
REV. 02

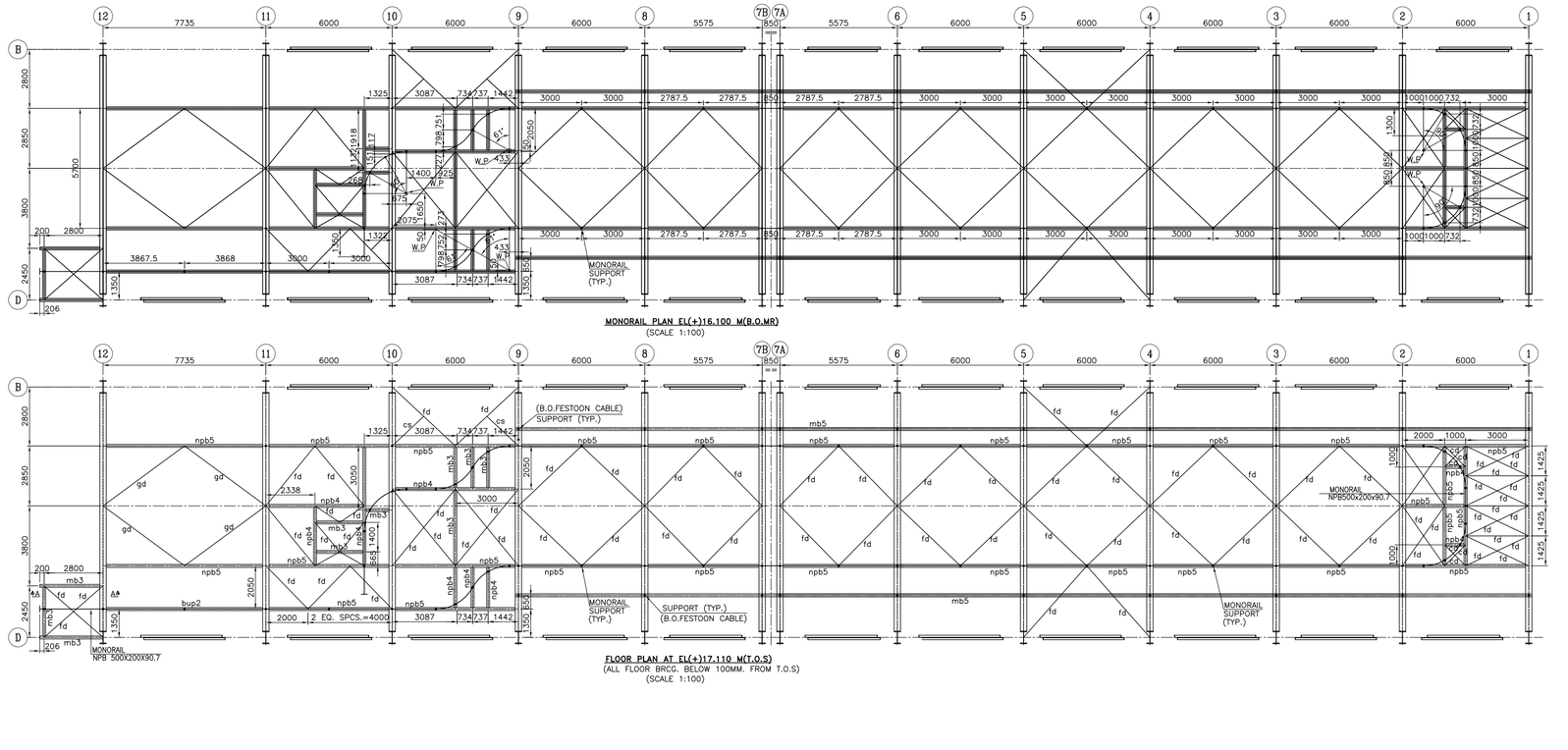
SHEET NO. 1 NO.OF SHTS. 4

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

FORM-66.101

SIZE-A1

DO NOT SCALE. IF IN DOUBT, ASK.

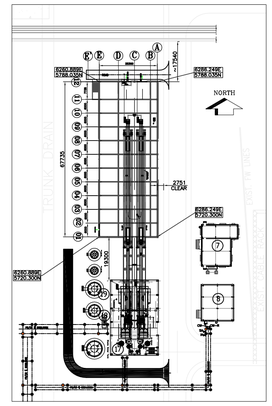


MONORAIL PLAN EL(+)16.100 M(B.O.MR)
(SCALE 1:100)

FLOOR PLAN AT EL(+)17.110 M(T.O.S)
(ALL FLOOR BRCG. BELOW 100MM. FROM T.O.S)
(SCALE 1:100)

SCHEDULE OF MEMBERS:-

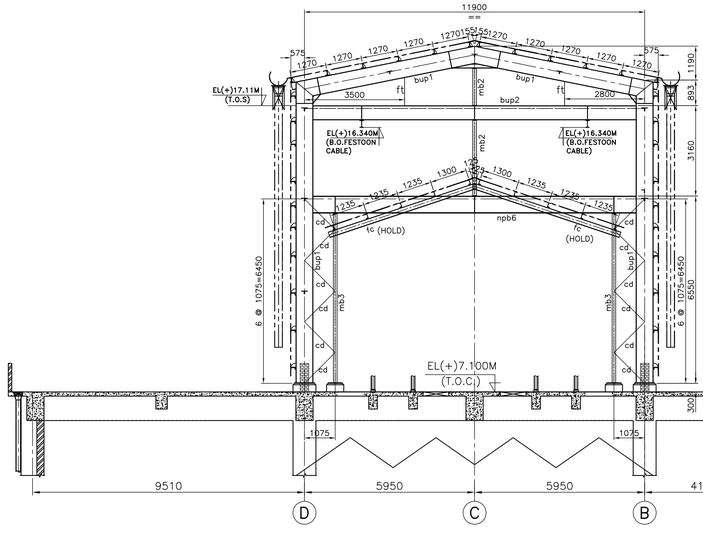
MEMBER MKD.	SECTION	SHAPE
mb1	MB 200	I
mb2	MB 200	I
mb3	MB 300	I
npb4	NPB 400X200X90.7	I
npb5	NPB 500X200X90.7	I
npb5a	NPB 500X200X90.7 +PL. 250X10TH(TOP & BOTTOM)	I
npb6	NPB 600X220X122.5	I
ac	ISMC 75	C
bc	ISMC 100	C
cc	ISMC 125	C
dc	ISMC 150	C
fc	ISMC 200	C
gc	ISMC 250	C
hc	ISMC 300	C
jc	ISMC 400	C
as	L 50X50X6	L
bs	L 65X65X6	L
cs	L 75X75X8	L
ds	L 90X90X6	L
fs	L 90X90X8	L
gs	L 100X100X8	L
hs	L 100X100X10	L
js	L 110X110X10	L
ks	L 110X110X12	L
ls	L 130X130X12	L
ms	L 130X130X16	L
ns	L 150X150X12	L
ps	L 150X150X16	L
ad	2L 50X50X6	T
bd	2L 65X65X6	T
cd	2L 75X75X8	T
dd	2L 90X90X6	T
fd	2L 90X90X8	T
gd	2L 100X100X8	T
hd	2L 100X100X10	T
jd	2L 110X110X10	T
kd	2L 110X110X12	T
ld	2L 130X130X12	T
md	2L 130X130X16	T
nd	2L 150X150X12	T
pd	2L 150X150X16	T
at	2ZL 50X50X6	ZL
bt	2ZL 65X65X6	ZL
ct	2L 75X75X6	ZL
dt	2L 90X90X6	ZL
ft	2L 90X90X8	ZL
gt	2L 100X100X8	ZL
ht	2L 100X100X10	ZL
jt	2L 110X110X10	ZL
kt	2L 110X110X12	ZL
lt	2L 130X130X12	ZL
mt	2L 130X130X16	ZL
nt	2L 150X150X12	ZL
pt	2L 150X150X16	ZL
bup1	2FLG. PL. 425x40TH. WEB PL. 520x16TH.	I
bup2	2FLG. PL. 300x25TH. WEB PL. 450x12TH.	I
mb5	NPB 250X150X39.78	I



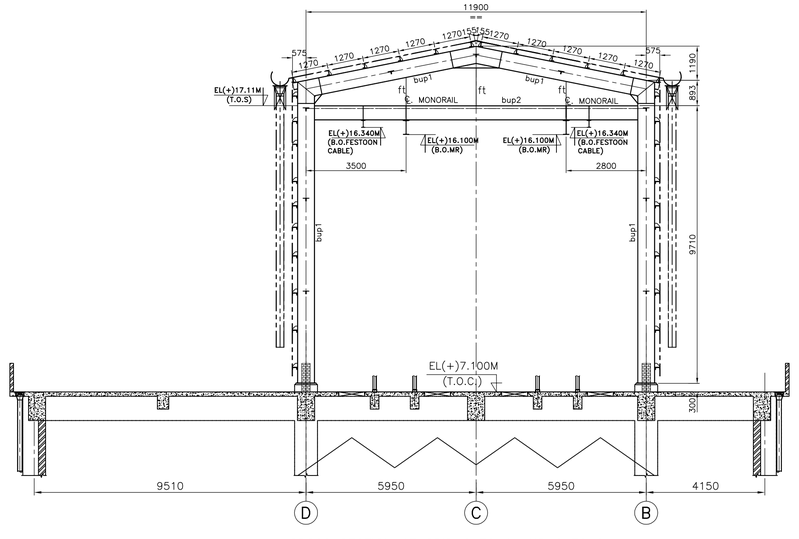
KEY PLAN

LEGEND:

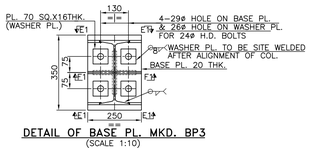
T.O.S	–	TOP OF STEEL
F.F.L	–	FINISHED FLOOR LEVEL
F.G.L	–	FINISHED GROUND LEVEL
B.O.F	–	BOTTOM OF FOUNDATION
MS	–	MONORAIL SUPPORT
W.P	–	WORKING POINT
BP	–	BASE PLATE
HR	–	HANDRAIL
MC	–	MOMENT CONNECTION



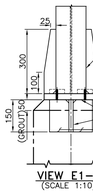
CROSS SECTION OF GRID 1
(SCALE 1:75)



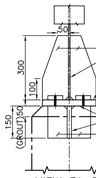
CROSS SECTION AT GRID 2 TO 6 AND 8 TO 9
(SCALE 1:75)



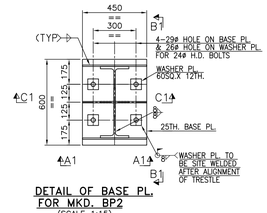
DETAIL OF BASE PL. MKD. BP3
(SCALE 1:10)



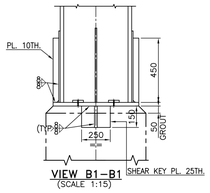
VIEW E1–E1
(SCALE 1:10)



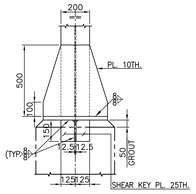
VIEW F1–F1
(SCALE 1:10)



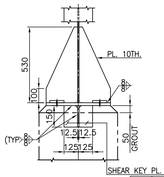
DETAIL OF BASE PL. FOR MKD. BP2
(SCALE 1:15)



VIEW B1–B1
(SCALE 1:15)



VIEW A1–A1
(SCALE 1:15)



VIEW C1–C1
(SCALE 1:15)

REFERENCE DRAWINGS

SL. NO.	NTPC DRAWING NUMBER	REV.	DRAWING NAME
1.	9561-109-RP-PVM-F-386	05	PLANT LAYOUT OF FGD SYSTEM
2.	9561-109-ISG-PVM-B-573	03	GA OF GYPSUM STORAGE SHED

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRE & ELEVATIONS ARE IN METRE UNLESS NOTED OTHERWISE.
2. EL(±)0.00 M CORRESPONDS TO RL.(+)271.500 M.
3. ALL FABRICATION AND ERECTION WORK SHALL CONFORM TO PROVISIONS OF IS:800–2007 & NTPC'S TECHNICAL SPECIFICATION.
4. FOR DETAILED NOTES, REFER SHEET # 1 OF THE SAME DRAWING.
5. THIS SHEET SHALL BE READ IN CONJUNCTION WITH SHEET # 1, 3 & 4 OF THE SAME DRAWING.

OWNER/CONSULTANT:
एन टी पी सी NTPC

NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500 MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	S.MONDAL	–	20.02.2020	
CHD.	A.B.	–	20.02.2020	
APPD.	P.C.	–	20.02.2020	

REV.	DATE	REVISED AS PER NTPC'S COMMENTS	BY	CKD	APPD
2	01.07.20	REVISED AS PER NTPC'S COMMENTS			
1	24.04.20	REVISED AS PER NTPC'S COMMENTS			
R.No.	DATE	BRIEF RECORD			

REVISION HISTORY

JOB No. IS-1-18-2003
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.

DIRECTORY :
FILE NO. :
SCALE 1:100
WEIGHT (Kgs.)

NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-457
ITEM NO.
NO.OF ITEMS

TITLE : STRUCTURAL GA OF GYPSUM STORAGE SHED – PLAN & SECTIONS

BHEL DRAWING NUMBER: IS-1-GA-721-200-C072
REV. 02

SHEET NO. 2 NO.OF SHTS. 4

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

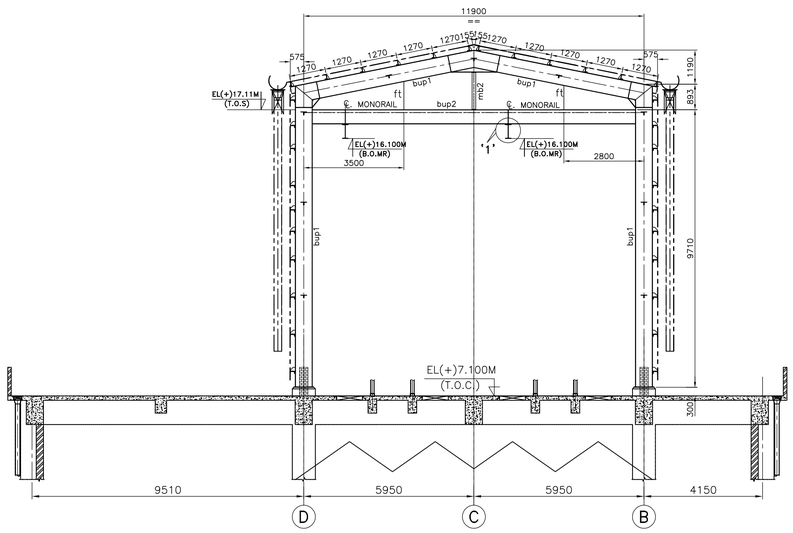
FORM-66.101

SIZE-A1

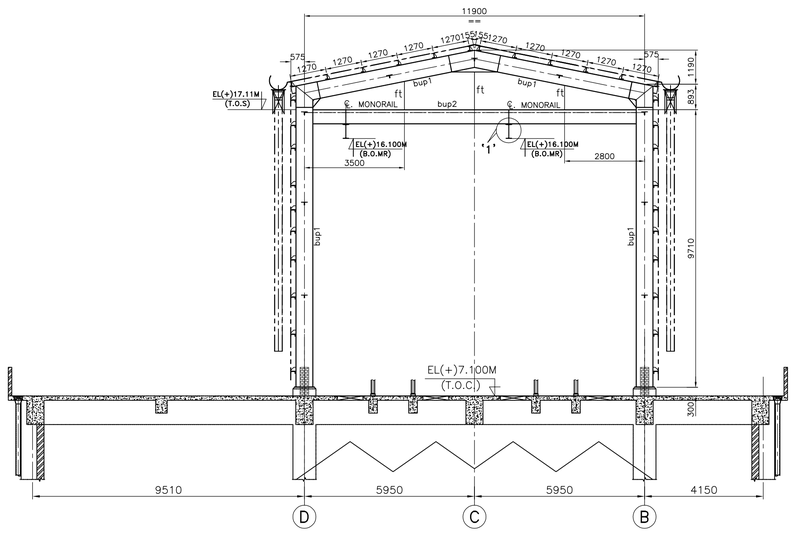
FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

NTPC DRAWING NO. 9561-109-ISG-PVC-B-457



CROSS SECTION AT GRID 7A & 7B
(SCALE 1:75)

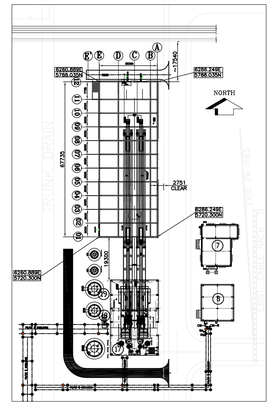


CROSS SECTION OF GRID 10
(SCALE 1:75)

SCHEDULE OF MEMBERS:-

MEMBER MKD.	SECTION	SHAPE
mb1	MB 200	I
mb2	MB 250	I
mb3	MB 300	I
npb4	NPB 400X200X90.7	I
npb5	NPB 500X200X90.7	I
npb5a	NPB 500X200X90.7 +PL. 250X10TH(TOP & BOTTOM)	I
npb6	NPB 600X220X122.5	I
ac	ISMC 75	[
bc	ISMC 100	[
cc	ISMC 125	[
dc	ISMC 150	[
fc	ISMC 200	[
gc	ISMC 250	[
hc	ISMC 300	[
jc	ISMC 400	[
as	L 50X50X6	L
bs	L 65X65X6	L
cs	L 75X75X8	L
ds	L 90X90X6	L
fs	L 90X90X8	L
gs	L 100X100X8	L
hs	L 100X100X10	L
js	L 110X110X10	L
ks	L 110X110X12	L
ls	L 130X130X12	L
ms	L 130X130X16	L
ns	L 150X150X12	L
ps	L 150X150X16	L
ad	2L 50X50X6	T
bd	2L 65X65X6	T
cd	2L 75X75X8	T
dd	2L 90X90X6	T
fd	2L 90X90X8	T
gd	2L 100X100X8	T
hd	2L 100X100X10	T
jd	2L 110X110X10	T
kd	2L 110X110X12	T
ld	2L 130X130X12	T
md	2L 130X130X16	T
nd	2L 150X150X12	T
pd	2L 150X150X16	T
at	2ZL 50X50X6	+
bt	2ZL 65X65X6	+
ct	2L 75X75X6	+
dt	2L 90X90X6	+
ft	2L 90X90X8	+
gt	2L 100X100X8	+
ht	2L 100X100X10	+
jt	2L 110X110X10	+
kt	2L 110X110X12	+
lt	2L 130X130X12	+
mt	2L 130X130X16	+
nt	2L 150X150X12	+
pt	2L 150X150X16	+
bup1	2FLG. PL. 425x40TH. WEB PL. 520x16TH.	I
bup2	2FLG. PL. 300x25TH. WEB PL. 450x12TH.	I
mb5	NPB 250X150X39.78	I

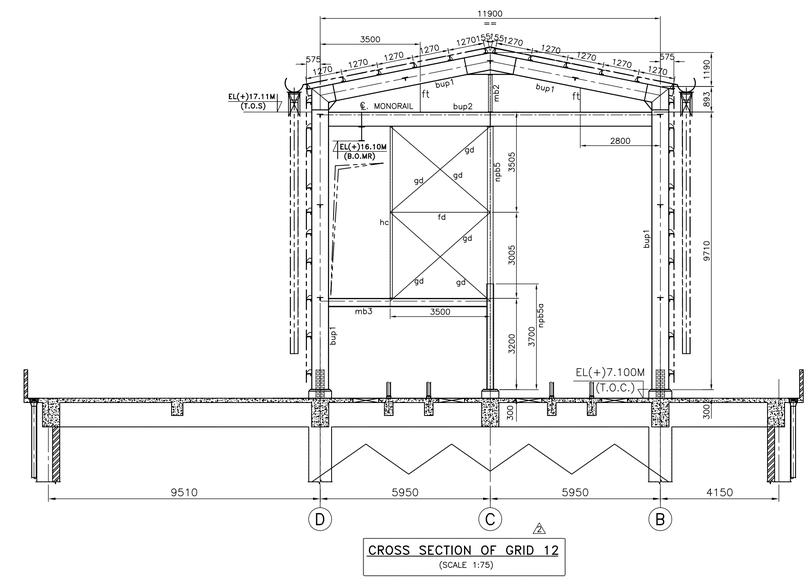
DO NOT SCALE. IF IN DOUBT, ASK.



KEY PLAN

LEGEND:

T.O.S	–	TOP OF STEEL
F.F.L	–	FINISHED FLOOR LEVEL
F.G.L	–	FINISHED GROUND LEVEL
B.O.F	–	BOTTOM OF FOUNDATION
MS	–	MONORAIL SUPPORT
W.P	–	WORKING POINT
BP	–	BASE PLATE
HR	–	HANDRAIL
MC	–	MOMENT CONNECTION



CROSS SECTION OF GRID 12
(SCALE 1:75)

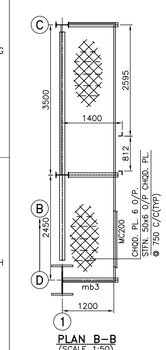
CROSS SECTION OF GRID 11
(SCALE 1:75)

REFERENCE DRAWINGS

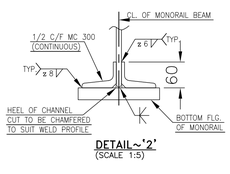
SL. NO.	NTPC DRAWING NUMBER	REV.	DRAWING NAME
1.	9561-109-RP-PVM-F-386	05	PLANT LAYOUT OF FGD SYSTEM
2.	9561-109-ISG-PVM-B-573	03	GA OF GYPSUM STORAGE SHED

NOTES

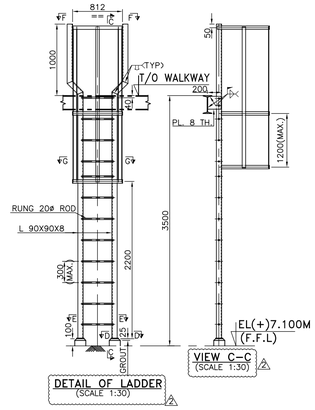
1. ALL DIMENSIONS ARE IN MILLIMETRE & ELEVATIONS ARE IN METRE UNLESS NOTED OTHERWISE.
2. EL(±)0.00 M CORRESPONDS TO RL.(+)271.500 M.
3. ALL FABRICATION AND ERECTION WORK SHALL CONFORM TO PROVISIONS OF IS:800-2007 & NTPC'S TECHNICAL SPECIFICATION.
4. FOR DETAILED NOTES, REFER SHEET # 1 OF THE SAME DRAWING.
5. THIS SHEET SHALL BE READ IN CONJUNCTION WITH SHEET # 1, 2 & 4 OF THE SAME DRAWING.



PLAN B-B
(SCALE 1:50)

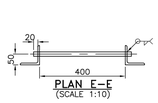


DETAIL-'2'
(SCALE 1:5)

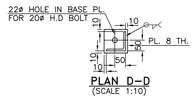


DETAIL OF LADDER
(SCALE 1:30)

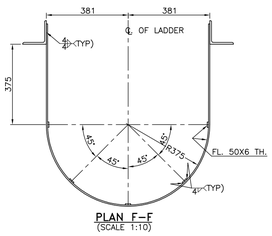
VIEW C-C
(SCALE 1:30)



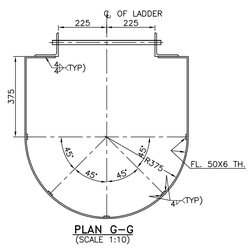
PLAN E-E
(SCALE 1:10)



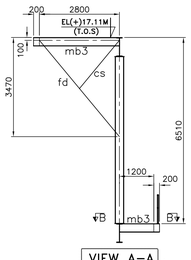
PLAN D-D
(SCALE 1:10)



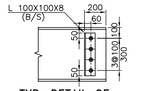
PLAN F-F
(SCALE 1:10)



PLAN G-G
(SCALE 1:10)



VIEW A-A
(SCALE 1:75)



TYP. DETAIL OF MONORAIL STOPPER CLT.
(FOR NPB 500x200x90.7)
(SCALE 1:20)

OWNER/CONSULTANT:
एन टी पी सी NTPC

NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT:
2 x 500 MW MAUDA STPP
FGD – PACKAGE

MAIN CONTRACTOR:
BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	S.MONDAL	–	20.02.2020	
CHD.	A.B.	–	20.02.2020	
APPD.	P.C.	–	20.02.2020	

R.No.	DATE	BRIEF RECORD	BY	CKD	APPD
2	01.07.20	REVISED AS PER NTPC'S COMMENTS			
1	24.04.20	REVISED AS PER NTPC'S COMMENTS			

REVISION HISTORY

JOB No. IS-1-18-2003
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.

DIRECTORY :
FILE NO. :
SCALE 1:100
WEIGHT (Kgs.)

NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-457
ITEM NO.
NO.OF ITEMS

TITLE :
STRUCTURAL GA OF GYPSUM STORAGE SHED – SECTIONS & OTHER DETAILS

BHEL DRAWING NUMBER: IS-1-GA-721-200-C072
REV. 02

SHEET NO. 3 NO.OF SHTS. 4

FORM-66.101

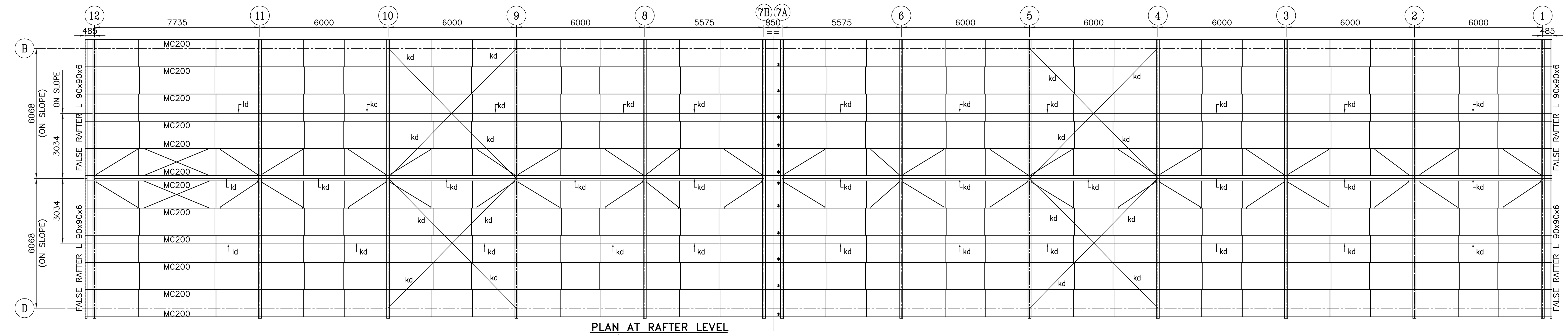
SIZE-A1

FIRST ANGLE PROJECTION

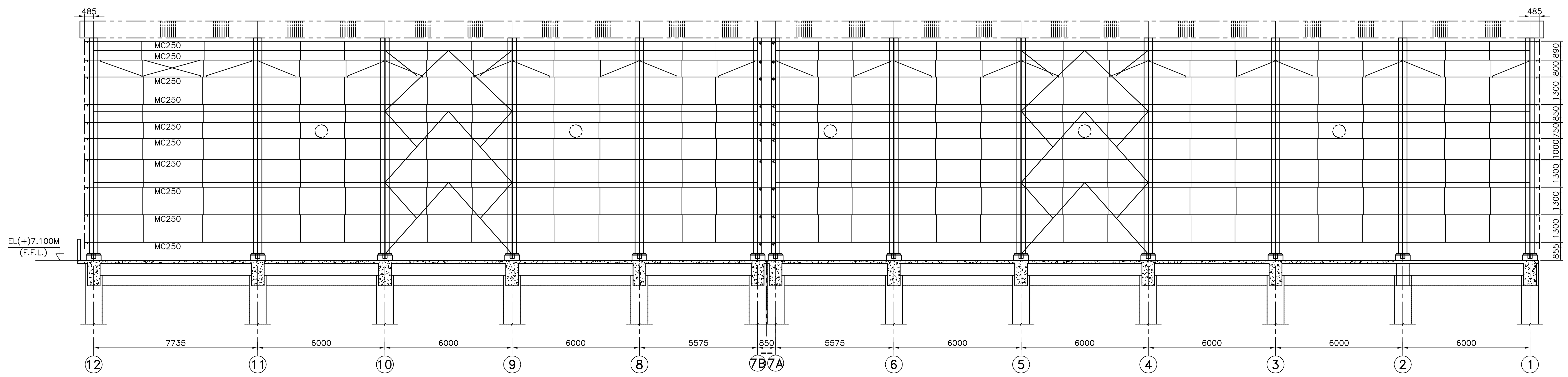
ALL DIMENSIONS ARE IN MM

NTPC DRAWING NO. 9561-109-ISG-PVC-B-457

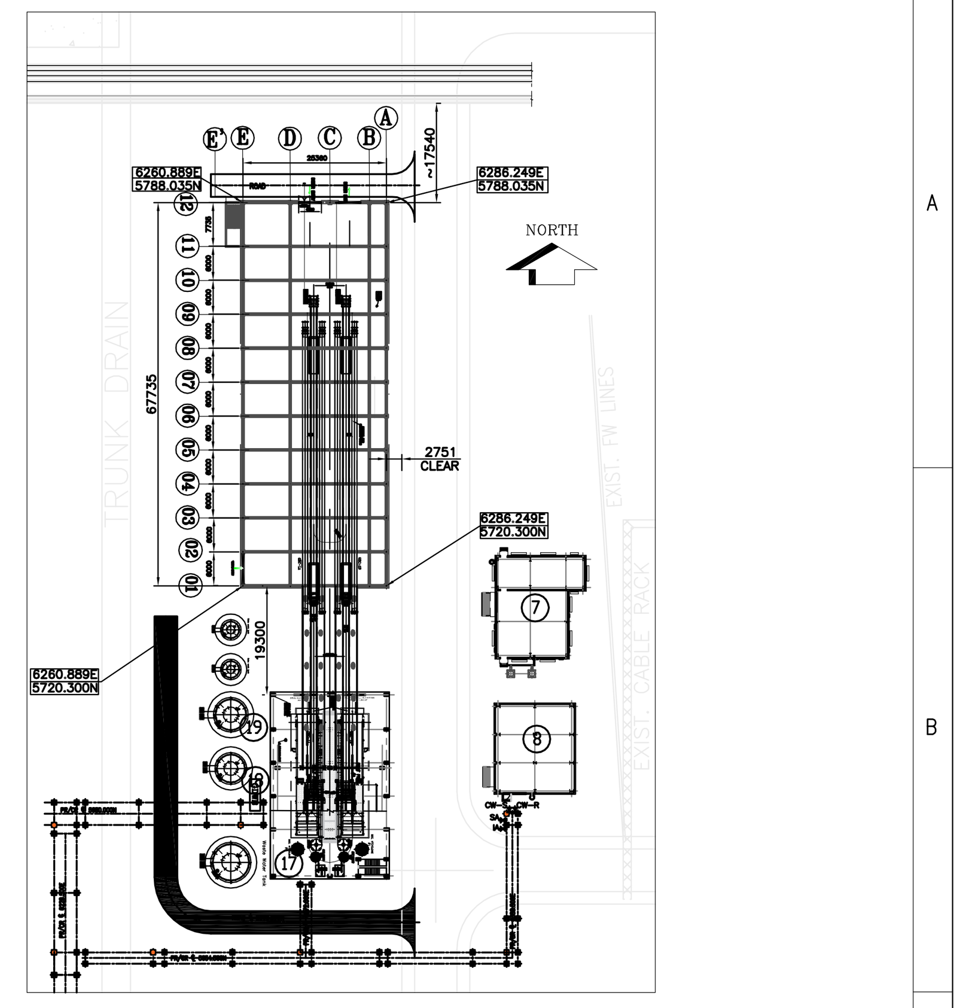
DO NOT SCALE. IF IN DOUBT, ASK.



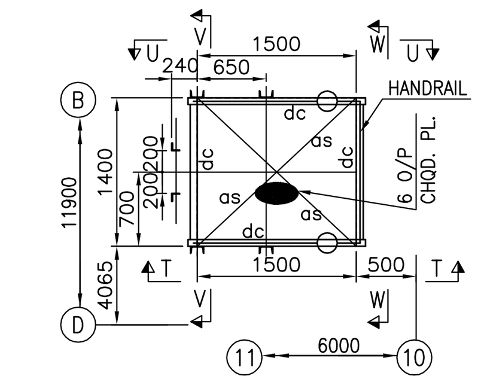
PLAN AT RAFTER LEVEL
(FOR RAFTER LEVEL)
(ALL SAG ROD MEMBERS ARE 16ø)
(ALL PURLIN MEMBERS ARE MC150 U.N.O)
(ALL LACING MEMBERS ARE L50x50x6)
* MARKED ARE SLOTTED CONNECTION
(SCALE 1:100)



ELEVATION B & D
(ONLY SHOWING RUNNER FOR CLARITY)
(ALL SAG ROD MEMBERS ARE 16ø)
(ALL RUNNER MEMBERS ARE MC200 U.N.O)
(ALL LACING MEMBERS ARE L50x50x6)
* MARKED ARE SLOTTED CONNECTION
(SCALE 1:100)



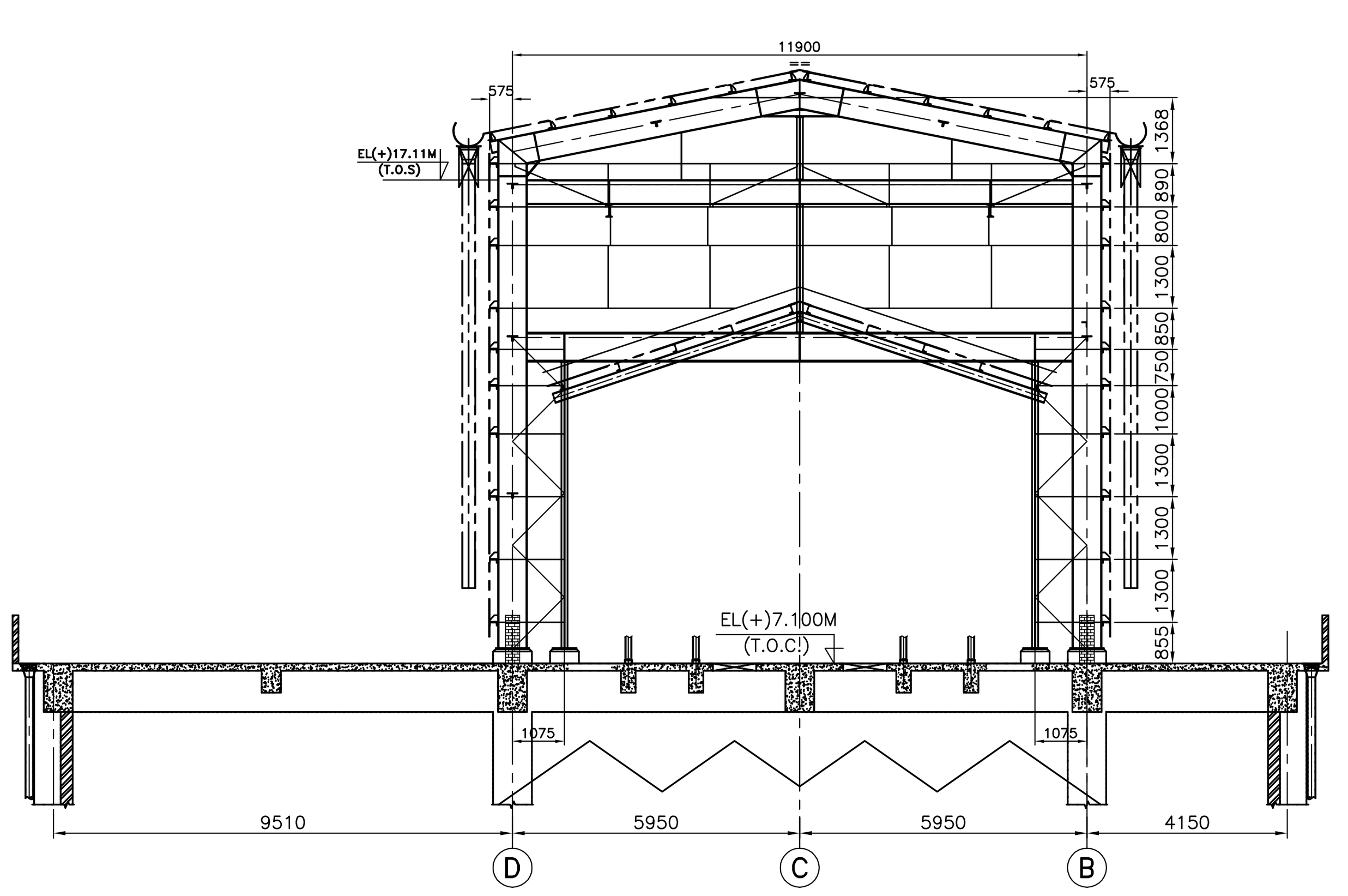
KEY PLAN



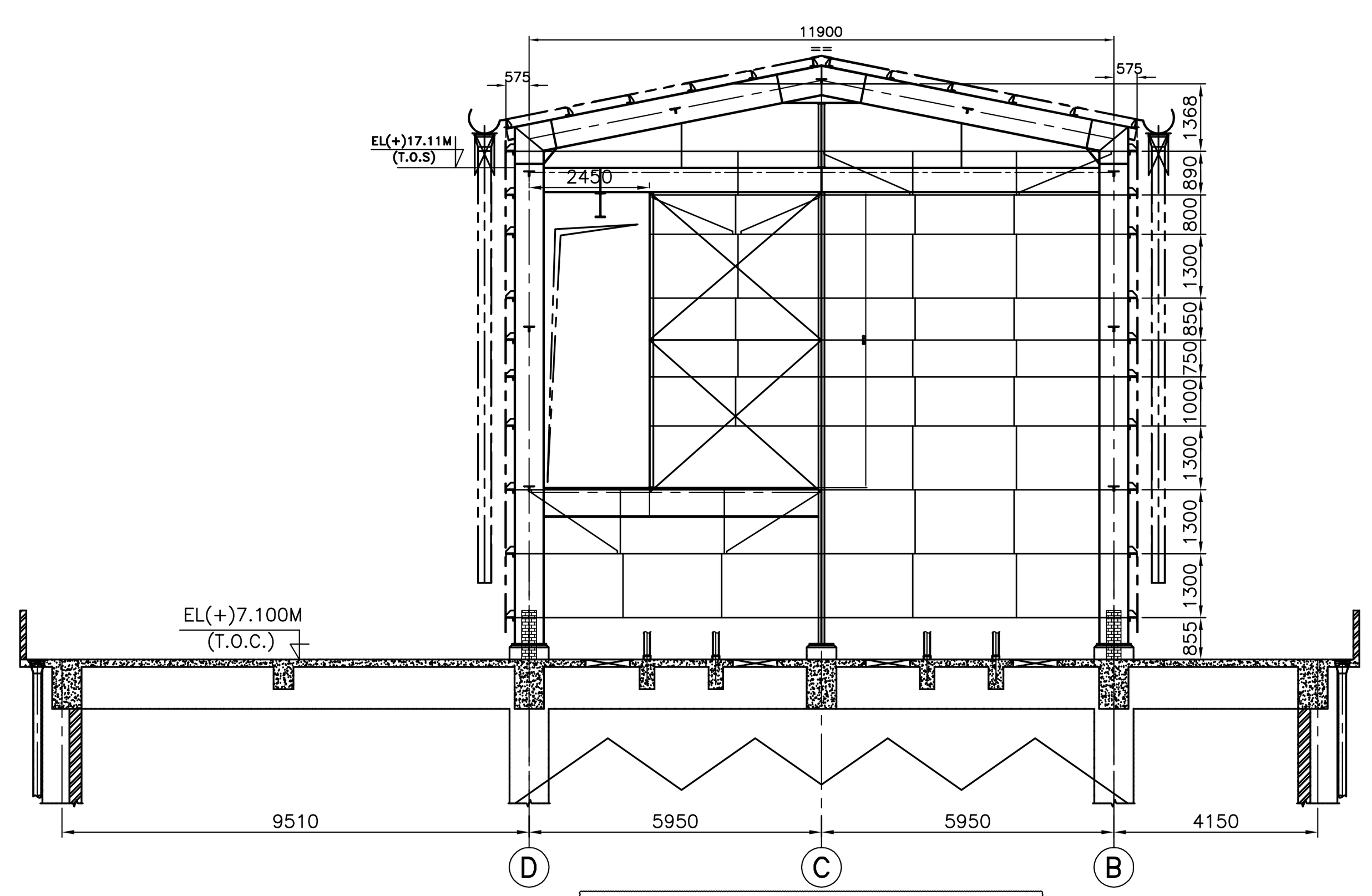
PLAN AT EL(+)14.41M (T.O.S.)
(HOIST MAINTENANCE PLATFORM)
(SCALE 1:50)

LEGEND:

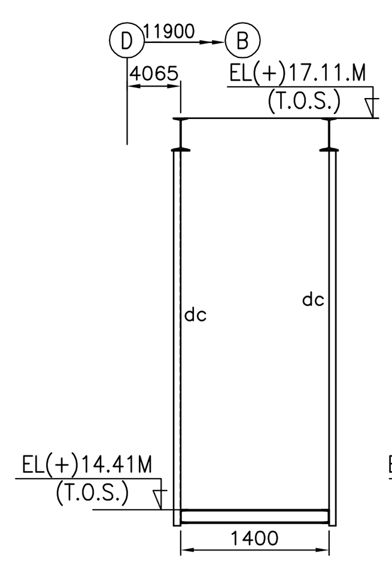
T.O.S	–	TOP OF STEEL
F.F.L	–	FINISHED FLOOR LEVEL
F.G.L	–	FINISHED GROUND LEVEL
B.O.F	–	BOTTOM OF FOUNDATION
MS	–	MONORAIL SUPPORT
W.P	–	WORKING POINT
BP	–	BASE PLATE
HR	–	HANDRAIL
MC	–	MOMENT CONNECTION



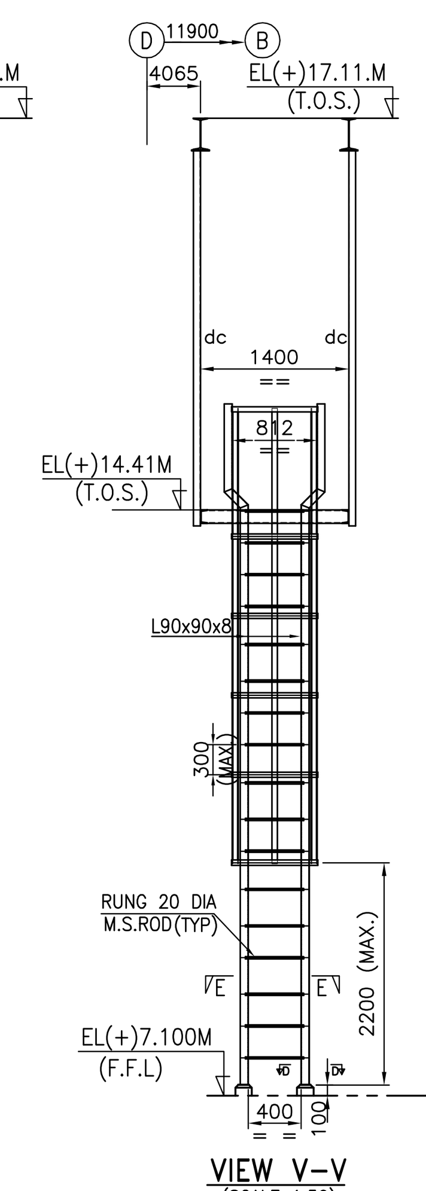
CROSS SECTION OF LINE 1
(ONLY SHOWING RUNNER FOR CLARITY)
(ALL SAG ROD MEMBERS ARE 16ø)
(ALL RUNNER MEMBERS ARE MC200)
(ALL LACING MEMBERS ARE L50x50x6)
(SCALE 1:100)



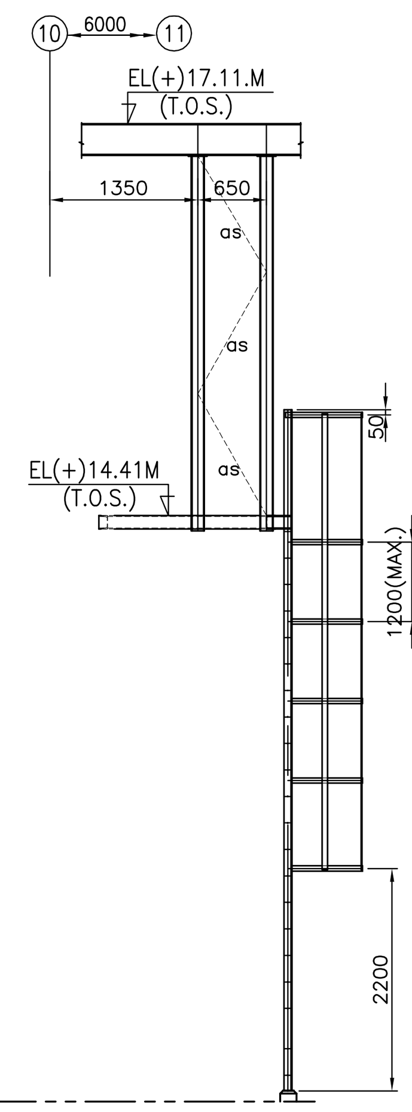
CROSS SECTION OF LINE 12
(ONLY SHOWING RUNNER FOR CLARITY)
(ALL SAG ROD MEMBERS ARE 16ø)
(ALL RUNNER MEMBERS ARE MC200)
(ALL LACING MEMBERS ARE L50x50x6)
(SCALE 1:100)



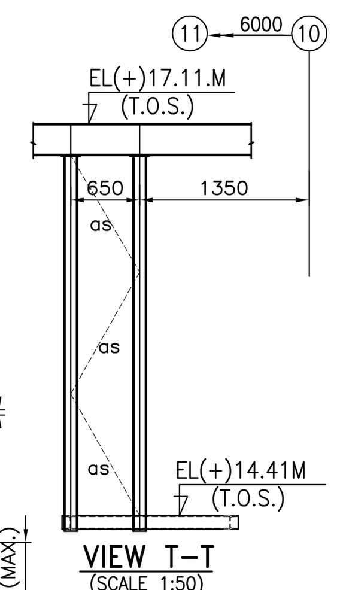
VIEW W-W
(SCALE 1:50)



VIEW V-V
(SCALE 1:50)



VIEW U-U
(SCALE 1:50)



VIEW T-T
(SCALE 1:50)

REFERENCE DRAWINGS

SL. NO.	NTPC DRAWING NUMBER	REV.	DRAWING NAME
1.	9561-109-RP-PVM-F-386	05	PLANT LAYOUT OF FGD SYSTEM
2.	9561-109-ISG-PVM-B-573	03	GA OF GYPSUM STORAGE SHED

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRE & ELEVATIONS ARE IN METRE UNLESS NOTED OTHERWISE.
2. EL(±)0.00 M CORRESPONDS TO RL.(+)271.500 M.
3. ALL FABRICATION AND ERECTION WORK SHALL CONFORM TO PROVISIONS OF IS:800-2007 & NTPC'S TECHNICAL SPECIFICATION.
4. FOR DETAILED NOTES, REFER SHEET # 1 OF THE SAME DRAWING.
5. THIS SHEET SHALL BE READ IN CONJUNCTION WITH SHEET # 1, 2 & 3 OF THE SAME DRAWING.

OWNER/CONSULTANT:

एन टी पी सी NTPC

NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT: 2 x 500 MW MAUDA STPP
FGD - PACKAGE

MAIN CONTRACTOR: BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE
DRN.	S.MONDAL	–	20.02.2020
CHD.	A.B.	–	20.02.2020
APPD.	P.C.	–	20.02.2020

NO.OF VAR

R.No:	DATE	BRIEF RECORD	BY	CKD	APPD
2	01.07.20	REVISED AS PER NTPC'S COMMENTS			
1	24.04.20	REVISED AS PER NTPC'S COMMENTS			

REVISION HISTORY

JOB No. IS-1-18-2003

STATUS OF DRAWING

DISTRIBUTION OF PRINTS	QTY.

DIRECTORY :

FILE NO. :

SCALE 1:100

WEIGHT (Kgs.)

NTPC DRAWING NUMBER: 9561-109-ISG-PVC-B-457

ITEM NO.

NO.OF ITEMS

TITLE : STRUCTURAL GA OF GYPSUM STORAGE SHED - SIDE RUNNERS & PURLINS

BHEL DRAWING NUMBER: IS-1-GA-721-200-C072

REV. 02

SHEET NO. 4 NO.OF SHTS. 4

FORM-66.101

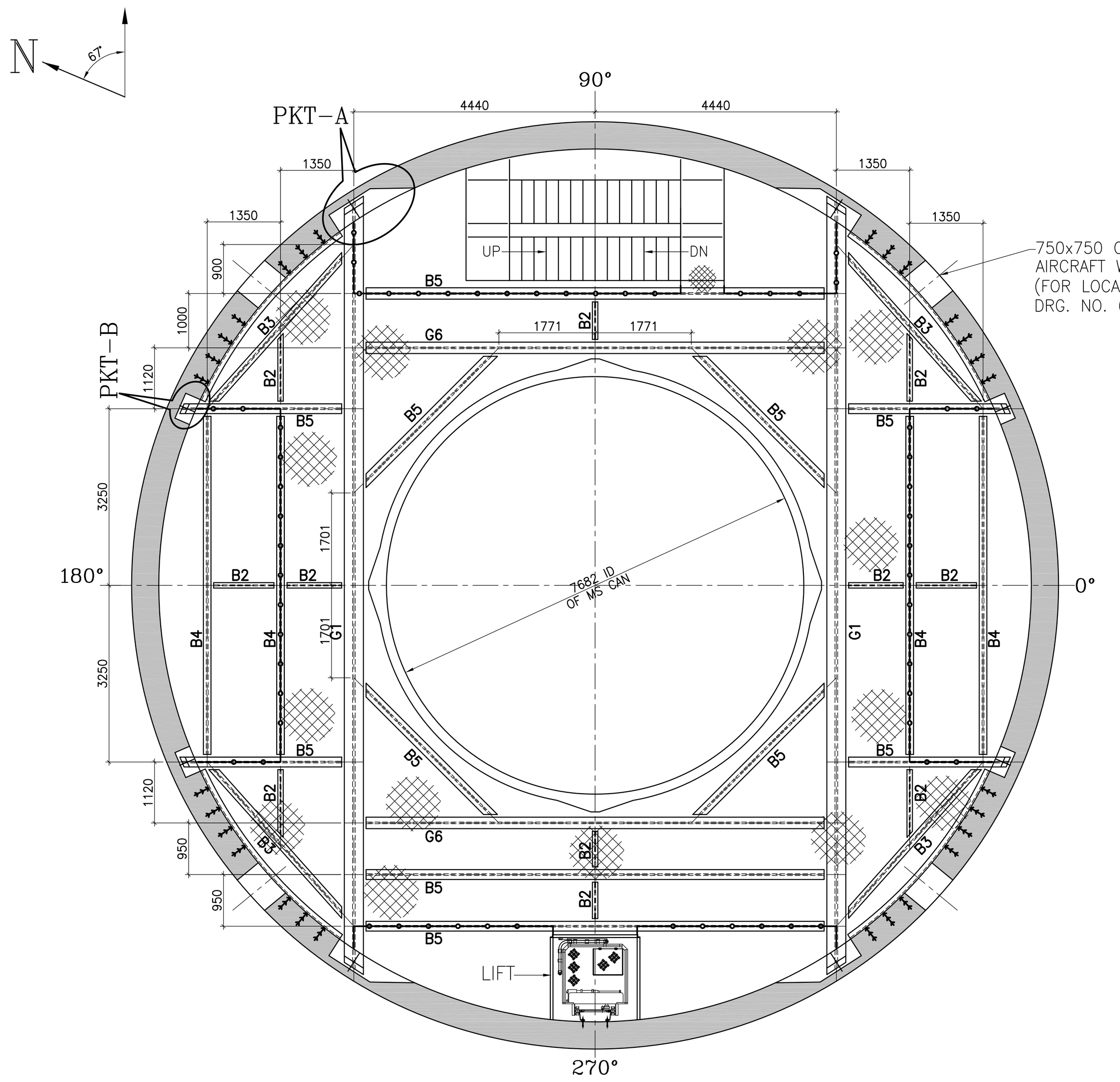
SIZE-A1

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

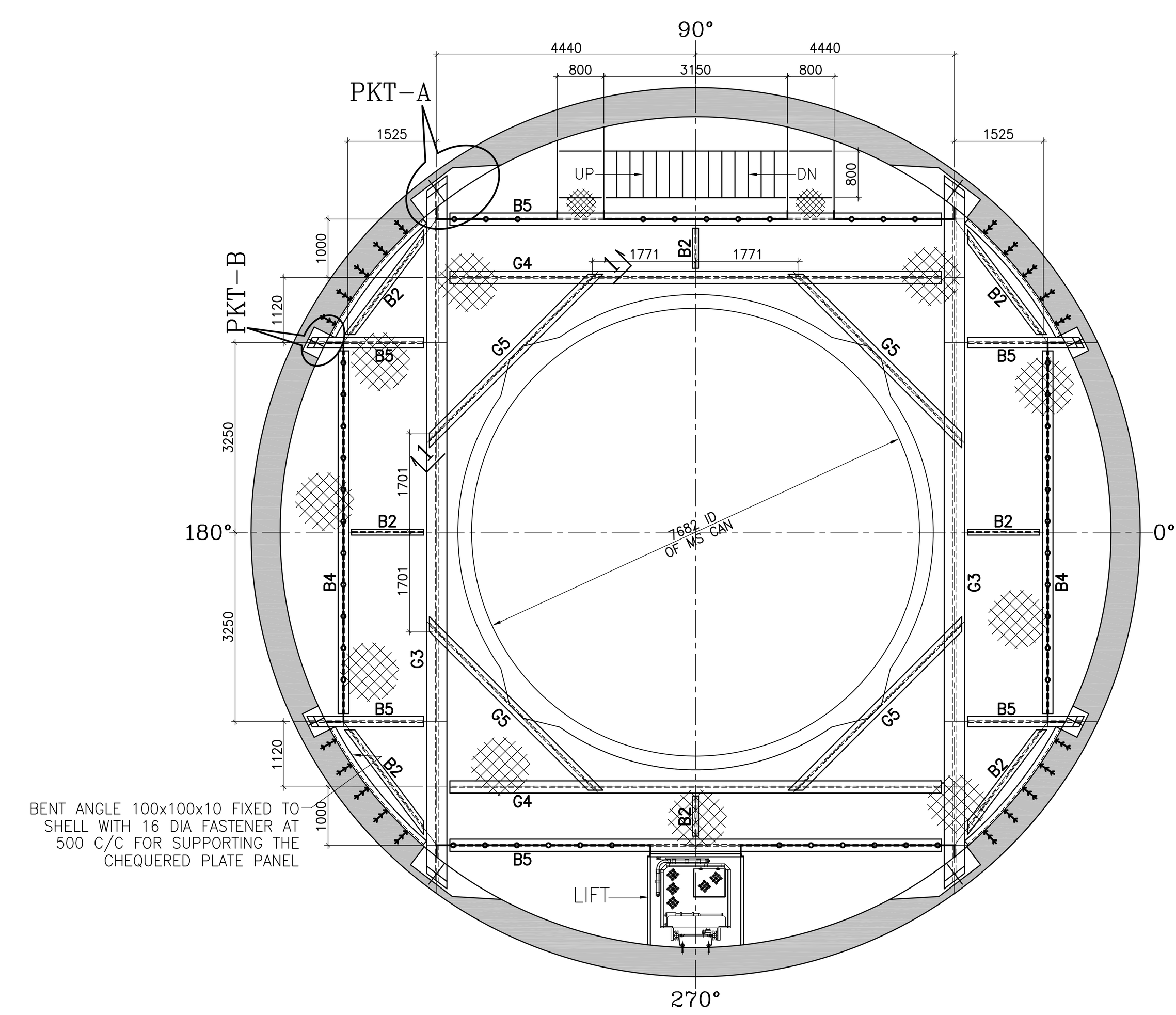
2 X 500 MW MAUDA -STPP PACKAGE		
NTPC DWG / DOC NO AND TITLE : 9561-109-ISG-PVC-B-457 - (Gypsum Shed Unit-R1)		
SL NO	**NTPC COMMENTS**	**BHEL REPLY**
1	Remove it as it shall cause hinderance in loading of trucks	As per the approved mech GA, gypsum is stored inside the shed by the tripper / conveyor only. Trucks are not envisaged to load gypsum at EL(+)7.10M. Hence, door for maintenance platform will not pose any threat to service requirements.
2	these bracings not allowed. This shall create hinderance in truck movement for loading purpose.	As per the approved mech GA, gypsum is stored inside the shed by the tripper / conveyor only. Trucks are not envisaged to load gypsum at EL(+)7.10M. Hence, the side bracings will not hamper service requirements.
3	please keep design same as mech GA.	Total dimension of the shed is inline with that of the approved mech GA. However, due to introduction of expansion gap in the RCC structure below as per design requirements, grid to grid dimensions at ends of expansion joint are suitably modified.
4	check the ladder support location. This must be for access to hoist maintenance platform. The location to be revised as per mech GA.	These ladder supports are meant to access door maintenance platform. Ladder for Hoist maintenance platform are shown separately in the revised dwgs.
5	DE system foundation to be as per approved GA of equipment. Further, this is at EL (+) 7.10 M.	As it is a structural dwg, location & detail of DE system foundations are shown for indicative purpose only. For details of the same, kindly refer the relevant civil dwgs.

FIRST ANGLE PRJECTION

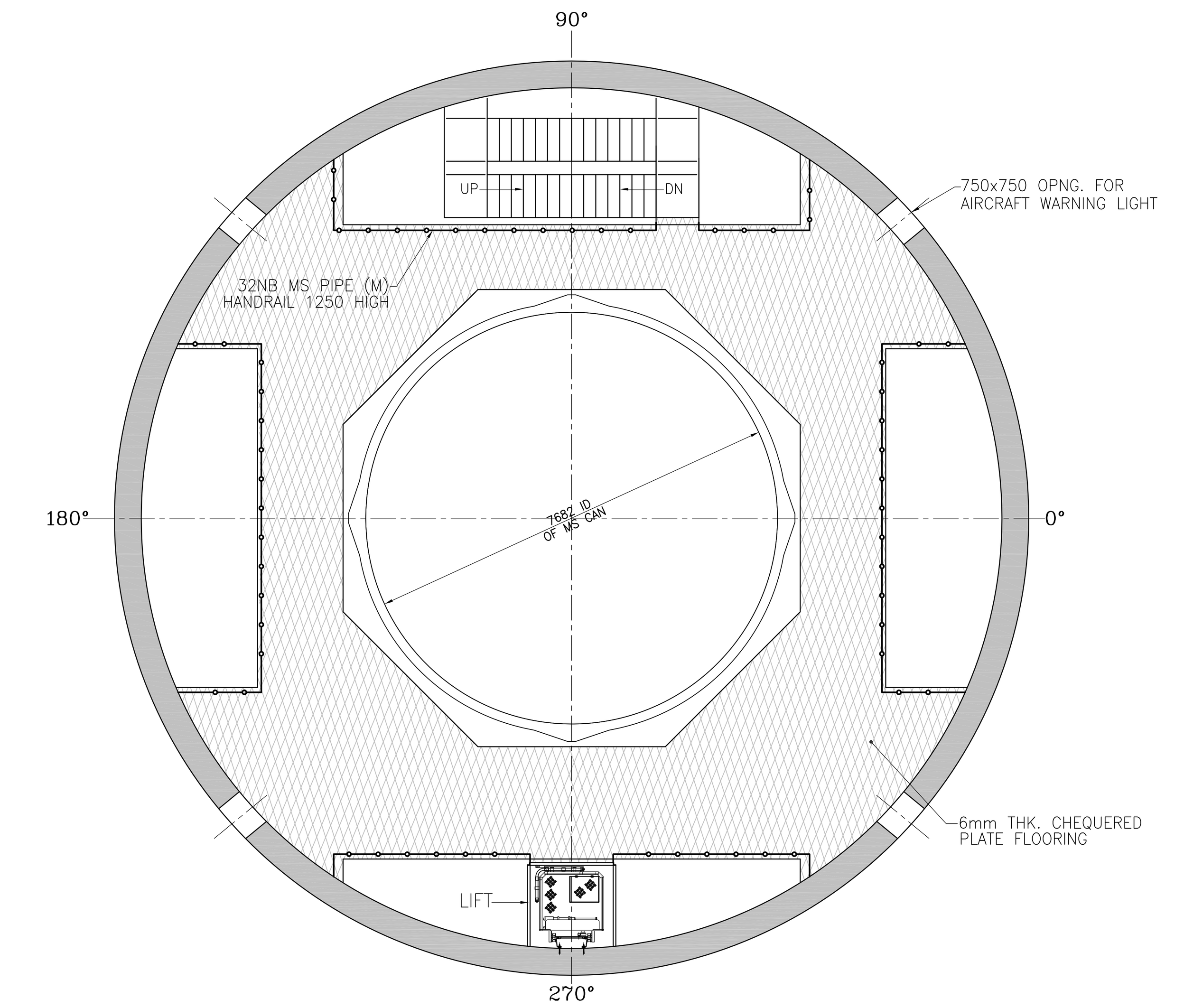
ALL DIMENSIONS ARE IN MM



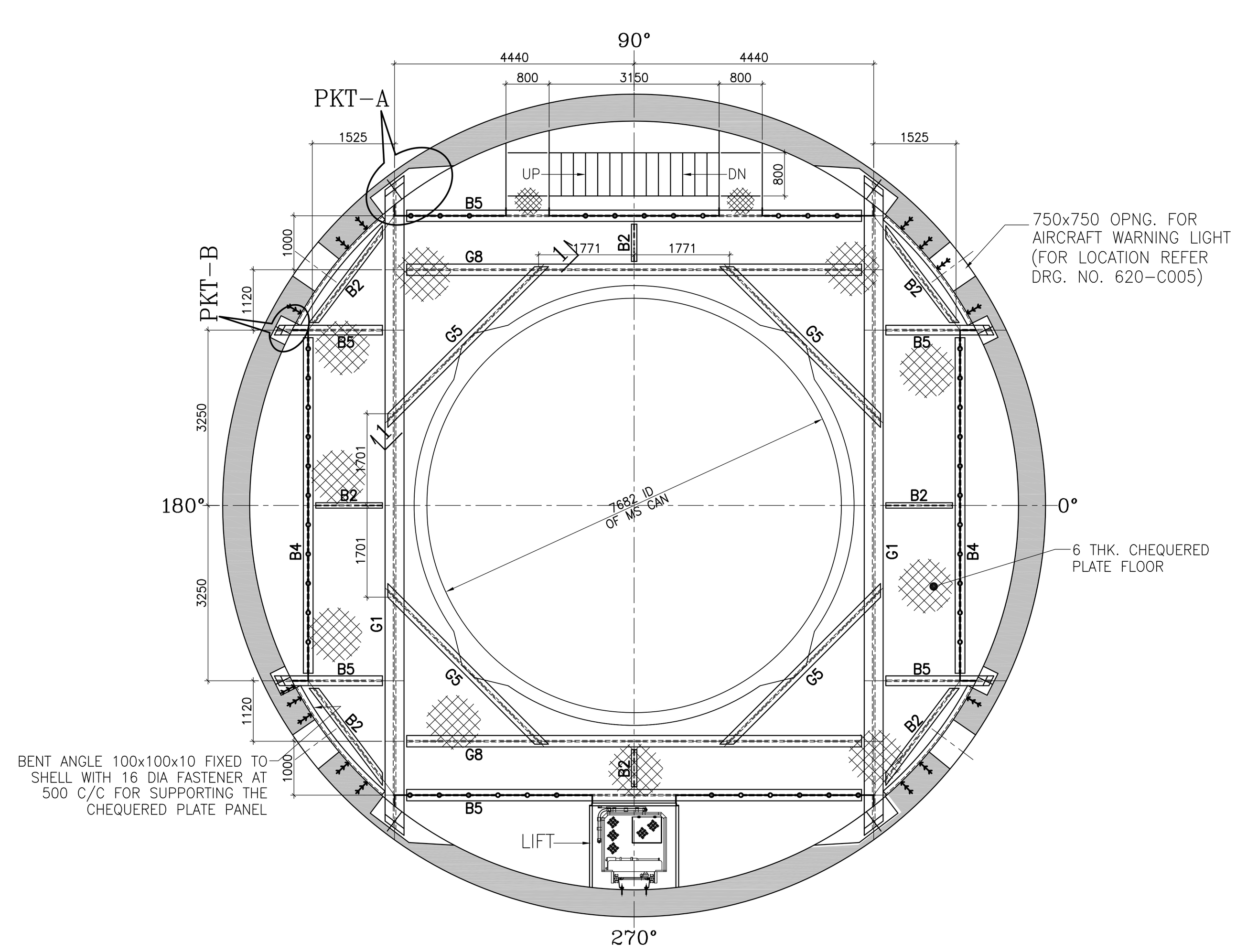
STRUCTURAL ARRANGEMENT PLAN OF PLATFORM AT EL+47.00 T.O.S.
(SHOWING ARRANGEMENT OF STEEL BEAMS)



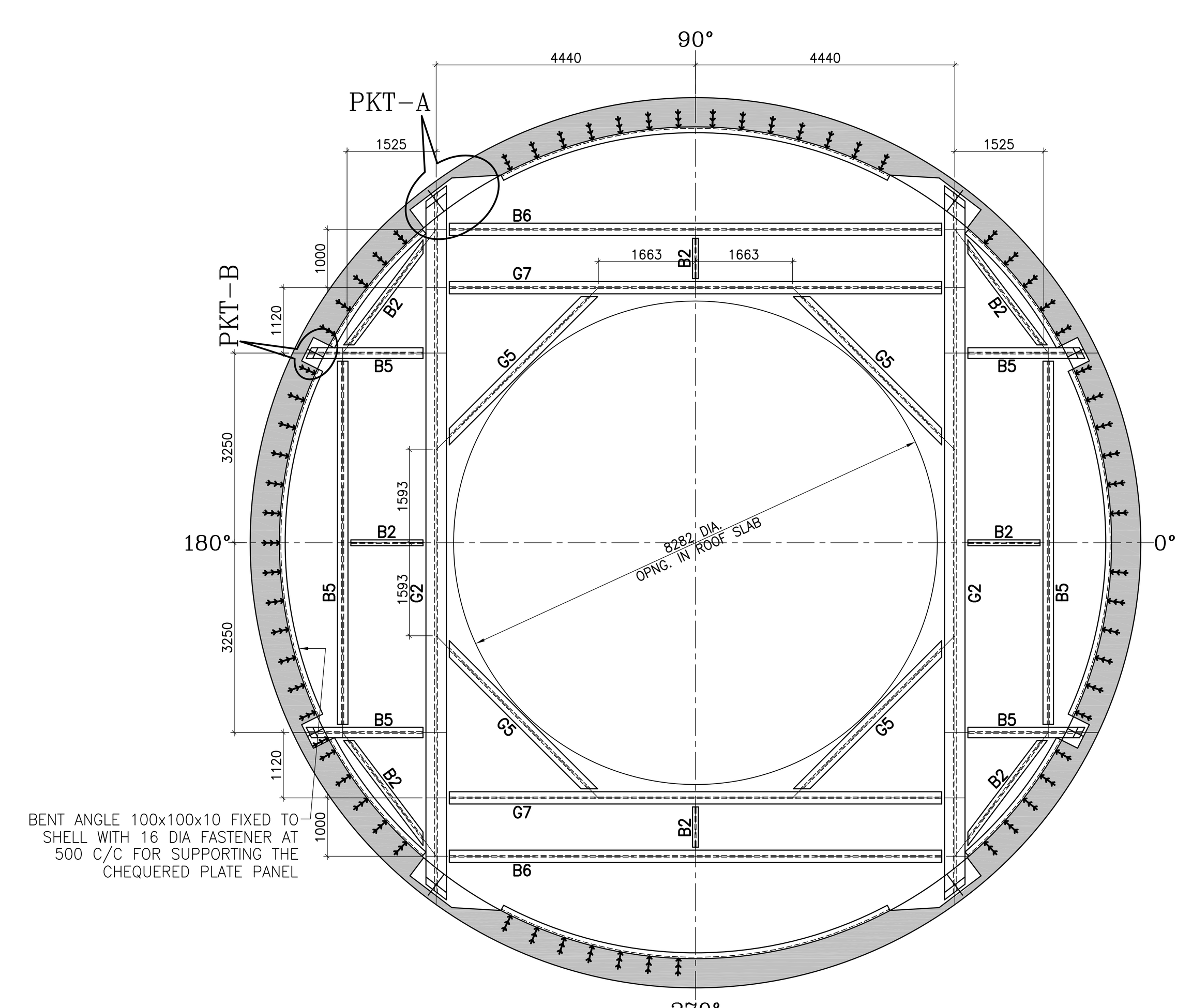
STRUCTURAL ARRANGEMENT PLAN OF PLATFORM AT EL+137.00 T.O.S.
(SHOWING ARRANGEMENT OF STEEL BEAMS)



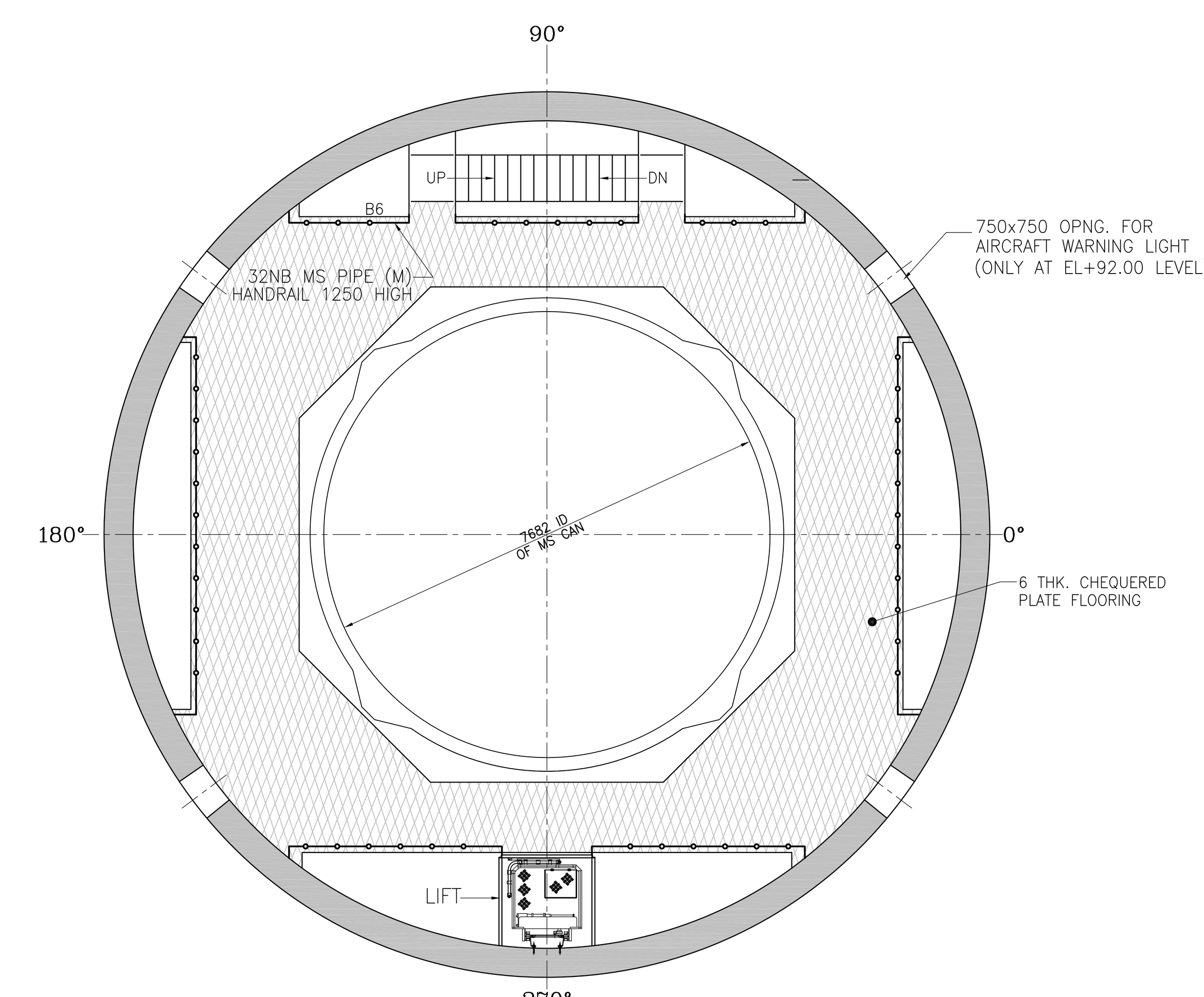
FLOOR PLAN OF PLATFORM AT EL+47.00 T.O.S.
(SHOWING ARRANGEMENT OF CHEQUERED FLOOR PANELS)



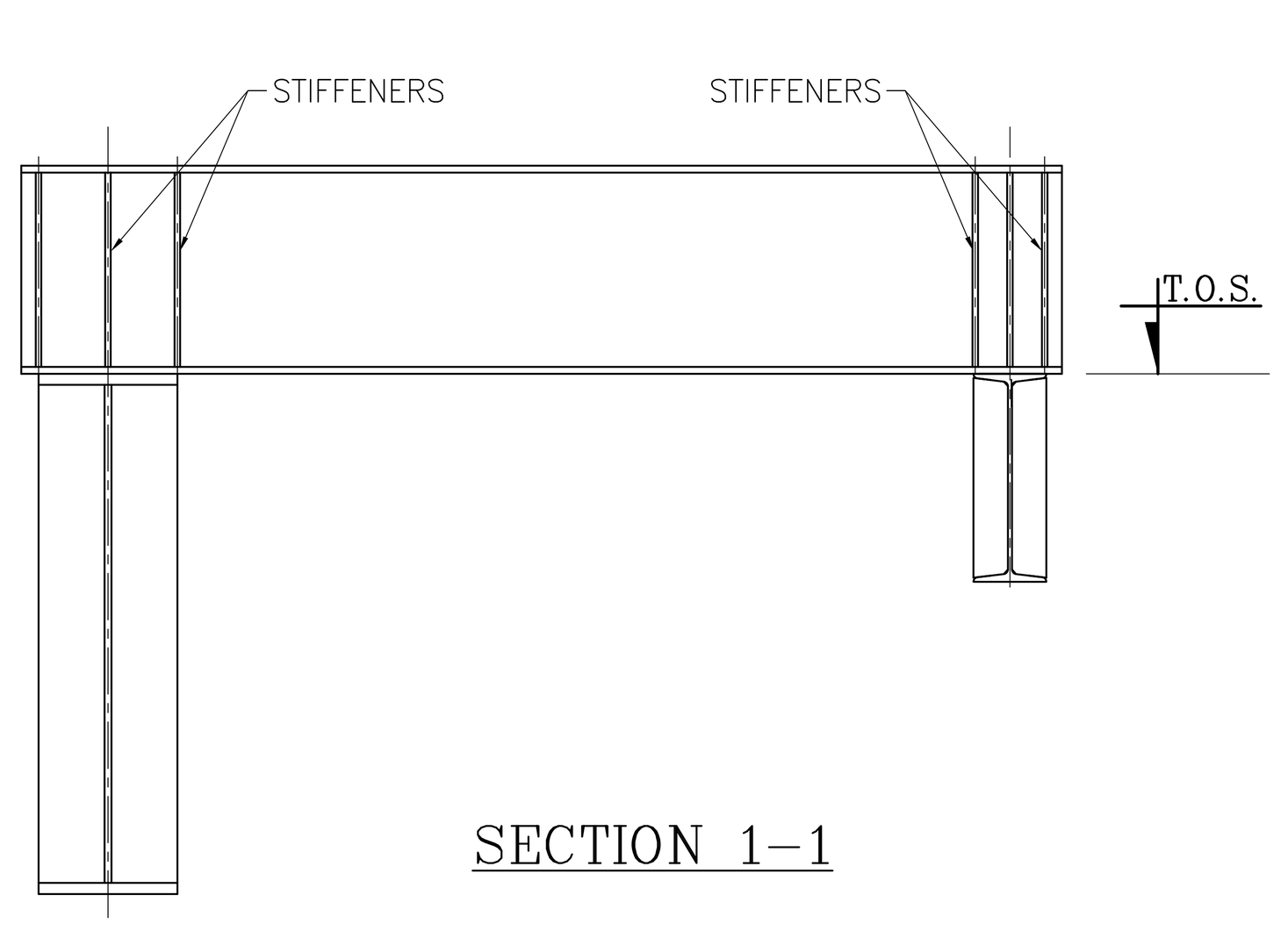
STRUCTURAL ARRANGEMENT PLAN OF PLATFORM AT EL+92.00 T.O.S.
(SHOWING ARRANGEMENT OF STEEL BEAMS)



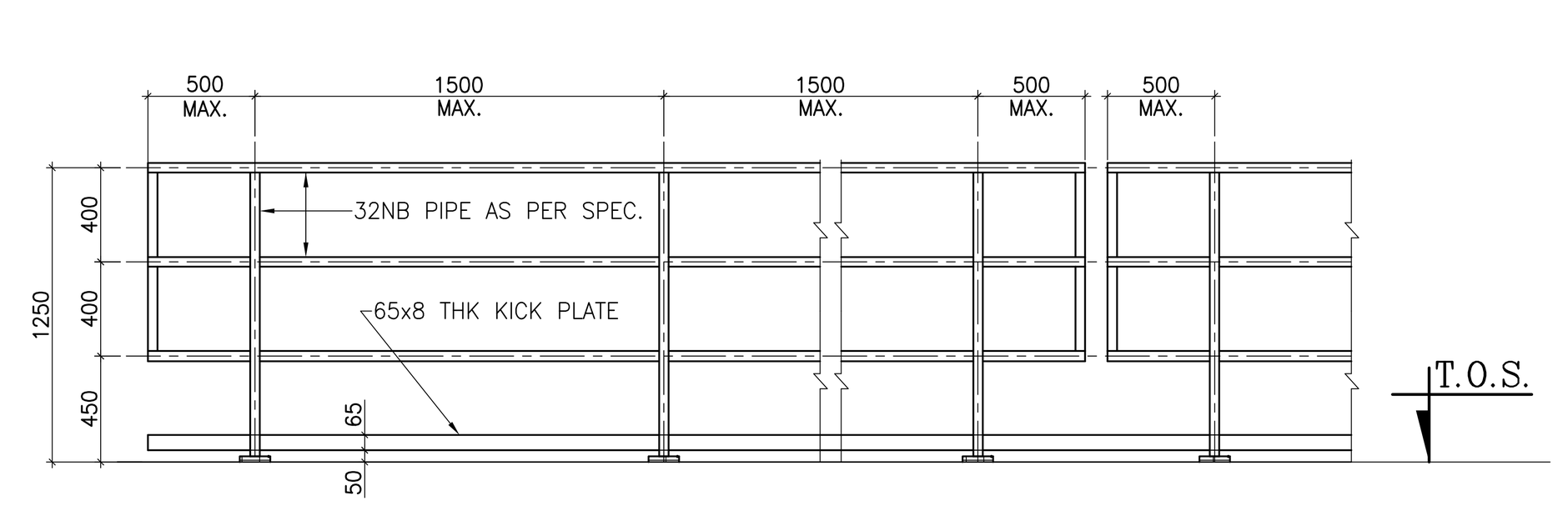
STRUCTURAL ARRANGEMENT PLAN OF ROOF FRAMING AT EL+142.00 T.O.S.
(SHOWING ARRANGEMENT OF STEEL BEAMS)



STRUCTURAL ARRANGEMENT PLAN OF PLATFORM AT EL+92.00 & EL+137.00 T.O.S.
(SHOWING ARRANGEMENT OF STEEL BEAMS)



SECTION 1-1



TYP. ELEVATION OF HAND RAILS

SCHEDULE OF BEAMS

BEAM MARKED	SECTION	MINIMUM WELD THICK.(MM)
G1	350x28 FLANGE + 1244x20 WEB	12
G2	350x28 FLANGE + 1394x20 WEB	12
G3	350x28 FLANGE + 1294x20 WEB	12
G4	210x28 FLANGE + 894x20 WEB	12
G5	200x25 FLANGE + 600x20 WEB	12
G6	210x28 FLANGE + 644x20 WEB	12
G7	210x28 FLANGE + 944x20 WEB	12
G8	210x28 FLANGE + 844x20 WEB	12
B2	ISMB 200	–
B3	ISMB 300	–
B4	ISMB 400	–
B5	ISMB 500	–
B6	ISMB 600	–

ENGG REF DWG

1 GENERAL ARRANGEMENT ---------- PE-DG-444-620-C101

CONST REF DWG

1 REINFORCEMENT DETAILS OF CHIMNEY SHELL ---------- PE-DG-444-620-C004
2 DETAILS OF SHELL OPENINGS ---------- PE-DG-444-620-C005
3 DETAILS OF EXTRA REINFORCEMENT AROUND SHELL OPENINGS ---------- PE-DG-444-620-C006
4 DETAILS OF INTERNAL PLATFORMS (SH4) ---------- PE-DG-444-620-C010
5 DETAIL OF LINER SUPPORT BEAMS ---------- PE-DG-444-620-C011
6 DETAIL OF LINER RESTRAINT ---------- PE-DG-444-620-C012
7 MISCELLANEOUS DETAILS FOR DOORS, ROLLING SHUTTER, ROOF HATCH ETC. ---------- PE-DG-444-620-C018

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES & ELEVATIONS ARE IN METRES
2. READ THIS DRAWING IN CONJUNCTION WITH DRG. NO. PE-DG-444-620-C010.
3. FOR DETAIL 'A'/'B' AND OTHER NOTES REFER DRG. NO. PE-DG-444-620-C010.
4. ONE LINER SHOULD BE ERECTED AT ONE TIME.
5. SUITABLE STIFFENERS TO BE PROVIDED IN LINE WITH TECHNICAL SPEC.

Signature Not Verified
SAMANTA
Date: 2020.05.12
00:07:53 IST
Reason: CAT IV
Location:
NTPCEOC

BHEL-PROJECT ENGINEERING MANAGEMENT (CIVIL)
THIS DRAWING IS RELEASED FOR COMMENTS/APPROVAL
STAMP ALL PREVIOUS REVISION AS SUPERSEDED
ISSUED BY
NAME: Lalan Parsad
SIGNATURE:
DATE: 03/05/2020

REV.	DATE	ALTD	CHD	APPD

JOB NO. 444
STATUS: CONTRACT
DISTRIBUTION
PRINT SCALE IN METRE 0 2 4 6 8 10 20 30 40 50

NTPC DRG. NO. 9561-109-PEM-PVC-B-016

OWNER: NTPC Limited (A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT: MOUDA STAGE-I 2x500 MW (FGD PACKAGE)

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA (U.P.)
Maharatna Company

DEPT CODE: C

	NAME	SIGN	DATE
DRN	SHEELA	Sd/-	03.05.2020
DESN	PUNAM	Sd/-	03.05.2020
CHD	LP	Sd/-	03.05.2020
APPD	SP	Sd/-	03.05.2020

TITLE: FGD CHIMNEY
DETAILS OF INTERNAL PLATFORMS (SH1) (UNIT#1)

MPL	ELEC	C&I	MSE	MAX	DEPT.	SCALE 1:150
					SIGN	
					DATE	

DRAWING NO. PE-DG-444-620-C007
SHEET 1 OF 1 REV. 0

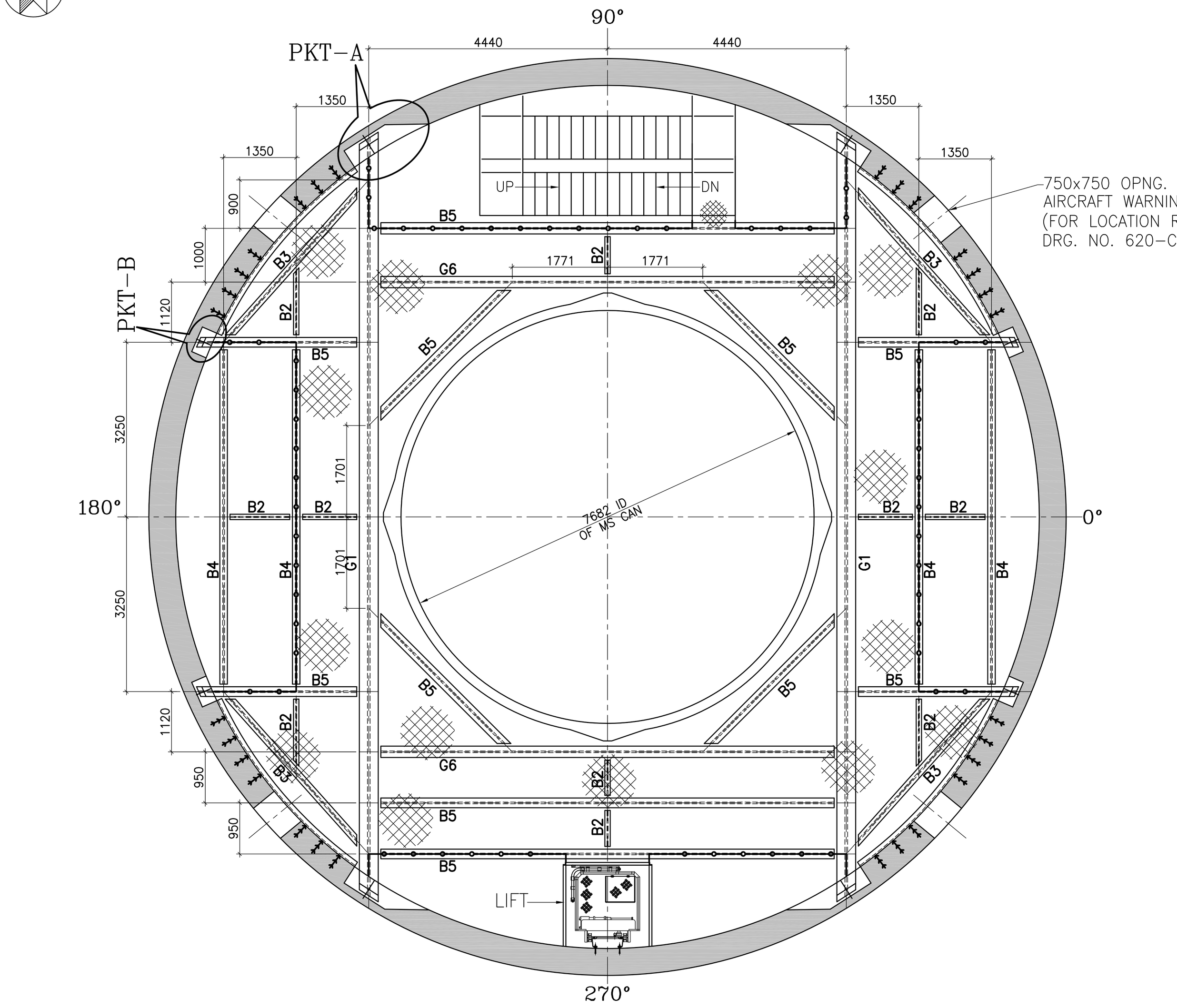
May 03, 2020 – 1:49pm
FORMAT SIZE A0

FIRST ANGLE PROJECTION

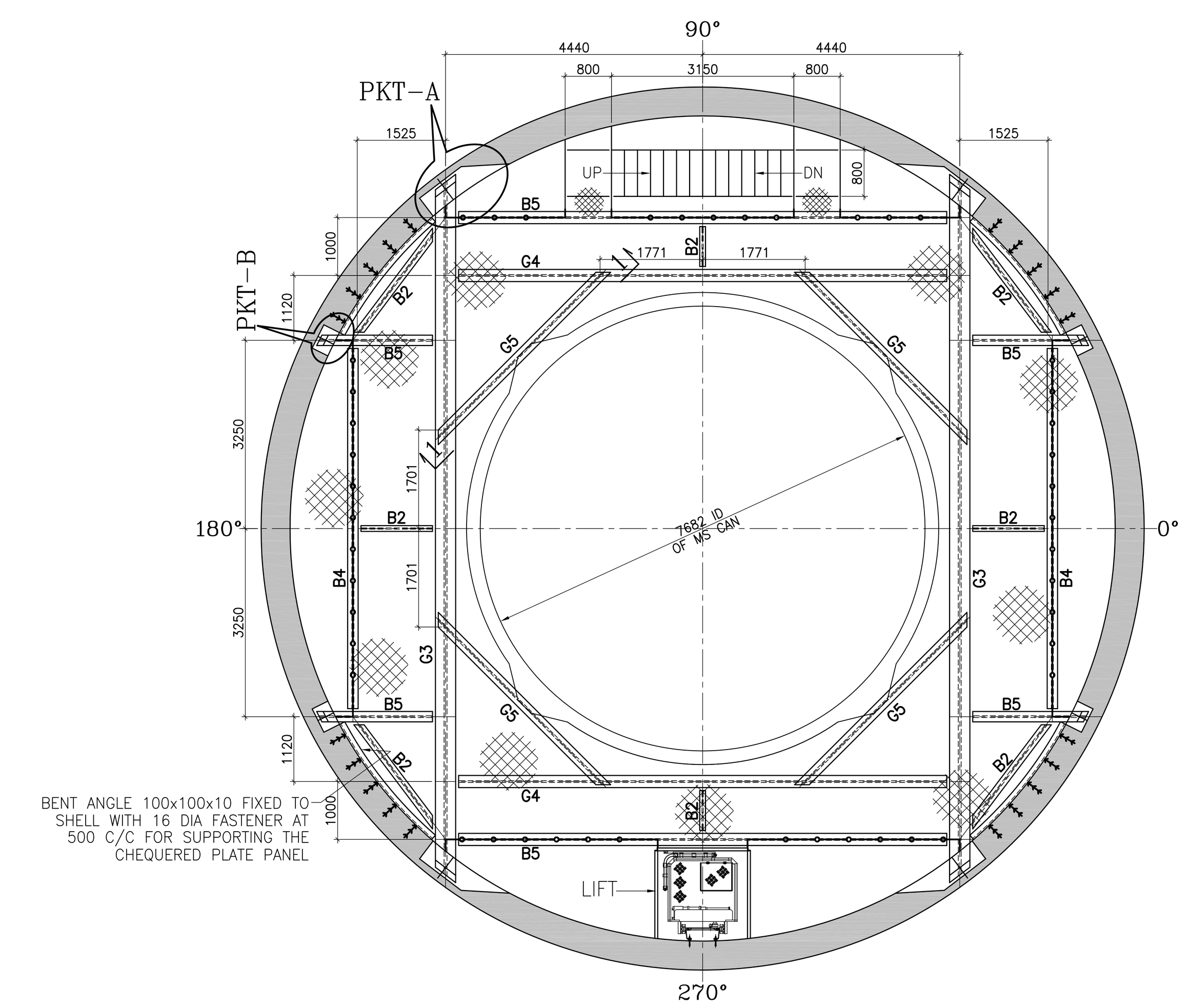
ALL DIMENSIONS ARE IN MM

DRAWING NO. PE-DG-444-620-C006

NORTH



STRUCTURAL ARRANGEMENT PLAN OF PLATFORM
AT EL+47.00 T.O.S.
(SHOWING ARRANGEMENT OF STEEL BEAMS)



STRUCTURAL ARRANGEMENT PLAN OF PLATFORM
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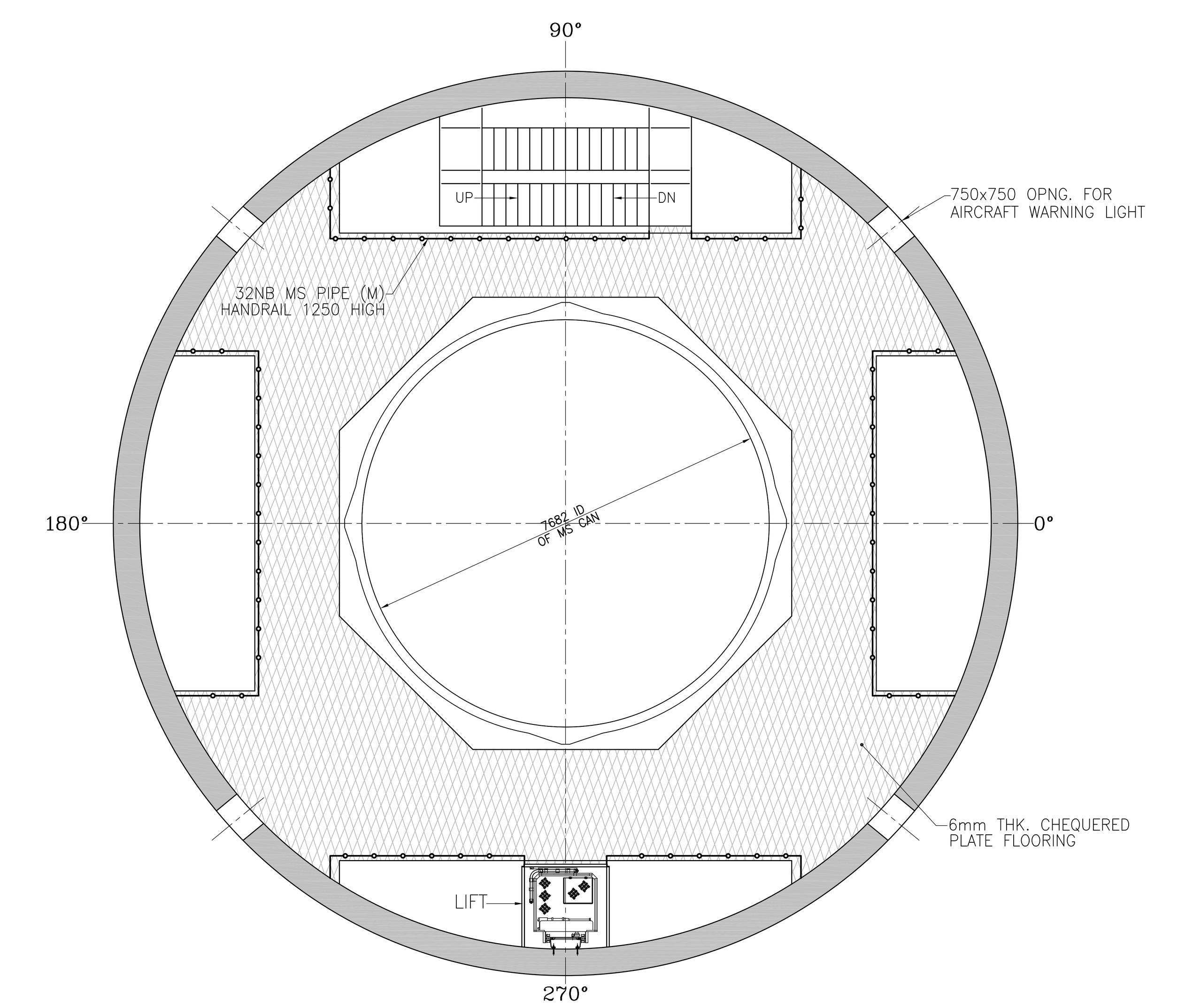

FLOOR PLAN OF PLATFORM
AT EL+47.00 T.O.S.
(SHOWING ARRANGEMENT OF CHEQUERED FLOOR PANELS)

SCHEDULE OF BEAMS

BEAM MARKED	SECTION	MINIMUM WELD THICK.(MM)
G1	350x28 FLANGE + 1244x20 WEB	12
G2	350x28 FLANGE + 1394x20 WEB	12
G3	350x28 FLANGE + 1294x20 WEB	12
G4	210x28 FLANGE + 894x20 WEB	12
G5	200x25 FLANGE + 600x20 WEB	12
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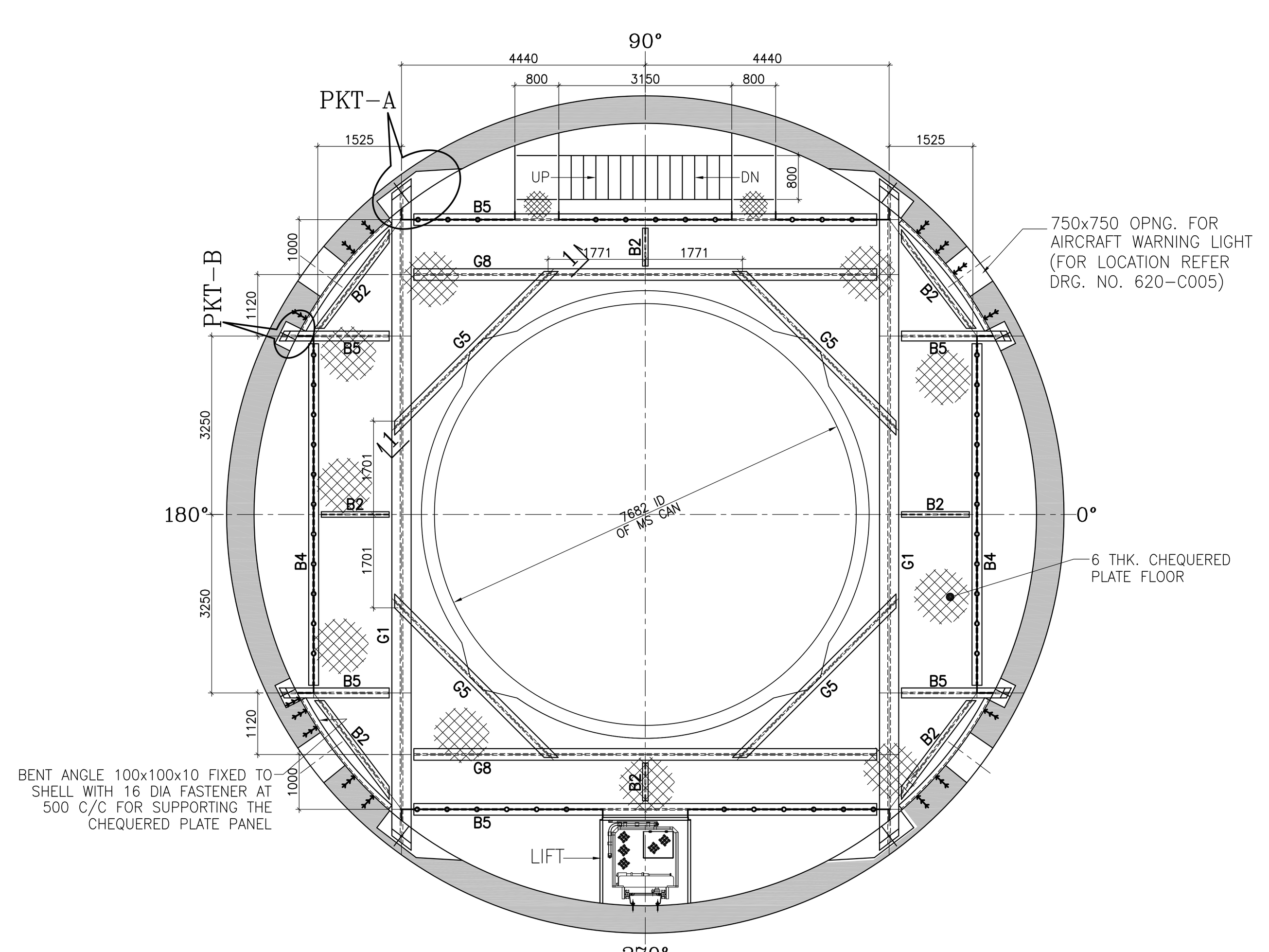
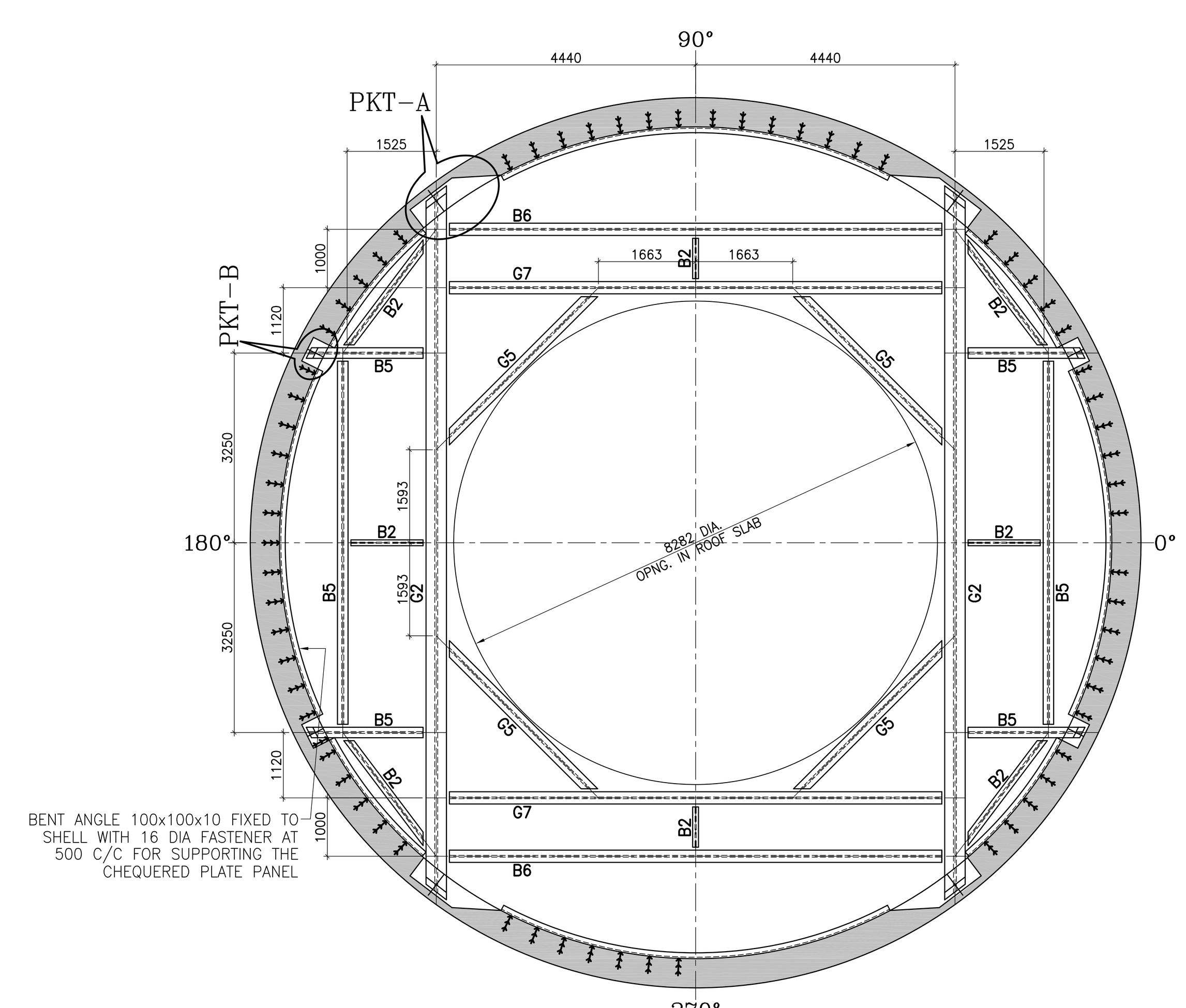
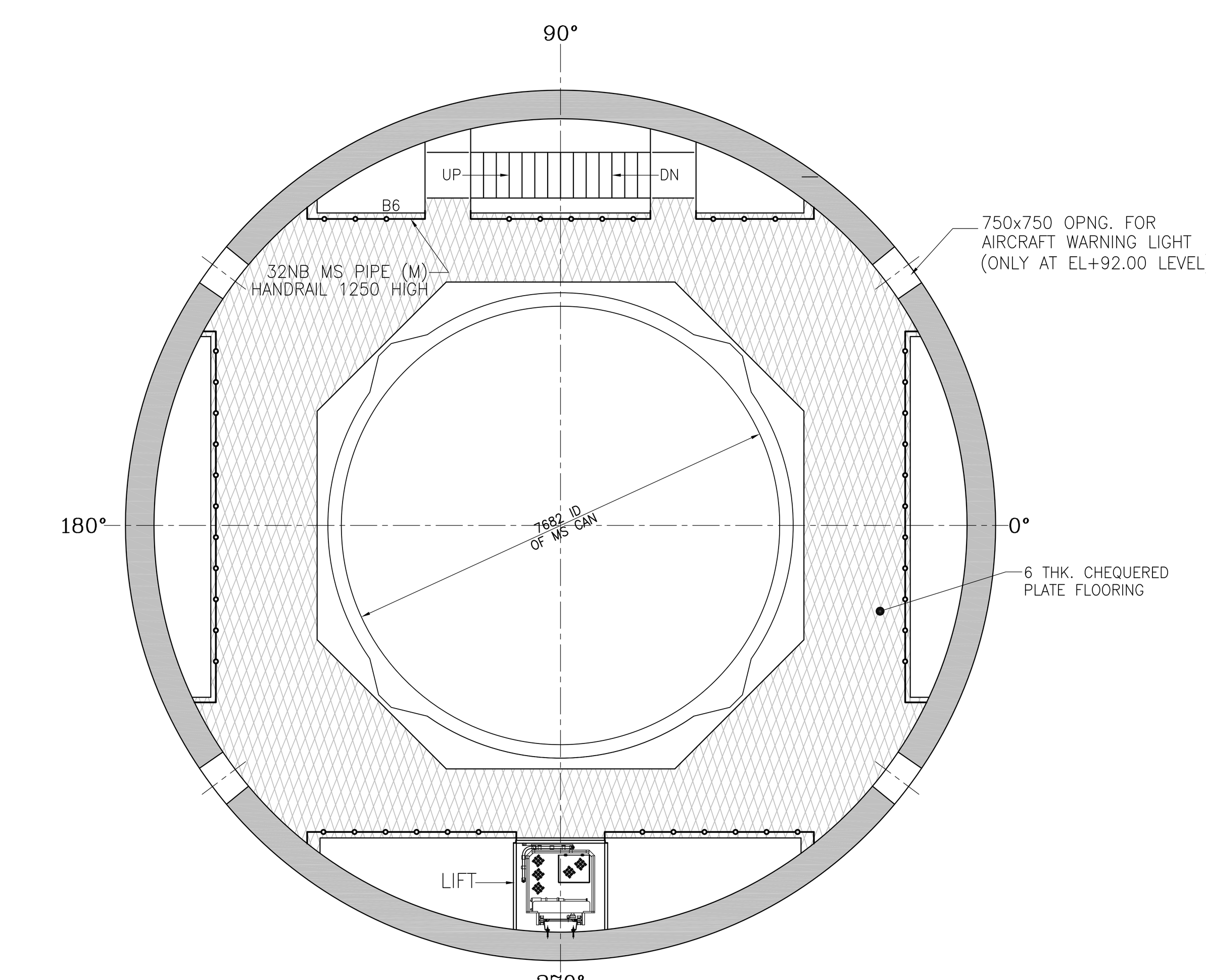
G7	210x28 FLANGE + 944x20 WEB	12
G8	210x28 FLANGE + 844x20 WEB	12
B2	ISMB 200	–
B3	ISMB 300	–
B4	ISMB 400	–
B5	ISMB 500	–
B6	ISMB 600	–



STRUCTURAL ARRANGEMENT PLAN OF PLATFORM
AT EL+92.00 T.O.S.
(SHOWING ARRANGEMENT OF STEEL BEAMS)



STRUCTURAL ARRANGEMENT PLAN OF ROOF FRAMING
AT EL+142.00 T.O.S.
(SHOWING ARRANGEMENT OF STEEL BEAMS)



STRUCTURAL ARRANGEMENT PLAN OF PLATFORM
AT EL+92.00 & EL+137.00 T.O.S.
(SHOWING ARRANGEMENT OF STEEL BEAMS)

Digitally signed by S.K.SAMANTA
DN: cn=S.K.SAMANTA, c=IN, o=EOC-NOIDA, ou=AGM-ENGG. NTPC. LTD., email=sksamanta@ntpc.co.in
Reason: CAT-IV
Date: 2020.05.12 00:11:40 +05'30'

ENGG REF DWG

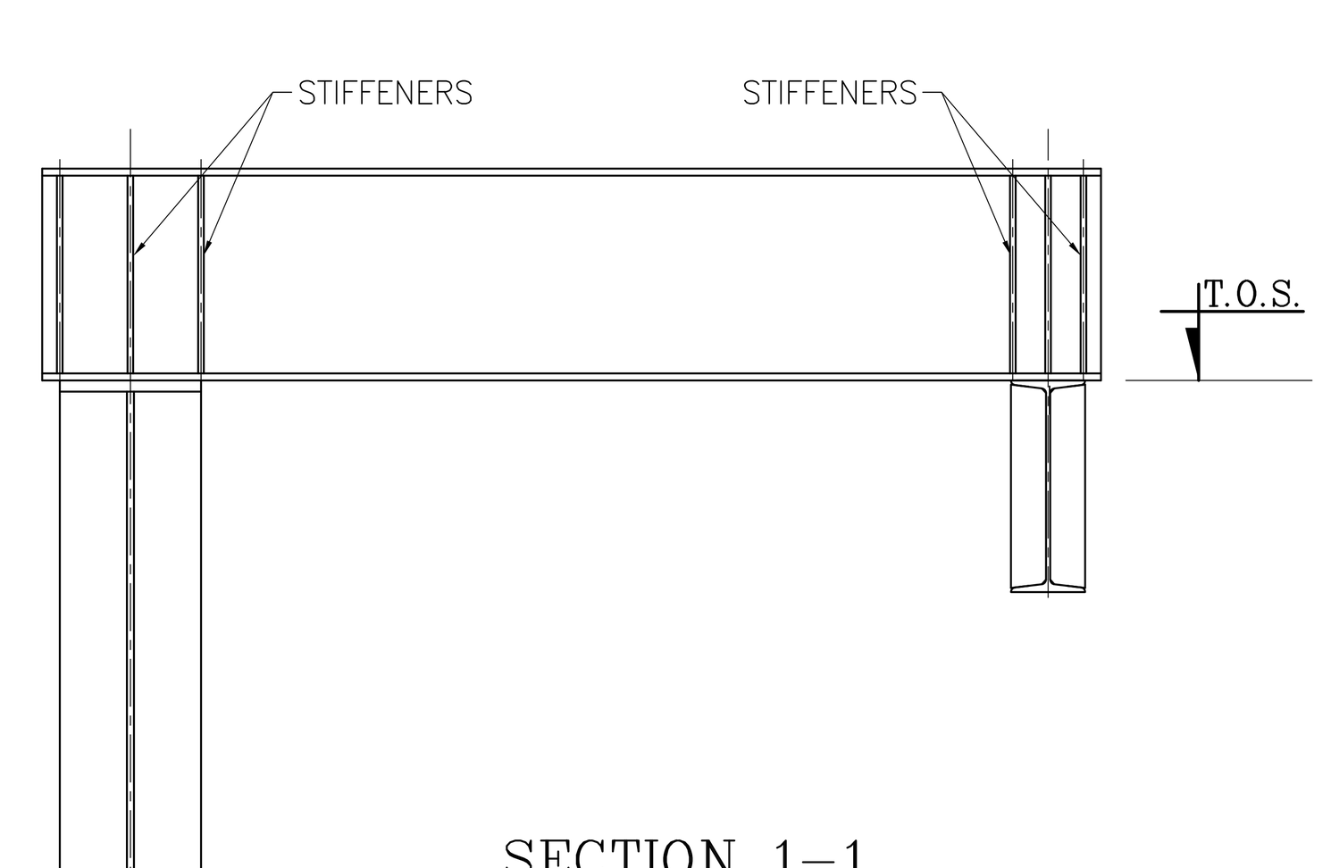
1 GENERAL ARRANGEMENT ---------- PE-DG-444-620-C101

CONST REF DWG

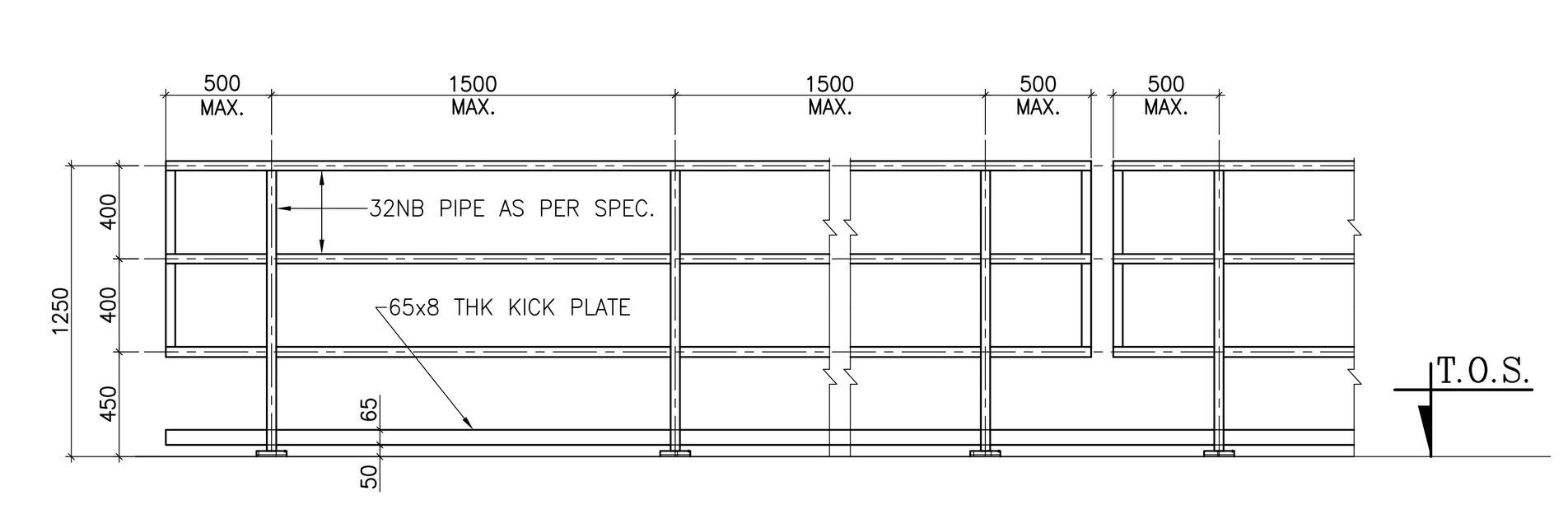
1 REINFORCEMENT DETAILS OF CHIMNEY SHELL ---------- PE-DG-444-620-C004
2 DETAILS OF SHELL OPENINGS ---------- PE-DG-444-620-C005
3 DETAILS OF EXTRA REINFORCEMENT AROUND SHELL OPENINGS ---------- PE-DG-444-620-C006
4 DETAILS OF INTERNAL PLATFORMS (SH4) ---------- PE-DG-444-620-C010
5 DETAIL OF LINER SUPPORT BEAMS ---------- PE-DG-444-620-C011
6 DETAIL OF LINER RESTRAINT ---------- PE-DG-444-620-C012
7 MISCELLANEOUS DETAILS FOR DOORS, ROLLING SHUTTER, ROOF HATCH ETC. ---------- PE-DG-444-620-C018

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES & ELEVATIONS ARE IN METRES
2. READ THIS DRAWING IN CONJUNCTION WITH DRG. NO. PE-DG-444-620-C010.
3. FOR DETAIL 'A'/'B' AND OTHER NOTES REFER DRG. NO. PE-DG-444-620-C010.
4. ONE LINER SHOULD BE ERECTED AT ONE TIME.
5. SUITABLE STIFFENERS TO BE PROVIDED IN LINE WITH TECHNICAL SPEC.



SECTION 1-1



TYP. ELEVATION OF HAND RAILS

BHEL-PROJECT ENGINEERING MANAGEMENT (CIVIL)	
THIS DRAWING IS RELEASED FOR COMMENTS/APPROVAL	
STAMP ALL PREVIOUS REVISION AS SUPERSEDED	
ISSUED BY	
NAME	Lalan Parsad
SIGNATURE	
DATE	03/05/2020

REV.	DATE	ALTD	CHD	APPD

JOB NO. 444

STATUS: CONTRACT

DISTRIBUTION

PRINT SCALE IN METRE: 0 2 4 6 8 10 20 30 40 50

NTPC DRG. NO. 9561-109-PEM-PVC-B-017

OWNER: NTPC Limited (A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT: MOUDA STAGE-I 2x500 MW (FGD PACKAGE)

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA (U.P.)
Maharatna Company

DEPT CODE: C

	NAME	SIGN	DATE
DRN	SHEELA	Sd/–	03.05.2020
DESN	PUNAM	Sd/–	03.05.2020
CHD	LP	Sd/–	03.05.2020
APPD	SP	Sd/–	03.05.2020

TITLE: FGD CHIMNEY
DETAILS OF INTERNAL PLATFORMS (SH2) (UNIT#2)

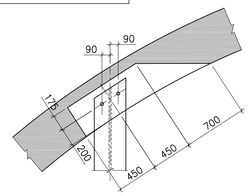
MPL	ELEC	C&I	MSE	MAX	DEPT.	SCALE 1:150
					SIGN	
					DATE	

DRAWING NO. PE-DG-444-620-C007

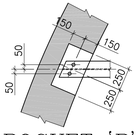
SHEET 1 OF 1 REV. 0

May 03, 2020 – 1:48pm
FORMAT SIZE A0

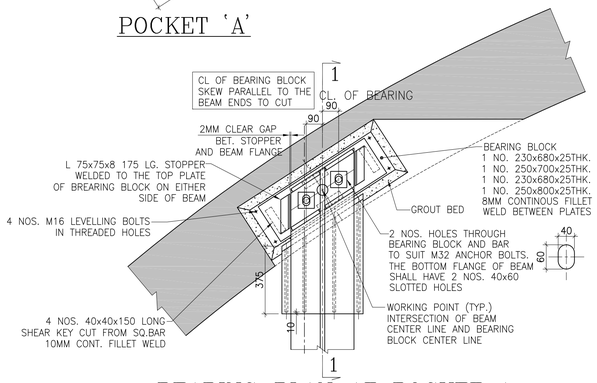
CAD FILE NAME: D:\Project\MAUDA\9561-109-PEM-PVC-B-018.dwg



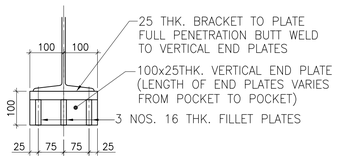
POCKET 'A'



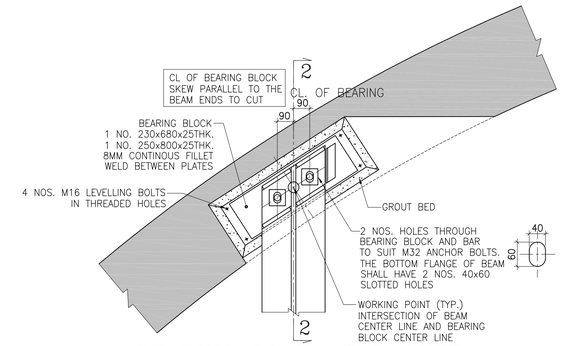
POCKET 'B'



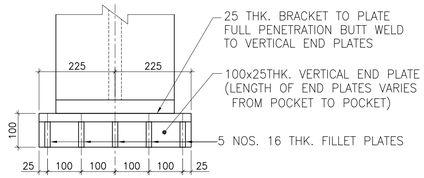
BEARING PLAN AT POCKET A
(FOR PLATFORM LEVELS AT EL+47.00, +92.00 & +137.00)



SECTION 6-6

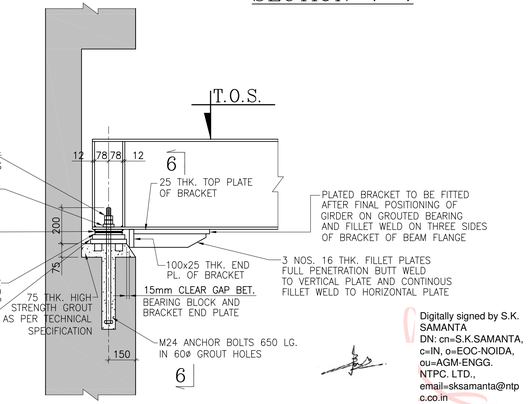


BEARING PLAN AT POCKET A
(FOR PLATFORM LEVELS AT EL+142.00 M.)



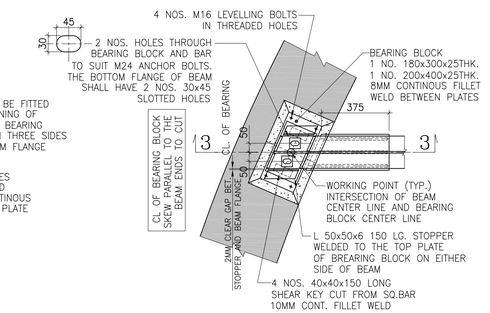
SECTION 5-5

SECTION 2-2

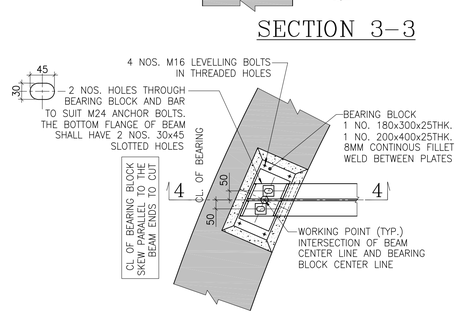


SECTION 3-3

SECTION 1-1



BEARING PLAN AT POCKET B
(FOR PLATFORM LEVELS AT EL+47.00, +92.00 & +137.00)



BEARING PLAN AT POCKET B
(FOR PLATFORM LEVELS AT EL+142.00 M.)

LEGEND

1. PKT ---------- POCKET
2. PLTF ---------- PLATFORM
3. THK ---------- THICK
4. EL ---------- ELEVATION
5. TYP ---------- TYPICAL

ENGG REF DWG

1 GENERAL ARRANGEMENT ---------- PE-DG-444-620-C101

CONST REF DWG

1 REINFORCEMENT DETAILS OF CHIMNEY SHELL ---------- PE-DG-444-620-C004
2 DETAILS OF SHELL OPENINGS ---------- PE-DG-444-620-C005
3 DETAILS OF EXTRA REINFORCEMENT AROUND SHELL OPENINGS ---------- PE-DG-444-620-C006
4 DETAILS OF INTERNAL PLATFORMS (SH2) ---------- PE-DG-444-620-C008
7 DETAIL OF LINER SUPPORT BEAMS ---------- PE-DG-444-620-C011
8 DETAIL OF LINER RESTRAINT ---------- PE-DG-444-620-C012
9 MISCELLANEOUS DETAILS FOR DOORS, ROLLING SHUTTER, ROOF HATCH ETC. ---------- PE-DG-444-620-C018

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES & ELEVATIONS ARE IN METRES
2. THE MATERIAL & CONSTRUCTION SHALL CONFORM TO THE FOLLOWING INDIAN STANDARDS (LATEST ISSUE)
   ROLLED SECTION, PLATES & ANCHOR BOLTS ---------- IS:2062
   BOLTS ---------- IS:1363, IS:1367 PROPERTY CLASS 8.8
   WELDING ---------- IS:816, IS:9595
   FABRICATION & ERECTION TOLERANCE FOR FABRICATION OF STEEL STRUCTURES ---------- AS PER SPECIFICATION
   CHEQURED PLATE ---------- IS:3502
3. ALL THE BEAMS SHALL HAVE BOLTED CONNECTIONS AND SHALL BE DESIGNED FOR A MIN. OF 75% SHEAR CAPACITY OF BEAM. SUITABLE STIFFENER SHALL BE PROVIDED IN ALL BUILTUP BEAMS.
4. ALL ELEVATIONS ARE REFERRED TO THE FINISHED GROUND FLOOR LEVEL OF POWER HOUSE BUILDING AS EL(±)0.00 M WHICH CORRESPONDS TO RL(+)271.50 M. ABOVE MEAN SEA LEVEL.
5. ALL STRUCTURAL STEEL WORKS SHALL BE PAINTED IN ACCORDANCE WITH THE REQUIREMENTS OF TECHNICAL SPECIFICATION.
6. BEAM LENGTHS – PROVISION SHALL BE MADE IN THE FABRICATION OF STEEL WORK BEAMS TO ENSURE THAT THE BEAM LENGTHS ARE COMPATIBLE WITH THE 'AS-BUILT' DIMENSIONS OF THE WINDSHIELD AT THE RELEVANT WINDSHIELD/BEAM BEARING LEVELS. ADJUSTMENTS TO THE MEMBER LENGTHS, IF REQUIRED, SHALL BE TO THE FINAL CUT LENGTH OF THE BEAM AND SHALL NOT AFFECT THE DIMENSIONAL RELATIONSHIP BETWEEN MEMBERS OR THEIR DISPOSITION RELATIVE TO THE DESIGN CENTER OF CHIMNEY.
7. BEFORE FABRICATING BEAMS AT ANY LEVEL ACTUAL DIMENSION AT SITE SHALL BE MEASURED AND LENGTH OF ALL MEMBERS OF EACH FLOOR LEVELS SHALL BE CHECKED BY FULL SCALE SITE LAYOUT.
8. ONE LINER SEGMENT SHALL BE ERECTED AT ONE TIME. EACH LINER SEGMENT AFTER ERECTION AT PLATFORM LEVEL SHALL IMMEDIATELY BE LATERALLY RESTRAINED AT THE RESPECTIVE LOWER PLATFORM LEVEL BY PROVIDING LINER RESTRAINT.
9. FOR ALL OTHER NOTES AND DETAIL REFER TO DRAWING NO. PE-DG-444-600-C002.
10. ALL WELDING ELECTRODES SHALL BE LOW HYDROGEN TYPE CONFORMING TO IS:814.
11. TESTING OF WELDS SHALL BE DONE AS PER TECHNICAL SPECIFICATION.
12. SPLICING OF PLATES IN PLATE GIRDERS SHALL HAVE FULL PENETRATION BUTT WELDED JOINTS. JOINTS SHALL, PREFERABLY, BE AVIOIDED IN FLANGES IN THE MIDDLE 1/3rd OF SPAN AND IN WEBS QUALITATIVE AND BASED ON GENERALLY ADOPTED PRACTICES. IN CASES WHERE IT IS NOT POSSIBLE TO MEET THESE REQUIREMENTS, MODERATE ADJUSTMENTS CAN BE MADE, AT SITE, ON A CASE TO CASE BASIS.
13. ALL BEAMS, HAVING THEIR SUPPORT AS BEARING SUPPORT ON WIND SHIELD, SHALL HAVE FULL PENETRATION BUTT WELDS BETWEEN FLANGE AND WEB FOR A LENGTH OF 500MM FROM THE BEARING END.

Digitally signed by S.K. SAMANTA
DN: cn=S.K.SAMANTA, c=IN, o=EOC-NOIDA, ou=AGM-ENGG. NTPC. LTD., email=sksamanta@ntpc.co.in
Reason: CAT-REL
Date: 2020.05.11 23:49:11 +05'30'

BHEL-PROJECT ENGINEERING MANAGEMENT (CIVIL)

THIS DRAWING IS RELEASED FOR COMMENTS/APPROVAL

STAMP ALL PREVIOUS REVISION AS SUPERSEDED

ISSUED BY	
NAME	Lalan Parsad
SIGNATURE	
DATE	05/05/2020

REV.	DATE	ALTD	CHD	APPD

JOB NO. 444
STATUS CONTRACT
DISTRIBUTION
PRINT SCALE IN METRE 0 2 4 6 8 10 20 30 40 50

NTPC DRG. NO. 9561-109-PEM-PVC-B-018

OWNER: एनटीपीसी NTPC — **NTPC Limited** (A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT: MOUDA STAGE-I 2x500 (FGD PACKAGE)

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA (U.P.)

DEPT CODE		NAME	SIGN	DATE
C	DRN	SHEELA	Sd/-	03.05.2020
	DESN	PUNAM	Sd/-	03.05.2020
	CHD	LP	Sd/-	03.05.2020
	APPD	SP	Sd/-	03.05.2020

TITLE: FGD CHIMNEY
DETAILS OF INTERNAL PLATFORMS (SH3)(UNIT#2)

MPL	ELEC	C&I	MSE	MAX	DEPT.	SCALE 1:125	DRAWING NO.
					SIGN		PE-DG-444-620-C009
					DATE		SHEET 1 OF 1 REV. 0

May 03, 2020 - 1:42pm
FORMAT SIZE A1

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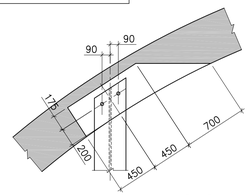
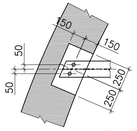


POCKET 'A'



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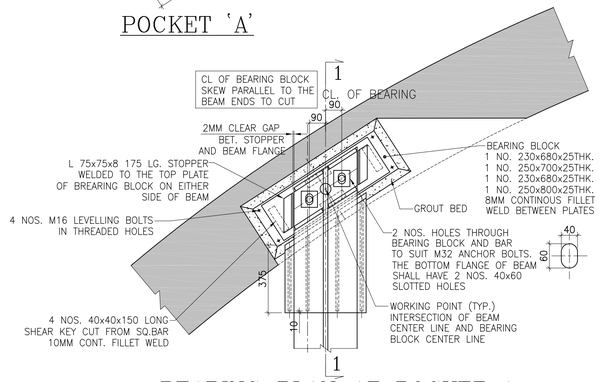
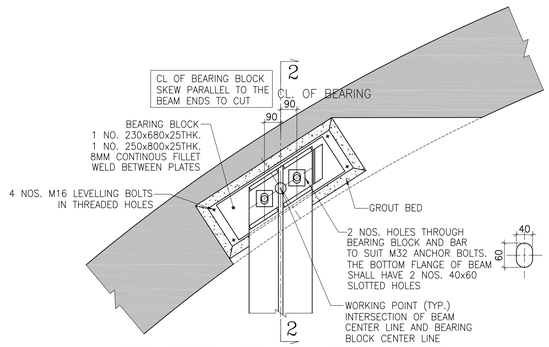
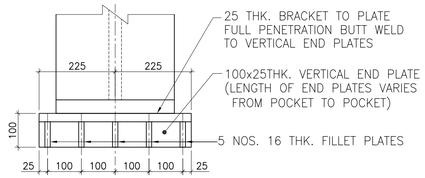


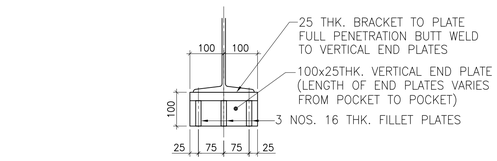
BEARING PLAN AT POCKET A
(FOR PLATFORM LEVELS AT EL+47.00, +92.00 & +137.00)



BEARING PLAN AT POCKET A
(FOR PLATFORM LEVELS AT EL+142.00 M.)



SECTION 5-5



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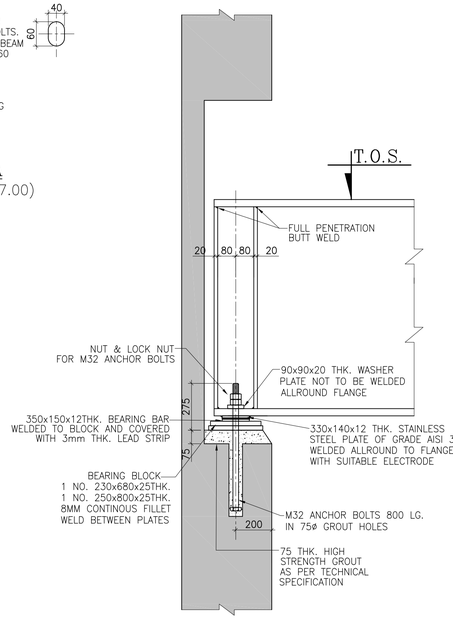

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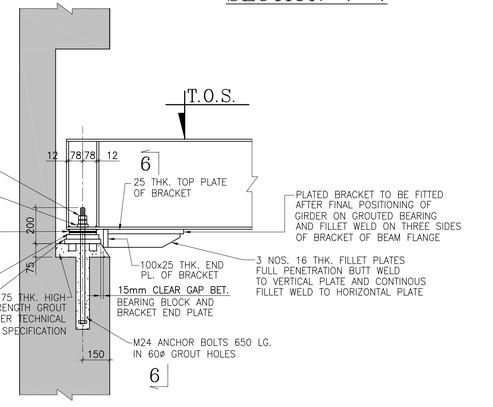
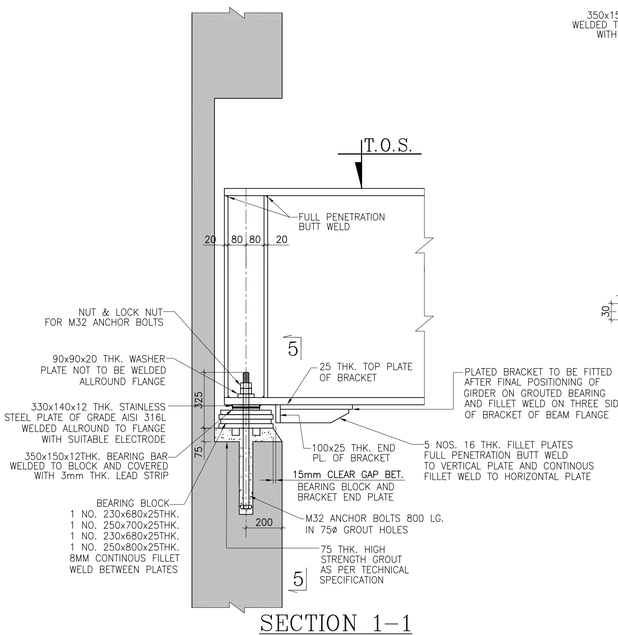
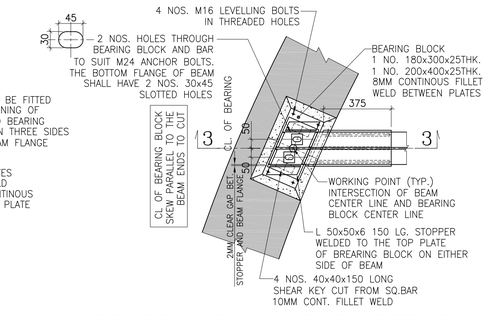


SECTION 3-3



SECTION 1-1



BEARING PLAN AT POCKET B
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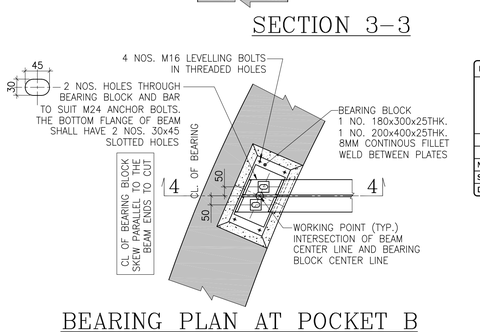


BEARING PLAN AT POCKET B
(FOR PLATFORM LEVELS AT EL+142.00 M.)

LEGEND

1. PKT ---------- POCKET
2. PLTF ---------- PLATFORM
3. THK ---------- THICK
4. EL ---------- ELEVATION
5. TYP ---------- TYPICAL

ENGG REF DWG

1 GENERAL ARRANGEMENT ---------- PE-DG-444-620-C101

CONST REF DWG

1 REINFORCEMENT DETAILS OF CHIMNEY SHELL ---------- PE-DG-444-620-C004
2 DETAILS OF SHELL OPENINGS ---------- PE-DG-444-620-C005
3 DETAILS OF EXTRA REINFORCEMENT AROUND SHELL OPENINGS ---------- PE-DG-444-620-C006
4 DETAILS OF INTERNAL PLATFORMS (SH1) ---------- PE-DG-444-620-C007
7 DETAIL OF LINER SUPPORT BEAMS ---------- PE-DG-444-620-C011
8 DETAIL OF LINER RESTRAINT ---------- PE-DG-444-620-C012
9 MISCELLANEOUS DETAILS FOR DOORS, ROLLING SHUTTER, ROOF HATCH ETC. ---------- PE-DG-444-620-C018

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES & ELEVATIONS ARE IN METRES
2. THE MATERIAL & CONSTRUCTION SHALL CONFORM TO THE FOLLOWING INDIAN STANDARDS (LATEST ISSUE)
   ROLLED SECTION, PLATES & ANCHOR BOLTS ---------- IS:2062
   BOLTS ---------- IS:1363, IS:1367 PROPERTY CLASS 8.8
   WELDING ---------- IS:816, IS:9595
   FABRICATION & ERECTION TOLERANCE FOR FABRICATION OF STEEL STRUCTURES ---------- AS PER SPECIFICATION
   CHEQURED PLATE ---------- IS:3502
3. ALL THE BEAMS SHALL HAVE BOLTED CONNECTIONS AND SHALL BE DESIGNED FOR A MIN. OF 75% SHEAR CAPACITY OF BEAM. SUITABLE STIFFENER SHALL BE PROVIDED IN ALL BUILTUP BEAMS.
4. ALL ELEVATIONS ARE REFERRED TO THE FINISHED GROUND FLOOR LEVEL OF POWER HOUSE BUILDING AS EL(±)0.00 M WHICH CORRESPONDS TO RL(+)271.50 M. ABOVE MEAN SEA LEVEL.
5. ALL STRUCTURAL STEEL WORKS SHALL BE PAINTED IN ACCORDANCE WITH THE REQUIREMENTS OF TECHNICAL SPECIFICATION.
6. BEAM LENGTHS – PROVISION SHALL BE MADE IN THE FABRICATION OF STEEL WORK BEAMS TO ENSURE THAT THE BEAM LENGTHS ARE COMPATIBLE WITH THE 'AS-BUILT' DIMENSIONS OF THE WINDSHIELD AT THE RELEVANT WINDSHIELD/BEAM BEARING LEVELS. ADJUSTMENTS TO THE MEMBER LENGTHS, IF REQUIRED, SHALL BE TO THE FINAL CUT LENGTH OF THE BEAM AND SHALL NOT AFFECT THE DIMENSIONAL RELATIONSHIP BETWEEN MEMBERS OR THEIR DISPOSITION RELATIVE TO THE DESIGN CENTER OF CHIMNEY.
7. BEFORE FABRICATING BEAMS AT ANY LEVEL ACTUAL DIMENSION AT SITE SHALL BE MEASURED AND LENGTH OF ALL MEMBERS OF EACH FLOOR LEVELS SHALL BE CHECKED BY FULL SCALE SITE LAYOUT.
8. ONE LINER SEGMENT SHALL BE ERECTED AT ONE TIME. EACH LINER SEGMENT AFTER ERECTION AT PLATFORM LEVEL SHALL IMMEDIATELY BE LATERALLY RESTRAINED AT THE RESPECTIVE LOWER PLATFORM LEVEL BY PROVIDING LINER RESTRAINT.
9. FOR ALL OTHER NOTES AND DETAIL REFER TO DRAWING NO. PE-DG-444-600-C002.
10. ALL WELDING ELECTRODES SHALL BE LOW HYDROGEN TYPE CONFORMING TO IS:814.
11. TESTING OF WELDS SHALL BE DONE AS PER TECHNICAL SPECIFICATION.
12. SPLICING OF PLATES IN PLATE GIRDERS SHALL HAVE FULL PENETRATION BUTT WELDED JOINTS. JOINTS SHALL, PREFERABLY, BE AVOIDED IN FLANGES IN THE MIDDLE 1/3rd OF SPAN AND IN WEBS QUALITATIVE AND BASED ON GENERALLY ADOPTED PRACTICES. IN CASES WHERE IT IS NOT POSSIBLE TO MEET THESE REQUIREMENTS, MODERATE ADJUSTMENTS CAN BE MADE, AT SITE, ON A CASE TO CASE BASIS.
13. ALL BEAMS, HAVING THEIR SUPPORT AS BEARING SUPPORT ON WIND SHIELD, SHALL HAVE FULL PENETRATION BUTT WELDS BETWEEN FLANGE AND WEB FOR A LENGTH OF 500MM FROM THE BEARING END.

Digitally signed by S.K. SAMANTA
DN: cn=S.K.SAMANTA, c=IN, o=EOC-NOIDA, ou=AGM-ENGG. NTPC. LTD., email=sksamanta@ntpc.co.in
Reason: CAT-REL
Date: 2020.05.11 23:59:09 +05'30'

BHEL-PROJECT ENGINEERING MANAGEMENT (CIVIL)	
THIS DRAWING IS RELEASED FOR COMMENTS/APPROVAL	
STAMP ALL PREVIOUS REVISION AS SUPERSEDED	
	ISSUED BY
NAME	Lalan Parsad
SIGNATURE	
DATE	05/05/2020

REV.	DATE	ALTD	CHD	APPD

JOB NO. 444
STATUS CONTRACT
DISTRIBUTION
PRINT SCALE IN METRE 0 2 4 6 8 10 20 30 40 50

NTPC DRG. NO. 9561-109-PEM-PVC-B-019

OWNER NTPC

NTPC Limited
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT
MOUDA STAGE-I 2x500
(FGD PACKAGE)

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA (U.P.)

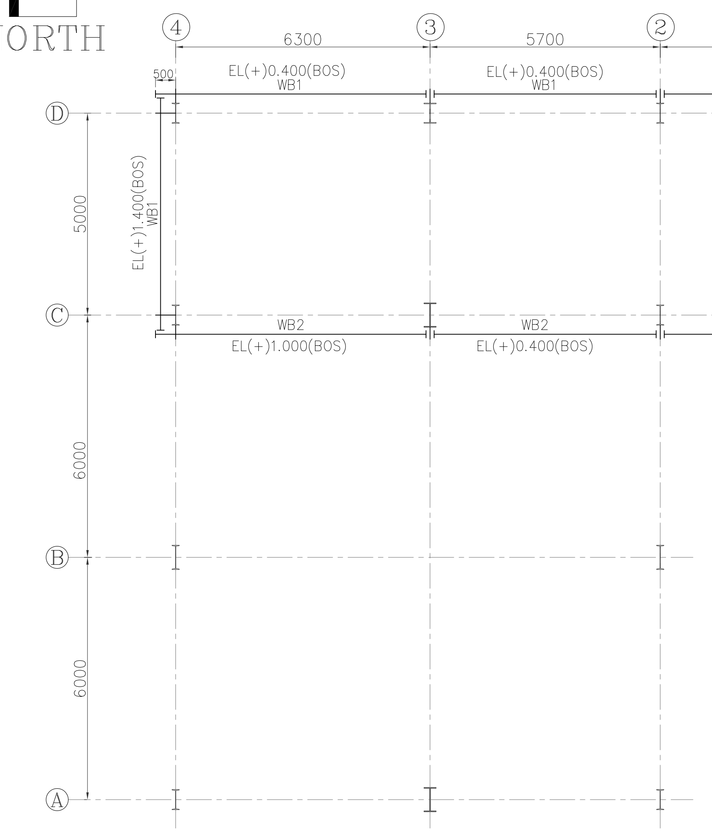
DEPT CODE		NAME	SIGN	DATE
C	DRN	SHEELA	Sd/-	03.05.2020
	DESN	PUNAM	Sd/-	03.05.2020
	CHD	LP	Sd/-	03.05.2020
	APPD	SP	Sd/-	03.05.2020

TITLE
FGD CHIMNEY
DETAILS OF INTERNAL PLATFORMS (SH4)(UNIT#1)

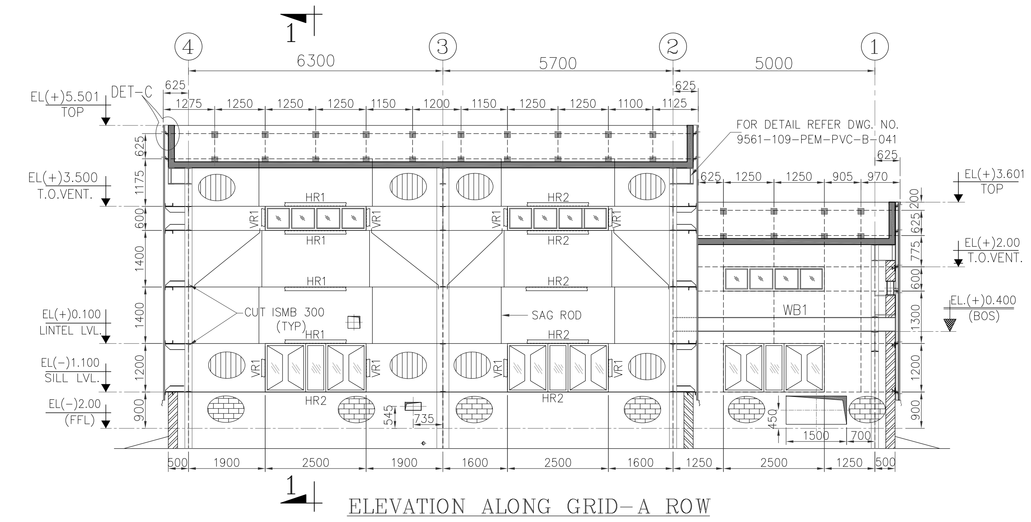
MPL	ELEC	C&I	MSE	MAX	DEPT.	SCALE 1:125	DRAWING NO.
					SIGN		PE-DG-444-620-C010
					DATE		SHEET 1 OF 1 REV. 0

May 03, 2020 - 1:43pm
FORMAT SIZE A1

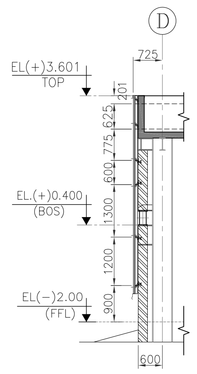
NORTH



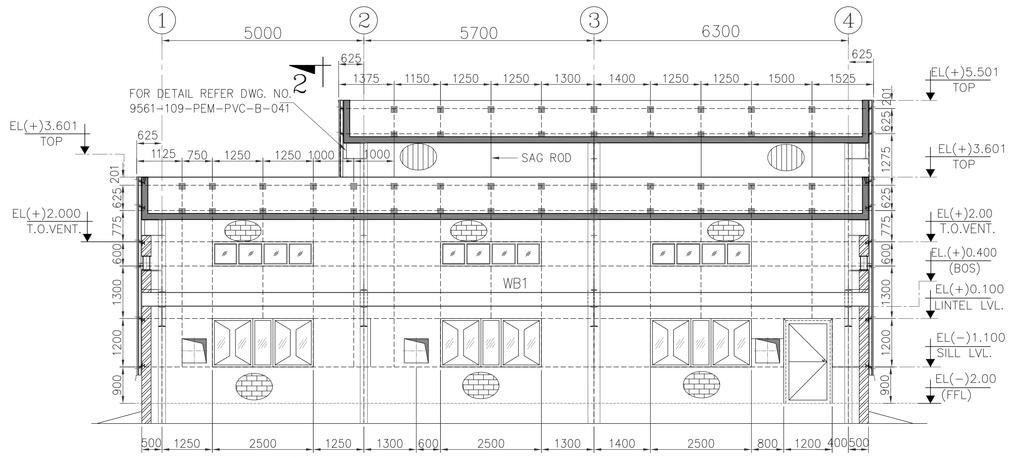
LAYOUT PLAN OF WALL BEAM ⚠ AT EL(+)0.400/1.000/1.400 BOS



1 ELEVATION ALONG GRID-A ROW



SECTION 2-2



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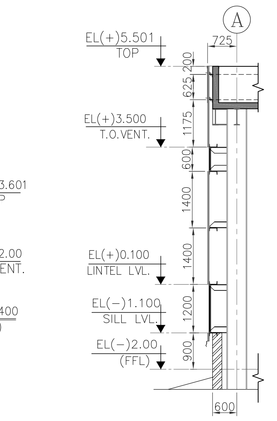

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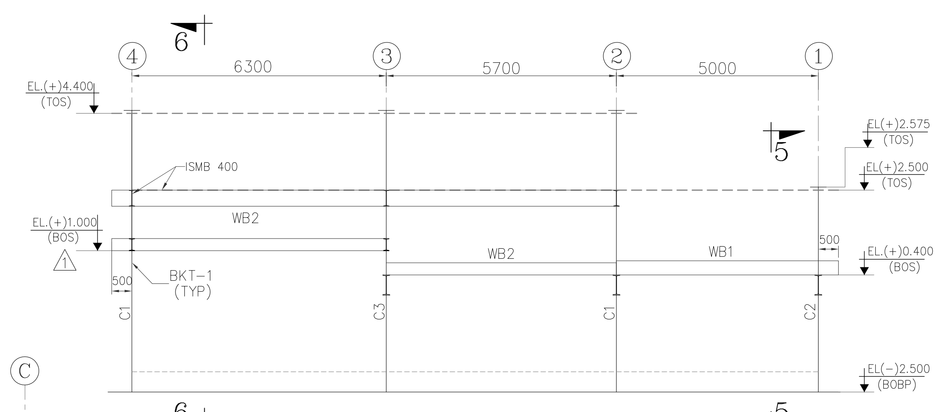
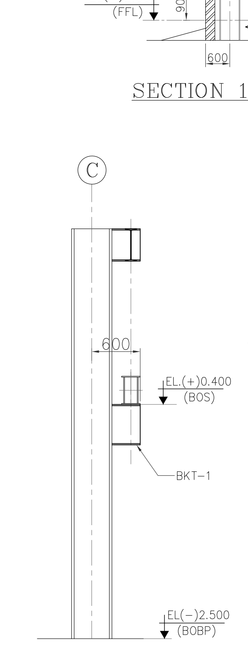
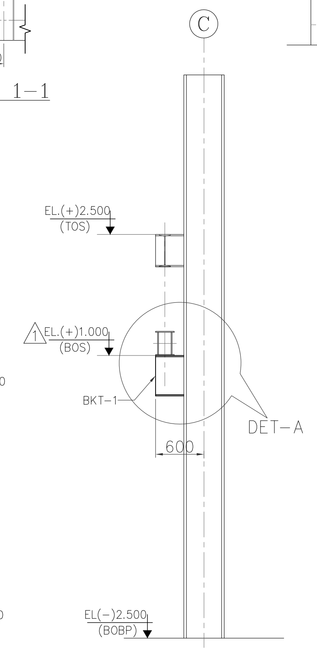


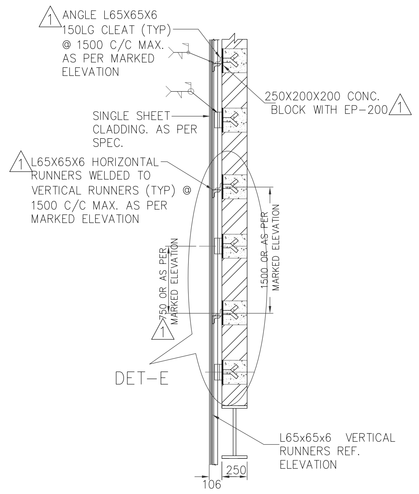
ELEVATION ALONG GRID-C



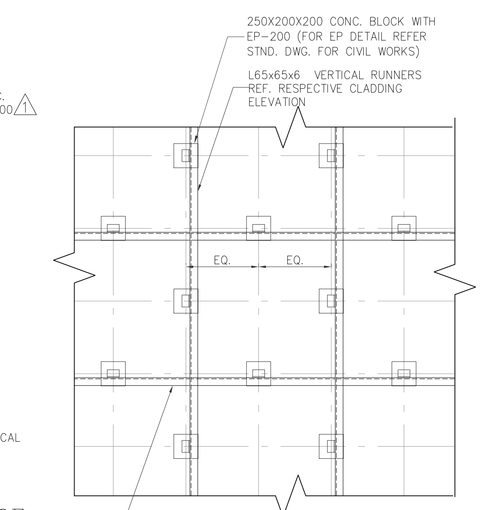
SECTION 5-5



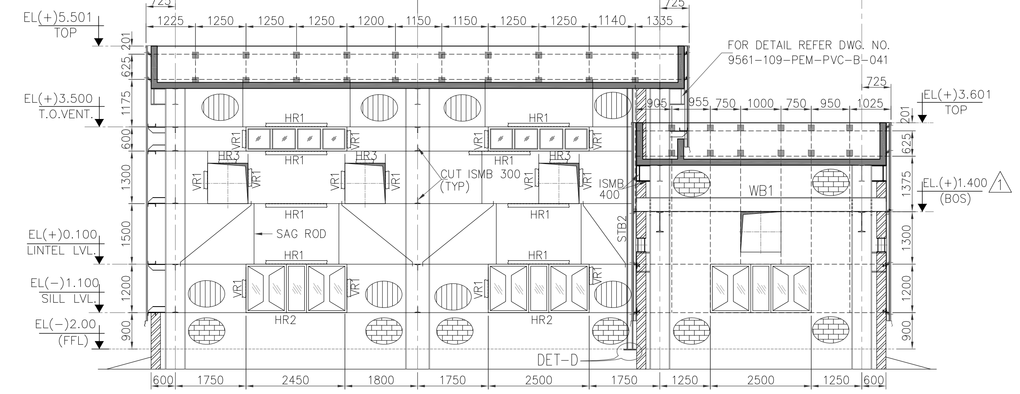
SECTION 6-6



TYP. SECTIONAL DETAILS OF CLADDING ON BRICK WORK



DETAIL-E



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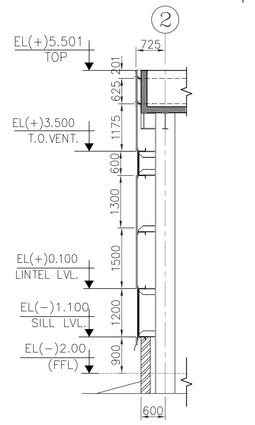
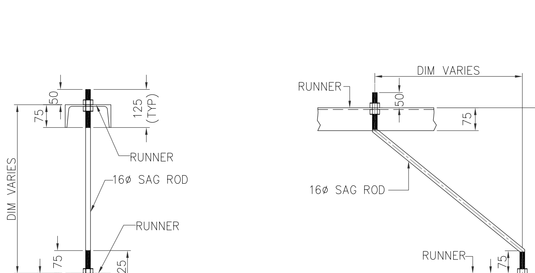
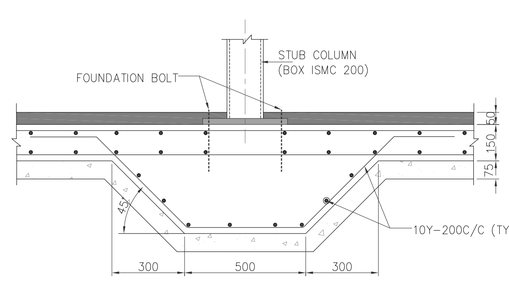


SECTION 3-3



TYPICAL DETAIL OF SAG ROD



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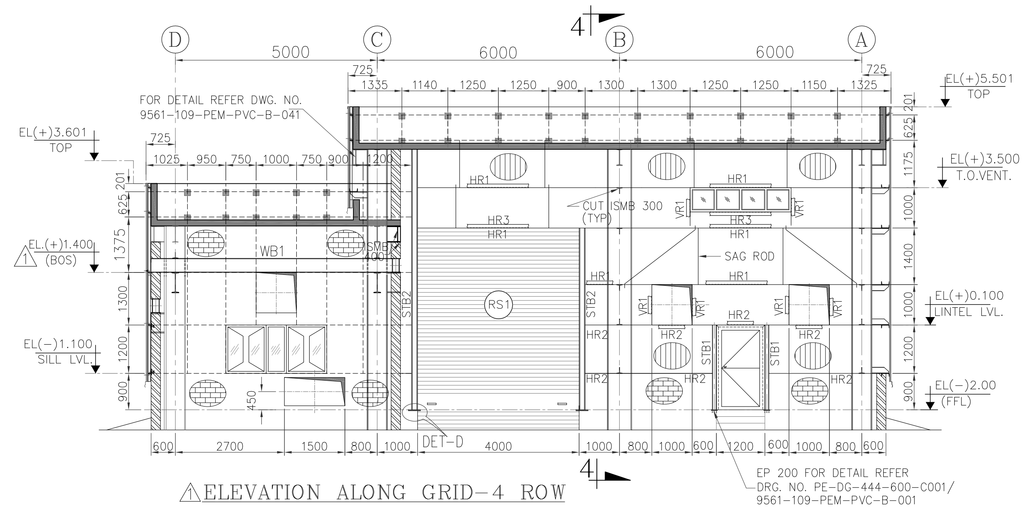
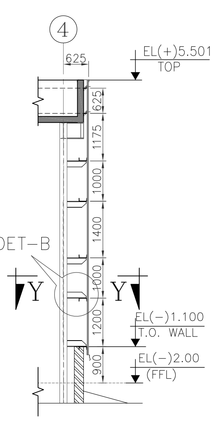
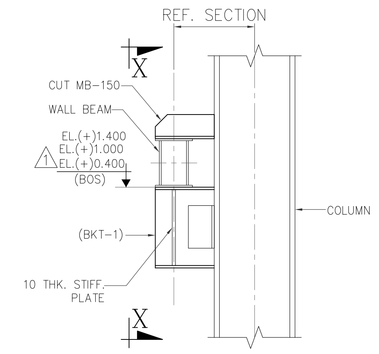


⚠ELEVATION ALONG GRID-4 ROW



SECTION 4-4



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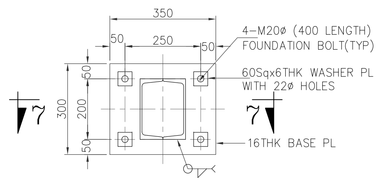
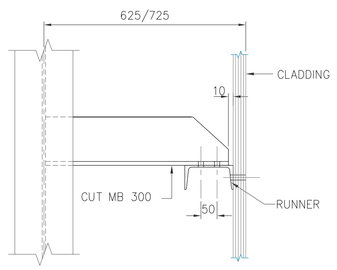
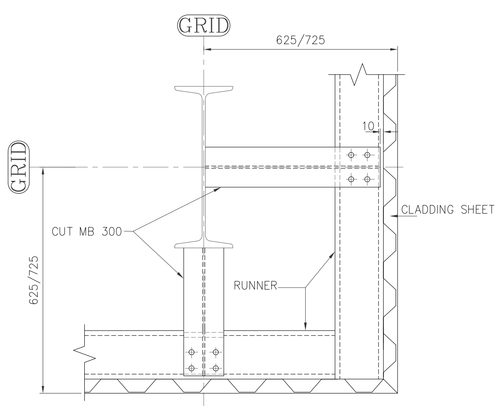


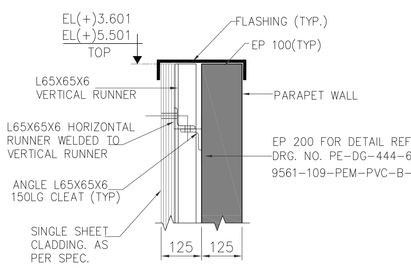
DETAIL-D



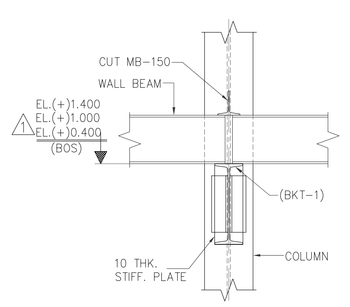
DETAIL-B



VIEW Y-Y



DETAIL-C



VIEW X-X

NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS & CONDITIONS, SPECIFICATIONS AND SCHEDULE OF ITEMS.
2. EL.(±)0.00M. CORRESPONDS TO RL(+)271.5 M. FGL IN THIS AREA IS AT RL.(+)269.0 M.
3. ALL DIMENSIONS ARE IN MILLIMETER & ALL LEVELS/ELEVATIONS ARE IN METER UNLESS NOTED OTHERWISE.
4. FOR ANY DETAIL & NOTES, REFER GENERAL NOTES DRG. (STEEL STRUCTURE) DRG. NO. PE-DG-444-600-C002/9561-109-PEM-PVC-B-002
5. QUANTITIES INDICATED IN BILL OF MATERIALS ARE APPROXIMATE & DO NOT INCLUDE FOR STIFFENERS, SPLICING, CONNECTION & WASTAGES.
6. UNLESS OTHERWISE NOTED BOLTS, SIZE OF GUSSET, SIZE OF WELD SHOWN IN TYP. DETAIL ARE INDICATIVE ONLY. THE ACTUAL NUMBER OF BOLTS REQUIRED AND CONNECTION TO BE DECIDED BY FABRICATOR.
7. ALL WELDS SHALL BE 8mm FILLET CONTINUOUS UNLESS NOTED.
8. PAINTING ON STEEL STRUCTURE SHALL BE AS PER TECHNICAL SPECIFICATION.

REFERENCE DRGS.:-

1. PLANT LAYOUT OF FGD SYSTEM ---------- 0-FW-000-00777/ 9561-109-RP-PVM-F-386
2. GENERAL NOTES FOR STRUCTURAL STEEL WORKS---------- PE-DG-444-600-C002/ 9561-109-PEM-PVC-B-002
3. COMPRESSOR HOUSE BLDG. LAYOUT---------- PE-DG-444-555-A015/ 9561-109-PEM-PVM-B-309
4. COMPRESSOR HOUSE BLDG.-ARCHITECTURAL PLANS,---------- PE-DG-444-647-C001/ ELEVATION & SECTION 9561-109-PEM-PVC-B-037
5. COMPRESSOR HOUSE BLDG.-GA & RC DETAILS OF FOUNDATION--PE-DG-444-647-C003/ 9561-109-PEM-PVC-B-039
6. COMPRESSOR HOUSE BLDG.-DETAIL OF COLUMN, MAIN BEAM,--- PE-DG-444-647-C004/ TRANSVERSE, LONGITUDINAL FRAMING & BASE PLATE 9561-109-PEM-PVC-B-040
7. COMPRESSOR HOUSE BLDG.-FRAMING ARRANGEMENT OF ROOF--PE-DG-444-647-C005/ 9561-109-PEM-PVC-B-041
8. COMPRESSOR HOUSE BLDG.-GA & RC DETAIL OF ROOF------- PE-DG-444-647-C006/ 9561-109-PEM-PVC-B-042
9. COMPRESSOR HOUSE BLDG.-GA & RC DETAIL OF GROUND FLOOR--PE-DG-444-647-C007/ 9561-109-PEM-PVC-B-043

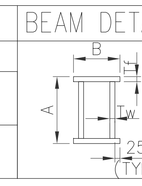
LEGEND:-

FFL : FLOOR FINISHED LEVEL
TOS : TOP OF STEEL
FGL : FINISHED GROUND LEVEL
TOC : TOP OF CONCRETE
EL : ELEVATION
TYP : TYPICAL
B.O.BEAM : BOTTOM OF BEAM

SCHEDULE OF MEMBERS

ITEM MKD.	SECTION DETAIL
HR1	ISMC 200
HR2	ISMC 150
HR3	ISMC 100
VR1	ISMC 100
BKT1	ISMB 500
STB1	ISMC150(BOX)
STB2	ISMC200(BOX)

SCHEDULE OF WALL BEAM

SL. NO.	ITEM MKD.	SECTION DETAIL A	B	C	D	BEAM DETAIL
1	WB1	350	250	10	10	
2	WB2	300	250	10	10	

TOTAL QTY OF STEEL - 10 M.T.(APPROX.)

Documents / Drawings are being submitted to NTPC for Information.
Contractor/Vendor hereby confirms full compliance to all the specified requirements of the tender specification, without any deviation, whatsoever. In case during the tenure of the contract it is observed/found that the data/ information in approved Drg/document is not meeting the tender specification, Contractor/vendor will modify/ rectify/replace the Equipments/ System/Utilities to meet the specification without any commercial implication or any time extension to NTPC in this regard.

(M.S.K. SAMANTA) AGM - MOUDA TF PROJ. ENGG. NTPC EOC: SECTOR-24, NOIDA . UP. - 201301

Digitally signed by S. K.Samanta DN: cn=S.K.Samanta, c=IN, o=NTPC LTD., ou=EOC, email=sksamanta@ntpc.co.in Reason: Catrel Date: 2020.10.26 17:01:13 +05'30'

JOB NO.	444
STATUS	CONTRACT
DISTRIBUTION	
TO	
No. OF	

REV.	DATE	ALTD	CHD	APPD
01	30.09.2020	VIDYA	AK	HK

DRAWING REVISED DUE TO CHANGE IN ELEVATION OF WALL BEAM AND MARKED AS ⚠

NTPC DRG. No. 9561-109-PEM-PVC-B-038

PROJECT: MAUDA SUPER THERMAL POWER PROJECT STAGE-I (2X500MW)

OWNER: एन टी पी सी NTPC — NTPC Limited (A GOVERNMENT OF INDIA ENTERPRISE)

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA

DEPT CODE		NAME	SIGN	DATE
C	DRN	KAMAL/JEET	-SD-	02.05.2020
	DESN	AK	-SD-	02.05.2020
	CHD	HK	-SD-	02.05.2020
	APPD	AN	-SD-	02.05.2020

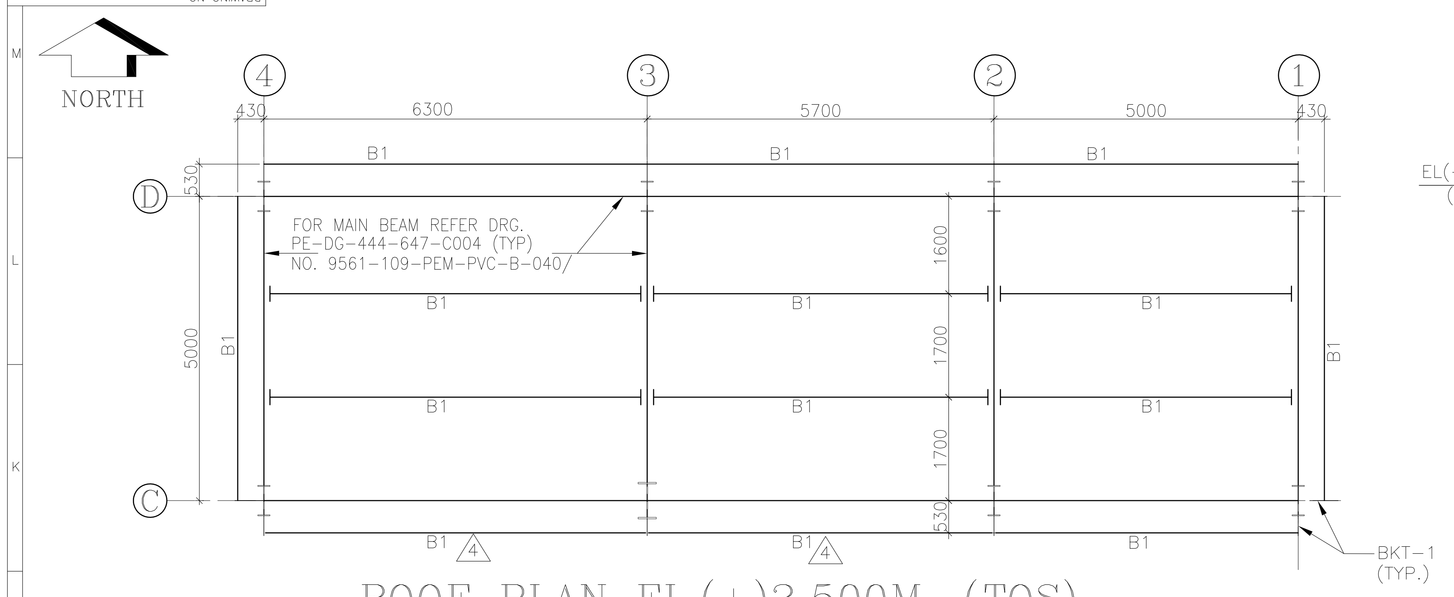
TITLE: COMPRESSOR HOUSE BUILDING
DETAIL OF WALL BEAM & CLADDING

MPL	ELEC	C&I	MSE	MAX	DEPT. SIGN	SCALE
					DATE	

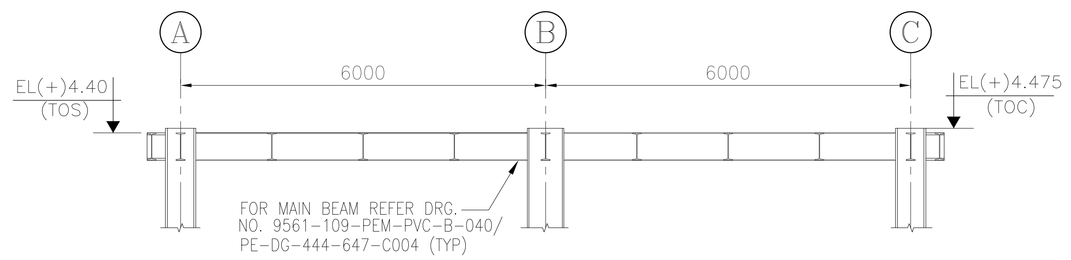
DRAWING NO. PE-DG-444-647-C002

SHEET 01 OF 01 REV. 01

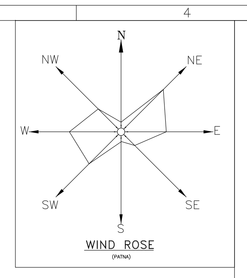
FORMAT SIZE A1

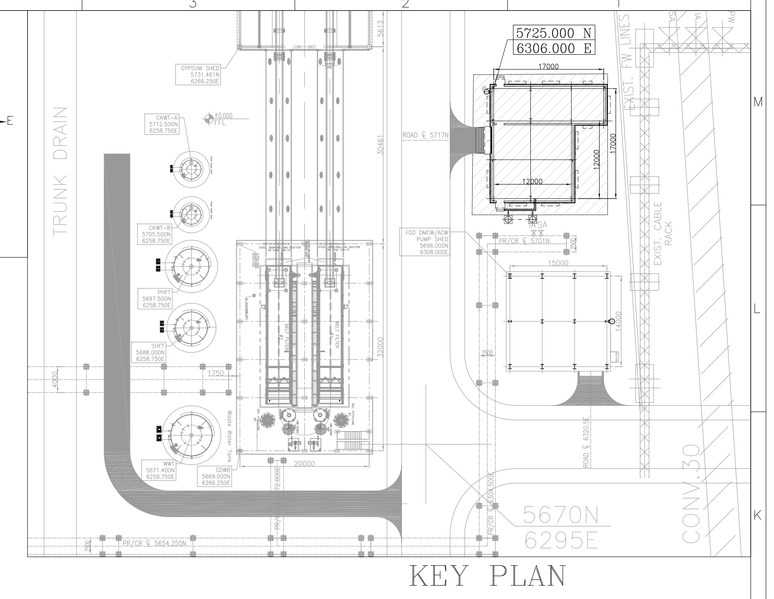


ROOF PLAN EL.(+)2.500M. (TOS)

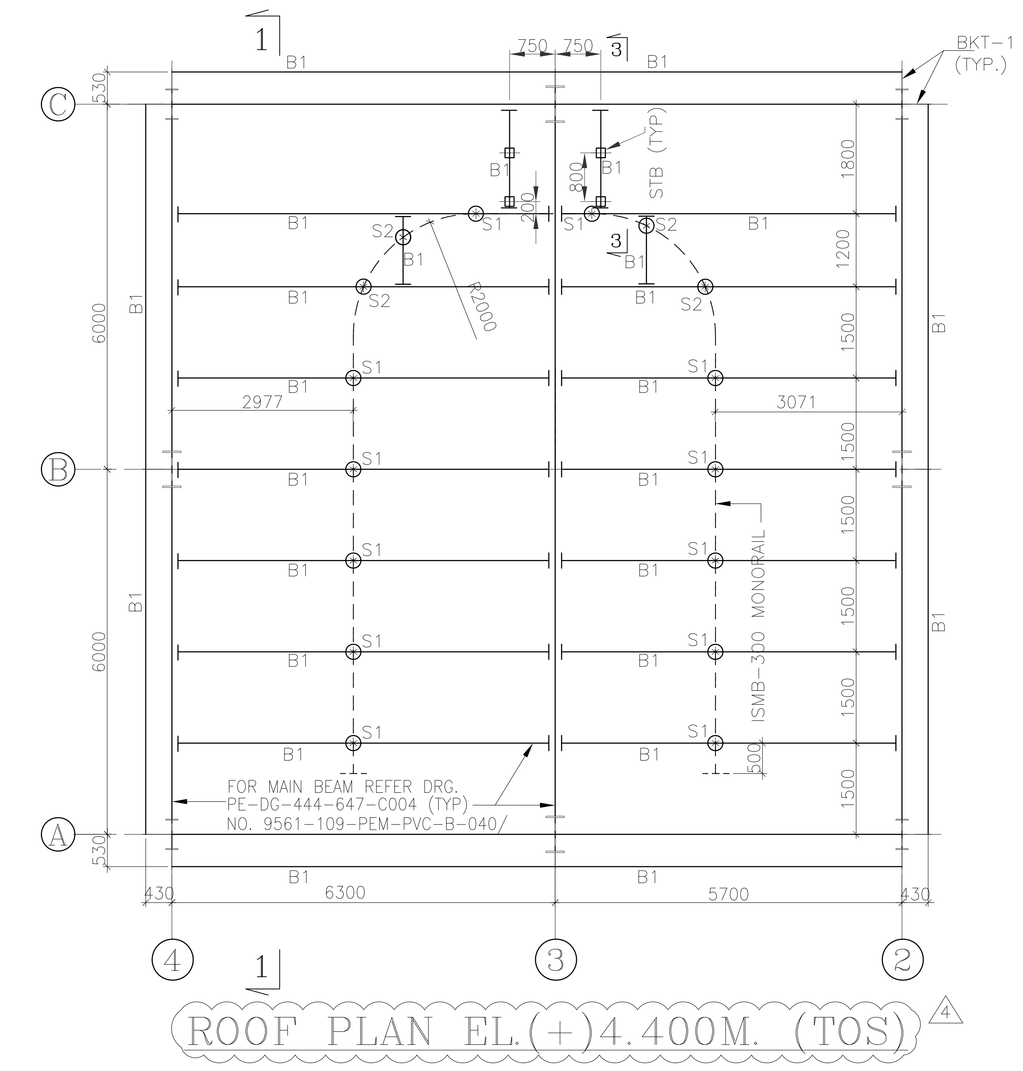


SECTION 1-1

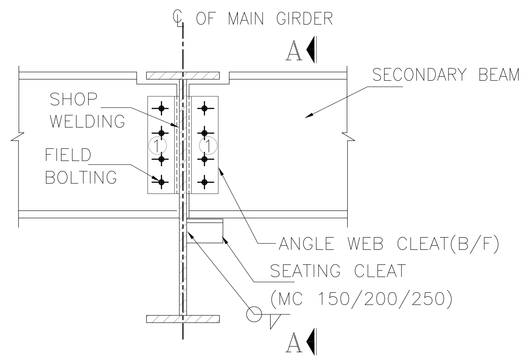




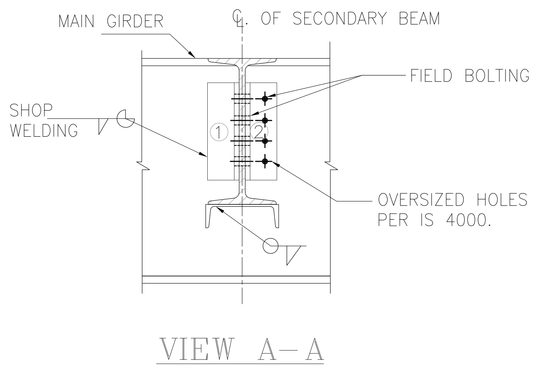
KEY PLAN



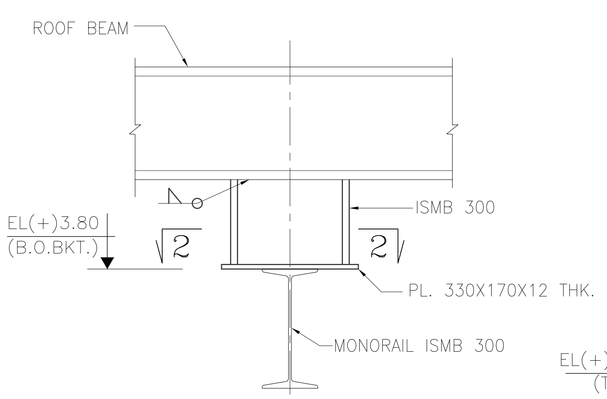
ROOF PLAN EL.(+)4.400M. (TOS)



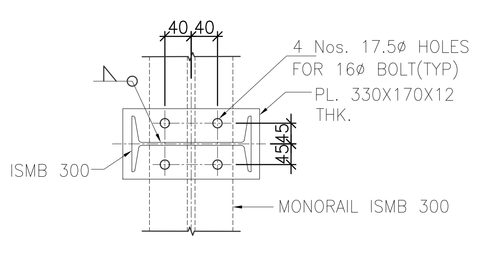
SECONDARY BEAM TO MAIN BEAM CONNECTION DETAIL



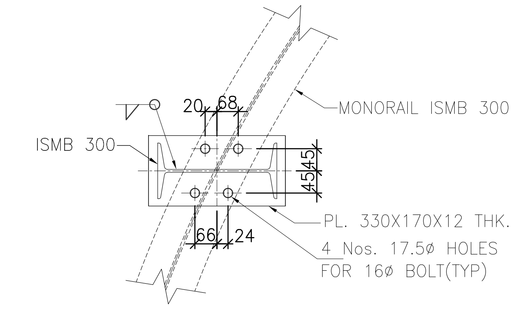
VIEW A-A
(REFER ERECTION SEQUENCE-1)



DETAILS OF SUPPORT S1/S2



SECTION 2-2
(FOR SUPPORT S1)



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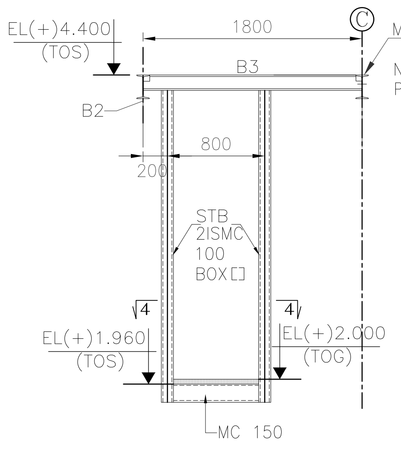
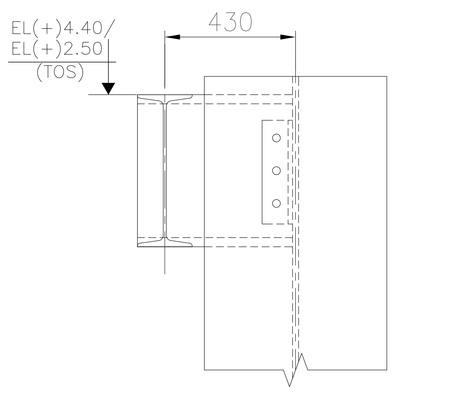
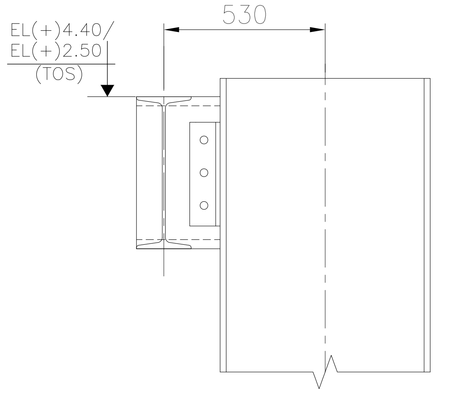
(FOR SUPPORT S2)



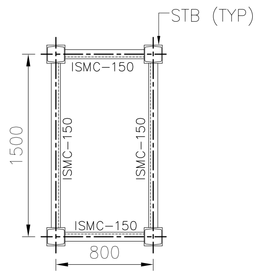
4 SECTION 3-3



TYP. DETAIL OF BKT-1
(CONNECTION IN COLUMN WEB)



TYP. DETAIL OF BKT-1
(CONNECTION IN COLUMN FLANGE)



4 SECTION 4-4
EL(+)1.960(TOS)

SCHEDULE OF BEAM

SL NO.	BEAM MARKED	SECTION DETAILS
1	B1	ISMB-400 I
2	BKT-1	ISMB-400 I

(DIA., SPACING & NO. OF BOLTS ARE INDICATIVE. ACTUAL TO BE REFERRED FROM CORRESPONDING FABRICATION DRG.)

ERECTION SEQUENCE-1

1. ONE LEG OF ANGLE 1 SHALL BE WELDED WITH MAIN BEAM AT SHOP.
2. HOLES FOR BOLT SHALL BE DRILLED AT SHOP IN OTHER OUTSTANDING LEG OF ANGLE 1 AS PER FABRICATION DRAWING.
3. ANGLE 2 WILL HAVE HOLES DRILLED IN BOTH LEGS AT SHOP AS PER FABRICATION DRAWING AND SHALL BE SHIPPED LOOSE TO SITE.
4. AFTER PLACING SECONDARY BEAM IN POSITION WITH CRANE, BOTH ANGLE 1 & 2 SHALL BE BOLTED TO SECONDARY BEAM.
5. OUTSTANDING LEG OF ANGLE 2 SHALL BE BOLTED TO MAIN BEAM.

NOTES: -

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS AND CONDITIONS, TECHNICAL SPECIFICATIONS AND SCHEDULE OF ITEMS.
2. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS STATED OTHERWISE.
3. EL 0.00 M CORRESPONDS TO RL(+) 271.5 M.
4. FOR GENERAL NOTES FOR STRUCTURAL STEEL WORKS REF. BHEL DWG. NO. PE-DG-444-600-C002/ NTPC DWG. NO. 9561-109-PEM-PVC-B-002.
5. ALL WORK SHALL BE CARRIED OUT AS PER TECHNICAL SPECIFICATION, SCHEDULE OF ITEMS CONFORMING TO THE QUALITY CHECKS,SPECIFIED THEREIN AND IN FIELD QUALITY PLAN.
6. ALL WELDS SHALL BE 8mm FILLET CONTINUOUS UNLESS NOTED.
7. ALL CONNECTION OF MAIN BEAM TO SECONDARY BEAM SHALL BE SHEAR CONNECTION UNO.
8. PAINTING ON STEEL STRUCTURE SHALL BE AS PE TECHNICAL SPECIFICATION.
9. ALL STRUCTURAL CONNECTIONS SHALL COMPLY TO SECTION-12 OF IS:800-2007.

REFERENCE DRGS.: -

1. PLANT LAYOUT OF FGD SYSTEM- ---- 0-FW-000-00777/9561-109-RP-PVM-F-386
2. GEN. NOTES FOR STRUCTURAL STEEL WORKS ----- PE-DG-444-600-C002 /9561-109-PEM-PVC-B-002
3. COMPRESSOR HOUSE LAYOUT --- PE-DG-444-555-A015/9561-109-PEM-PVM-B-309
4. COMPRESSOR HOUSE-DETAIL OF CLADDING --- PE-DG-444-647-C002/9561-109-PEM-PVC-B-038
5. COMPRESSOR HOUSE-DETAIL OF COLUMN, --- PE-DG-444-647-C004/9561-109-PEM-PVC-B-040 MAIN BEAM, TRANSVERSE, LONGITUIDINAL FRAMING & BASE PLATE
6. COMPRESSOR HOUSE- ARCHITECTURAL PLANS,-- PE-DG-444-647-C001/9561-109-PEM-PVC-B-037 ELEVATION & SECTION
7. COMPRESSOR HOUSE-GA & ---- PE-DG-444-647-C006/9561-109-PEM-PVC-B-042 RC DETAIL OF ROOF

LEGEND: -

TOS : TOP OF STEEL
TOC : TOP OF COLUMN
EL : ELEVATION
TYP : TYPICAL
B.O.BKT. : BOTTOM OF BRACKET

(M S.K. SAMANTA)
AGM - MOUDA TF
PROJ. ENGG. NTPC
EOC, SECTOR-24,
NOIDA , UP. - 201301

Digitally signed by S.K.Samanta
DN: cn=S.K.Samanta, c=IN, o=NTPC LTD., ou=EOC, email=sksamanta@ntpc.co.in
Reason: Catrel
Date: 2020.10.26 16:59:01 +05'30'

APPROX. QTY OF STEEL - 15 MT

JOB NO.	444
STATUS	CONTRACT
DISTRIBUTION	
TO	
No. OF	

NTPC DRAWING NO. 9561-109-PEM-PVC-B-041

OWNER : एन टी पी सी NTPC

NTPC Limited
(A GOVERNMENT OF INDIA ENTERPRISE)
ENGINEERING DIVISION

PROJECT : 2 x 500 MW Mauda-I FGD

भेल BHEL

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NEW DELHI

DEPT CODE		NAME	SIGN	DATE
C	DRN	SAVITA	-SD-	11.06.2019
	DESN	AK	-SD-	11.06.2019
	CHD	RKP	-SD-	11.06.2019
	APPD	HK/CPK	-SD-	11.06.2019

TITLE : COMPRESSOR HOUSE BUILDING
FRAMING ARRANGEMENT OF ROOF

MPL	ELEC	C&I	MSE	MAX	DEPT.	SCALE VARIES	DRAWING NO.
					SIGN		PE-DG-444-647-C005
					DATE		SHEET 1 OF 1 REV. 04

REV	DATE	ALTD	CHD	APPD	DESCRIPTION
R4	22.10.20	VIDYA	AK	AKV/HK	DRAWING REVISED DUE TO CHANGE IN BEAM ARRANGEMENT FOR MONORAIL & PLATFORM 4
R3	03.12.19	SAVITA	AK	AKV/HK	DRAWING REVISED AS PER LATEST INPUT AND MARKED AS 3
R2	04.11.19	SAVITA	AK	RKP/HK	REVISED DUE TO CHANGE IN CO-ORDINATE AND MARKED AS 2
R1	16.09.19	SAVITA	AK	RKP/HK	DRAWING REVISED AS PER REVISED INPUT AND MARKED AS 1

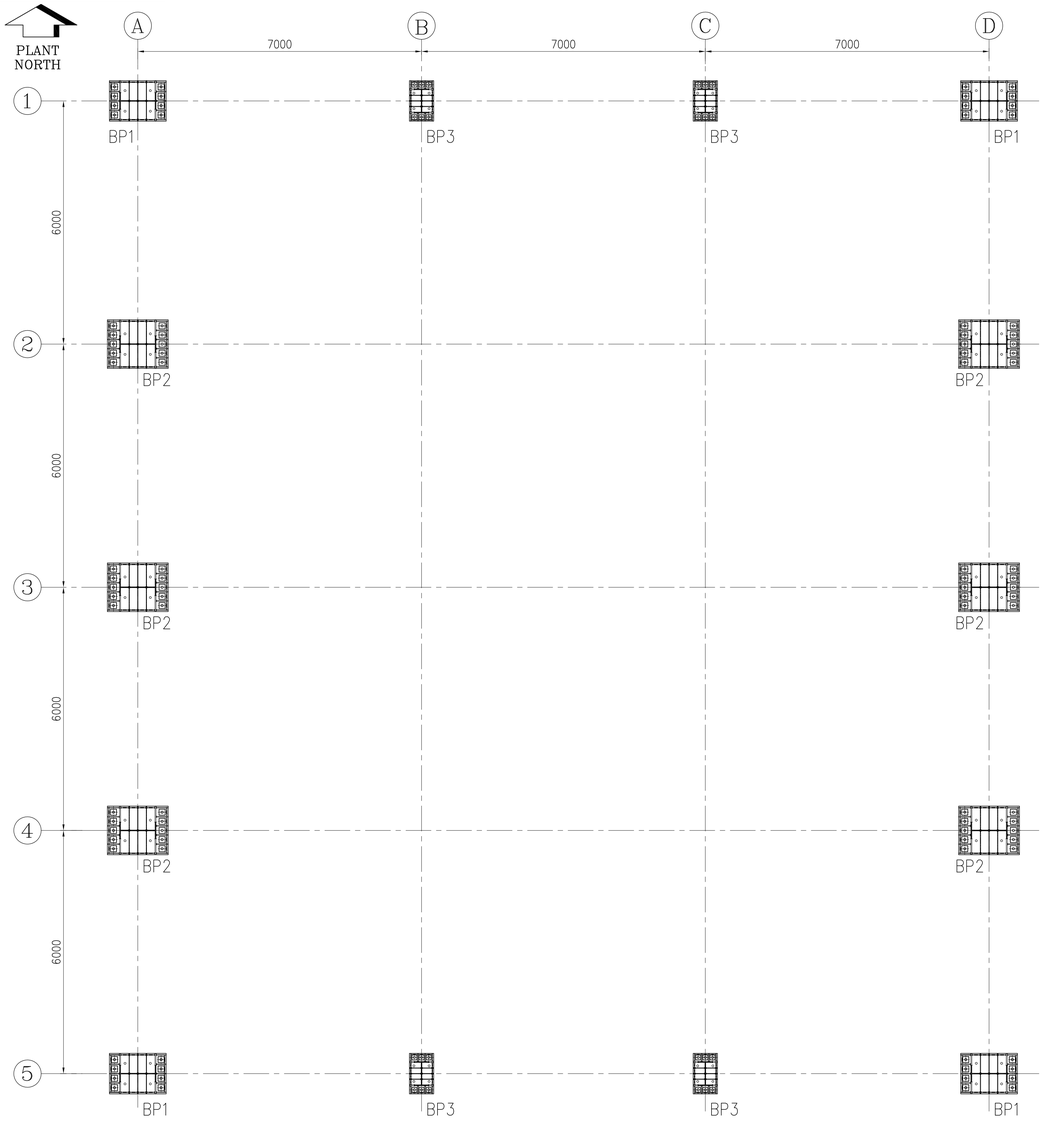
CAD FILE NAME: D:\DOCUMENTS\2020 TO 2021 (DRAWING LIST)\MAUDA\COMPRESSOR HOUSE\R1\9561-109-PEM-PVC-B-041-04 (COMPRESSOR HOUSE BUILDING- FRAMING ARRANGEMENT OF ROOF)

FORMAT SIZE A1

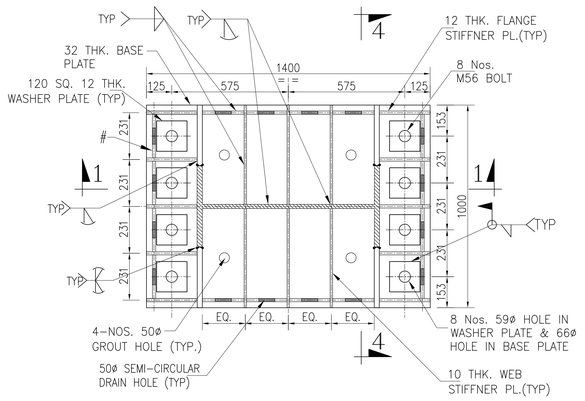
DRAWING NO. PE-DG-444-691-C005

FIRST ANGLE PROJECTION — ALL DIMENSIONS ARE IN MM

PLANT NORTH

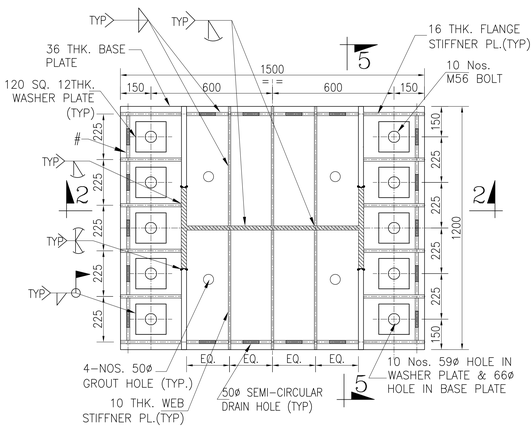


LAYOUT PLAN OF BASE PLATE



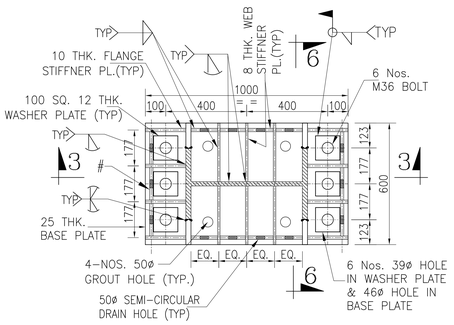
DETAIL OF BASE PLATE –BP1

(#–STIFFENERS TO BE WELDED AFTER WELDING OF WASHER PLATE)



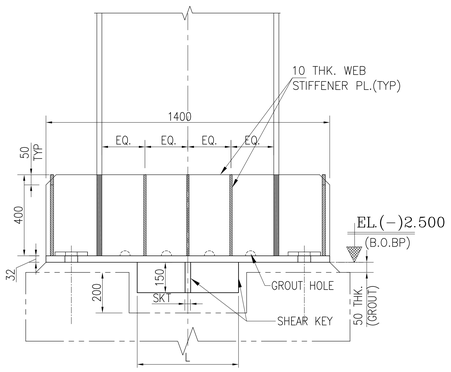
DETAIL OF BASE PLATE –BP2

(#–STIFFENERS TO BE WELDED AFTER WELDING OF WASHER PLATE)

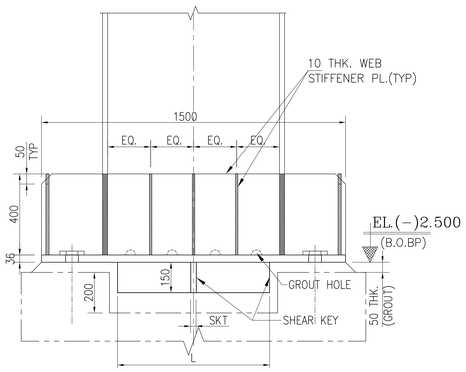


DETAIL OF BASE PLATE –BP3

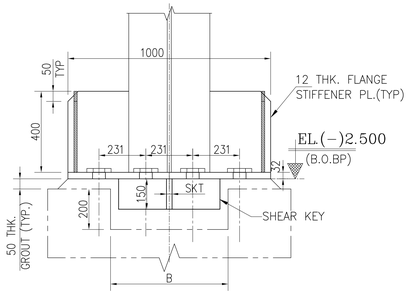
(#–STIFFENERS TO BE WELDED AFTER WELDING OF WASHER PLATE)



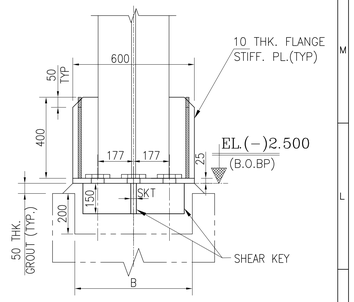
SECTION 1–1



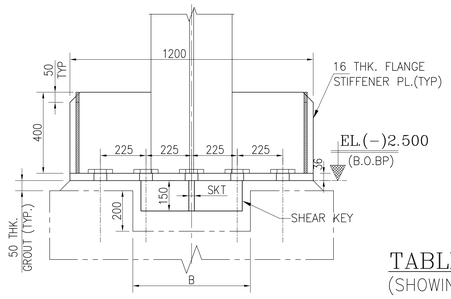
SECTION 2–2



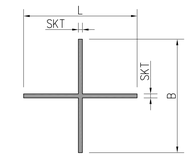
SECTION 4–4



SECTION 6–6



SECTION 5–5

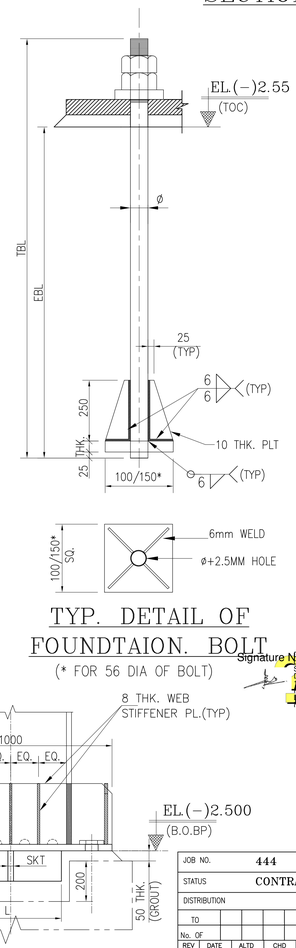


SHEAR KEY DETAILS

TABLE – A

(SHOWING ANCHOR PL. THICKNESS)

SR. NO.	BOLT DIA(ø)	EBL	TBL	THICK
1.	36ø	900	1100	16
2.	56ø	1500	1800	20



TYP. DETAIL OF FOUNDTAION. BOLT

(* FOR 56 DIA OF BOLT)

SECTION 3–3

DETAILS OF SHEAR KEY

SL.NO.	SHEAR KEY	L	B	SKT	FOR COL. LOCATIONS
1	SK–1	500	150	28	FOR BP1
2	SK–2	1000	150	28	FOR BP2
3	SK–3	500	150	20	FOR BP3

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS AND CONDITIONS, TECHNICAL SPECIFICATIONS AND SCHEDULE OF ITEMS.
2. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS NOTED OTHERWISE.
3. ALL ELEVATIONS ARE WITH RESPECT TO MAIN POWER HOUSE BUILDING GROUND FLOOR LEVEL AS EL.(±)0.00 M. WHICH CORRESPONDS TO R.L. +271.50M ABOVE M.S.L.
4. FOR GENERAL NOTES FOR STRUCTURAL STEEL WORKS REF. BHEL DWG. NO. PE–DG–444–600–C002/NTPC DWG. NO. 9561–109–PEM–PVC–B–002.
5. ALL WORK SHALL BE CARRIED OUT AS PER TECHNICAL SPEC., SCHEDULE OF ITEMS CONFORMING TO THE QUALITY CHECKS,SPECIFIED THEREIN AND IN FIELD QUALITY PLAN.
6. ALL WELDS SHALL BE 8mm FILLET CONTINUOUS UNLESS NOTED.
7. PAINTING ON STEEL STRUCTURE SHALL BE AS PER TECHNICAL SPECIFICATION.
8. ALL STRUCTURAL CONNECTIONS SHALL COMPLY TO SECTION–12 OF IS:800–2007.

REFERENCE DRGS.

1. PLANT LAYOUT OF FGD SYSTEM----------0–FW–000–00777/ 9561–109–RP–PVM–F–386
2. GA OF BALL MILL BUILDING (SHT 1 OF 2)------0–FW–000–01336
3. GA OF BALL MILL BUILDING (SHT 2 OF 2)------0–FW–000–01362
4. GA & RC DETAILS OF FOUNDATION----------PE–DG–444–691–C004/ 9561–109–PEM–PVC–B–076
5. DETS. OF COL., MAIN BEAM, TRANSVERSE & LONGITUDINAL FRAMING---------PE–DG–444–691–C006/ 9561–109–PEM–PVC–B–078
6. GA & RC DETAIL AT GROUND FLOOR----------PE–DG–444–691–C011/ 9561–109–PEM–PVC–B–083

LEGEND: –

BOBP : BOTTOM OF BASE PLATE
TOC : TOC OF CONCRETE
TYP : TYPICAL
EL : ELEVATION

TOTAL STEEL QUANTITY = 9.85 M.T.(APPROX)

JOB NO.	444
STATUS	CONTRACT
DISTRIBUTION	
TO	
No. OF	

REV	DATE	ALTD	CHD	APPD
01	15.09.20	K.SINGH	AK/HK	AN

DRAWING IS REVISED AS PER LATEST INPUT DRAWING.

NTPC DRAWING NO. 9561–109–PEM–PVC–B–077

OWNER : एन टी पी सी NTPC

NTPC Limited
(A GOVERNMENT OF INDIA ENTERPRISE)
ENGINEERING DIVISION

PROJECT : 2x500 MW MAUDA TPP FGD PROJECT

भेल BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NEW DELHI

DEPT CODE		NAME	SIGN	DATE
C	DRN	YK	–SD–	16.11.2019
	DESN	AK	–SD–	16.11.2019
	CHD	RKP	–SD–	16.11.2019
	APPD	HK	–SD–	16.11.2019

TITLE : BALL MILL BUILDING
DETAILS OF BASE PLATE & FDN. BOLT

MPL	ELEC	C&I	MSE	MAX	DEPT.	SCALE	VARIES
					SIGN		
					DATE		

DRAWING NO. PE–DG–444–691–C005

SHEET 1 OF 1 REV. 01

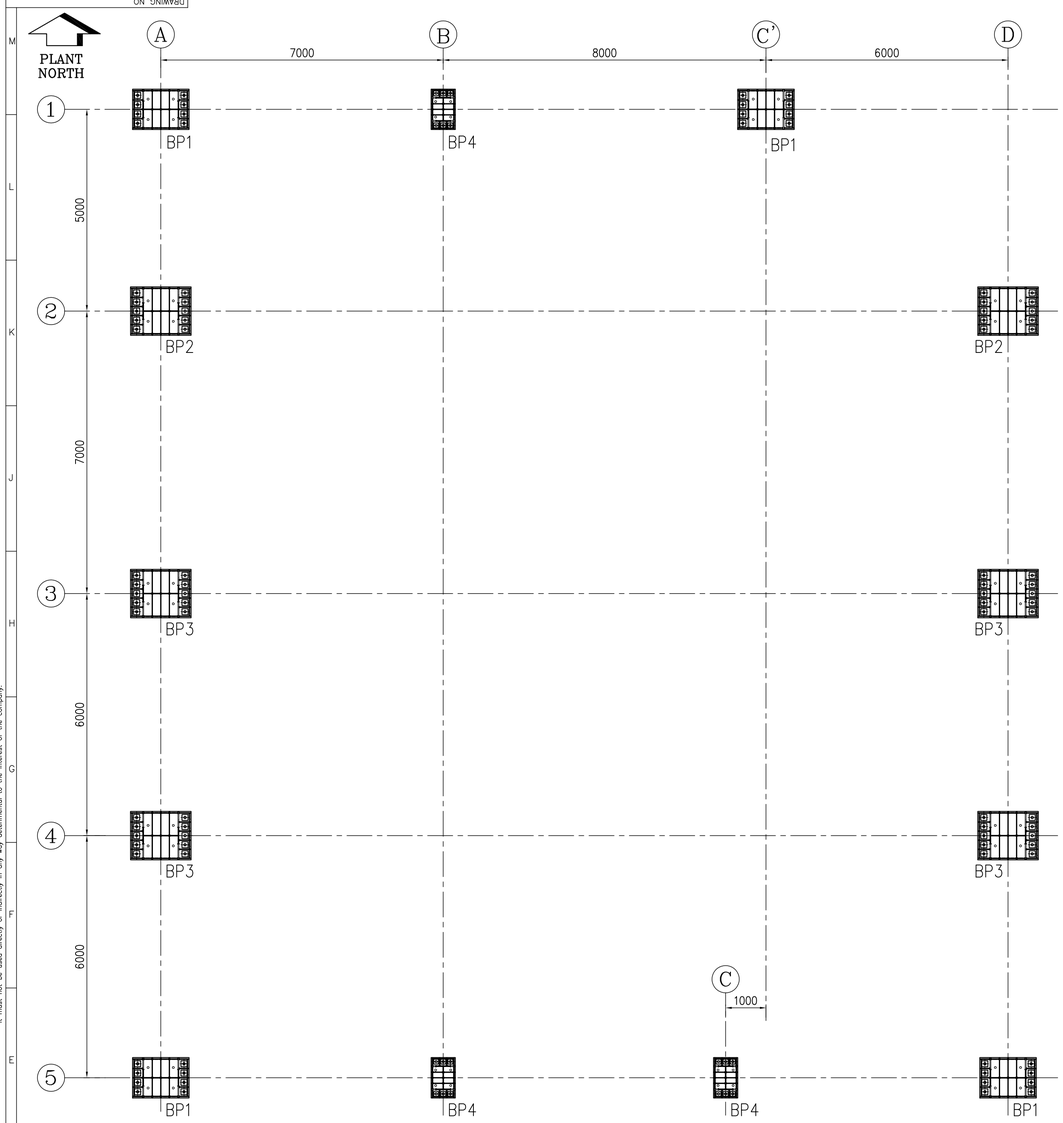
CAD FILE NAME: F:\(FGD PROJECT\MAUDA STAGE–I(2X250MW)\Boil Mill Building\R1\9561–109–PEM–PVC–B–077–01_BALL_MILL_BUILDING_DETAILS_OF_BASE_PLATE_&_FDN._BOLT_DETAIL.dgn

COMPLIANCE REPORT

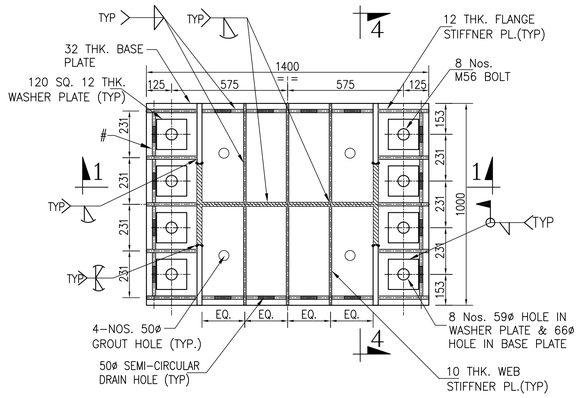
FOR 9561-109-PEM-PVC-B-077 R0 NTPC COMMENTS RECEIVED VIDE LETTER
Reference: CC:PE:9561:109:39665 DATED 02.12.2019

SL NO	NTPC COMMENT	BHEL REPLY
1	Load calculation & Analysis of Ball Mill Building is yet to be submitted for NTPC approval. This document document can be reviewed after approval of Load calculation & Analysis of Ball Mill Building and Design of Foundation.	Load calculation & Analysis of Ball Mill Building revised and submitted separately. Kindly refer doc. No. 9561-109-PEM-PVC-U-176-00.

DRAWING NO. PE-DG-444-691-C005

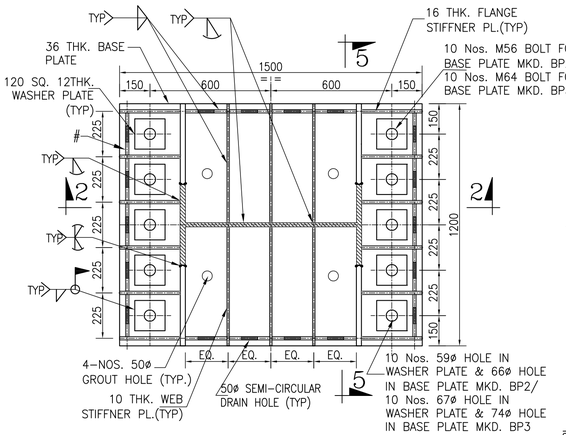


LAYOUT PLAN OF BASE PLATE



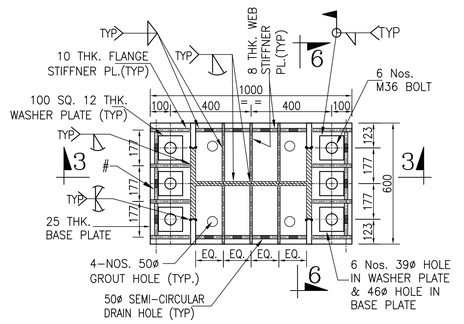
DETAIL OF BASE PLATE –BP1

(#–STIFFENERS TO BE WELDED AFTER WELDING OF WASHER PLATE)



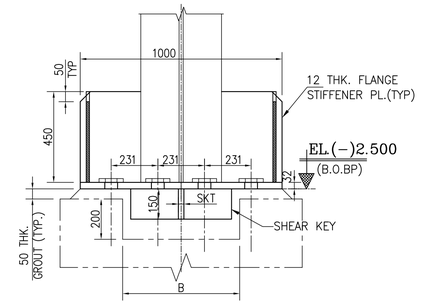
DETAIL OF BASE PLATE –BP2/BP3

(#–STIFFENERS TO BE WELDED AFTER WELDING OF WASHER PLATE)

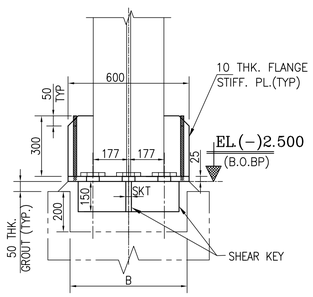


DETAIL OF BASE PLATE –BP4

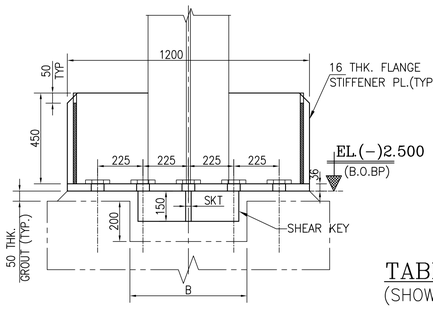
(#–STIFFENERS TO BE WELDED AFTER WELDING OF WASHER PLATE)



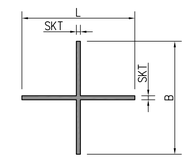
SECTION 4–4



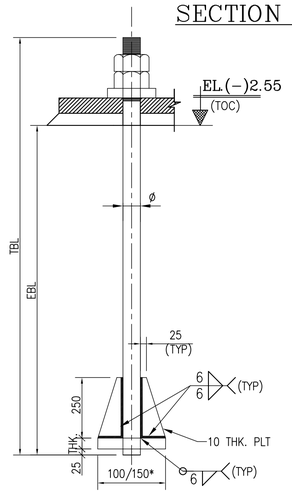
SECTION 6–6



SECTION 5–5



SHEAR KEY DETAILS



TYP. DETAIL OF FOUNDTAION BOLT

(* FOR 56/64 DIA

TABLE – A

(SHOWING ANCHOR PL. THICKNESS)

SR. NO.	BOLT DIA(ø)	EBL	TBL	THICK
1.	36ø	900	1100	16
2.	56ø	1500	1800	20
3.	64ø	1600	1900	20

NOTES

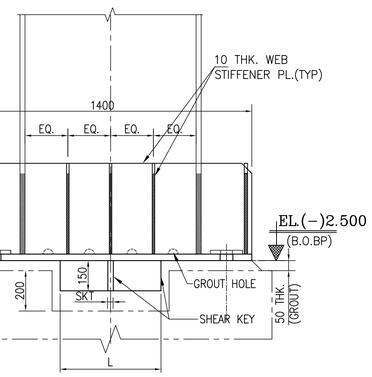
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS AND CONDITIONS, TECHNICAL SPECIFICATIONS AND SCHEDULE OF ITEMS.
2. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS NOTED OTHERWISE.
3. ALL ELEVATIONS ARE WITH RESPECT TO MAIN POWER HOUSE BUILDING GROUND FLOOR LEVEL AS EL.(±)0.00 M. WHICH CORRESPONDS TO R.L. +271.50M ABOVE M.S.L.
4. FOR GENERAL NOTES FOR STRUCTURAL STEEL WORKS REF. BHEL DWG. NO. PE-DG-444-600-C002/NTPC DWG. NO. 9561-109-PEM-PVC-B-002.
5. ALL WORK SHALL BE CARRIED OUT AS PER TECHNICAL SPEC., SCHEDULE OF ITEMS CONFORMING TO THE QUALITY CHECKS,SPECIFIED THEREIN AND IN FIELD QUALITY PLAN.
6. ALL WELDS SHALL BE 8mm FILLET CONTINUOUS UNLESS NOTED.
7. PAINTING ON STEEL STRUCTURE SHALL BE AS PER TECHNICAL SPECIFICATION.
8. ALL STRUCTURAL CONNECTIONS SHALL COMPLY TO SECTION–12 OF IS:800–2007.

REFERENCE DRGS.

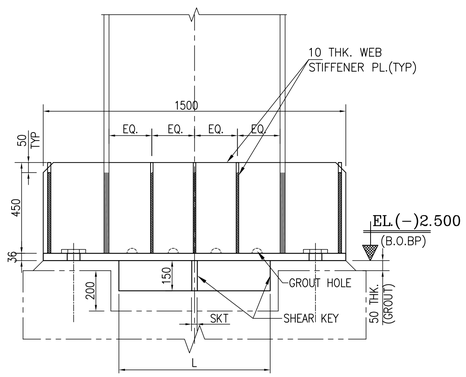
1. PLANT LAYOUT OF FGD SYSTEM----------0–FW–000–00777/ 9561–109–RP–PVM–F–386
2. GA OF BALL MILL BUILDING (SHT 1 OF 2)-------0–FW–000–01336
3. GA OF BALL MILL BUILDING (SHT 2 OF 2)-------0–FW–000–01362
4. GA & RC DETAILS OF FOUNDATION----------PE–DG–444–691–C004/ 9561–109–PEM–PVC–B–076
5. DETS. OF COL., MAIN BEAM, TRANSVERSE---------PE–DG–444–691–C006/ & LONGITUDINAL FRAMING 9561–109–PEM–PVC–B–078
6. GA & RC DETAIL AT GROUND FLOOR----------PE–DG–444–691–C011/ 9561–109–PEM–PVC–B–083

LEGEND: –

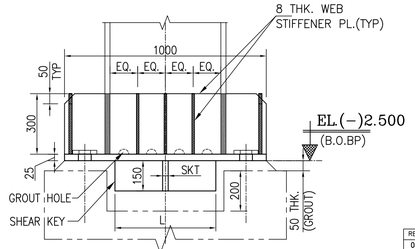
BOBP : BOTTOM OF BASE PLATE
TOC : TOC OF CONCRETE
TYP : TYPICAL
EL : ELEVATION



SECTION 1–1



SECTION 2–2



SECTION 3–3

DETAILS OF SHEAR KEY

SL.NO.	SHEAR KEY	L	B	SKT	FOR COL. LOCATIONS
1	SK–1	500	150	28	FOR BP1
2	SK–2	1000	150	28	FOR BP2/BP3
3	SK–3	500	150	20	FOR BP4

TOTAL STEEL QUANTITY = 9.85 M.T.(APPROX)

REV	DATE	ALTD	CHD	APPD	REMARKS
03	21.01.2021	K.SINGH	AK	HK/AN	DRAWING IS SUBMITTED FOR CAT–I APPROVAL
02	24.12.20	K.SINGH	AK	HK/AN	DRAWING IS REVSED AS PER LATEST INPUT DRAWING.
01	15.09.20	K.SINGH	AK/HK	AN	DRAWING IS REVSED AS PER LATEST INPUT DRAWING.

Signature Not Verified
Digitally signed by S K SAMANTA
Date: 2021.01.29 16:34:58 IST
Reason: CAT I
Location: NTPCEOC

NTPC DRAWING NO. 9561–109–PEM–PVC–B–077

OWNER : एन टी पी सी NTPC — NTPC Limited (A GOVERNMENT OF INDIA ENTERPRISE) ENGINEERING DIVISION

PROJECT : 2x500 MW MAUDA TPP FGD PROJECT

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NEW DELHI

DEPT CODE		NAME	SIGN	DATE
C	DRN	YK	–SD–	16.11.2019
	DESN	AK	–SD–	16.11.2019
	CHD	RKP	–SD–	16.11.2019
	APPD	HK	–SD–	16.11.2019

JOB NO. 444
STATUS CONTRACT
DISTRIBUTION
TO
No. OF

TITLE : BALL MILL BUILDING
DETAILS OF BASE PLATE & FDN. BOLT

MPL	ELEC	C&I	MSE	MAX	DEPT.	SCALE	VARIES
					SIGN		
					DATE		

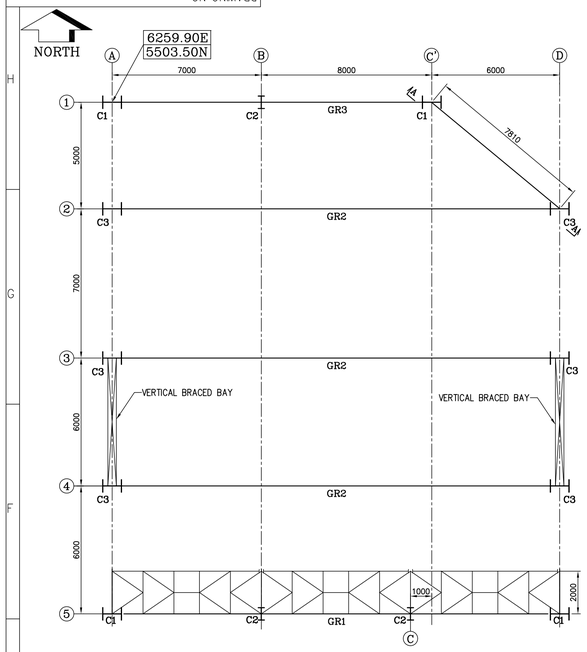
DRAWING NO. PE–DG–444–691–C005

SHEET 1 OF 1 REV. 03

COMPLIANCE REPORT

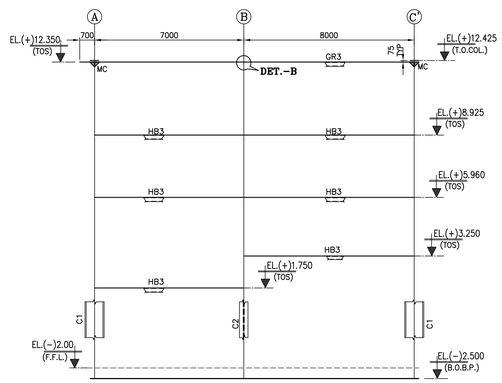
FOR 9561-109-PEM-PVC-B-077 R2 NTPC COMMENTS RECEIVED VIDE LETTER
Reference: CC:PE:9561:109:40506 DATED 11.01.2021

SL NO	NTPC COMMENT	BHEL REPLY
1	Review in line with the comments marked on design document.	Drawing reviewed and found in order.

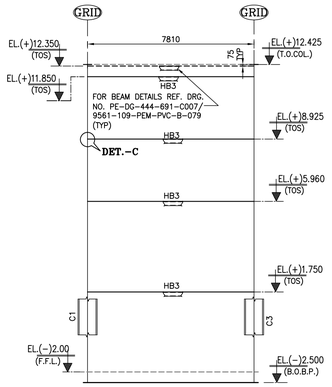


LAYOUT OF COLUMN & BRACING

CONNECTION OF GR-1 & GR-2 TO COLUMN SHALL BE THROUGH MOMENT CONNECTION.
REMAINING CONNECTIONS SHALL BE SHEAR CONNECTION.



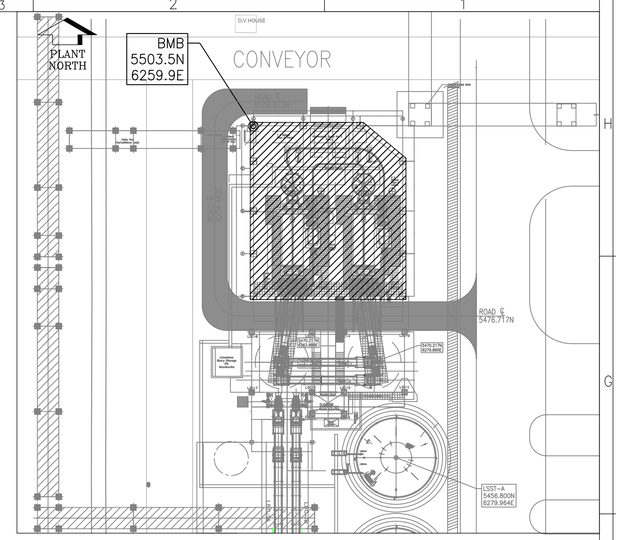
ELEVATION ALONG (1) ROW



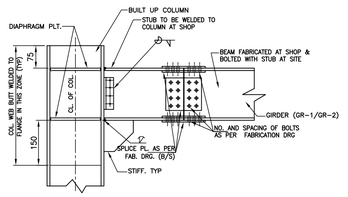
VIEW A-A

SCHEDULE OF BEAM

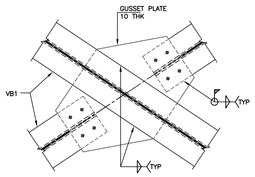
SL.NO	BEAM MARKED	SECTION DETAILS D	B	Tf	Tw	BEAM SECTION
1	GR1	1050	400	32	20	
2	GR2	1350	400	36	28	
3	GR3	900	400	28	16	
4	C1	900	450	32	16	
5	C2	600	300	20	12	
6	C3	900	500	32	20	
7	VB1	2 ISMC-250 BOX []				
8	VB2	2 ISA 100x100x8 ⊥L				
9	HB1	ISMC-150 BOX []				
10	HB2	NPB 500x200x90.7				
11	HB3	2 ISMC-200 BOX []				
12	HB4	NPB400X180X57.38				
13	HB5	NPB 500x200x107.31				



KEY PLAN

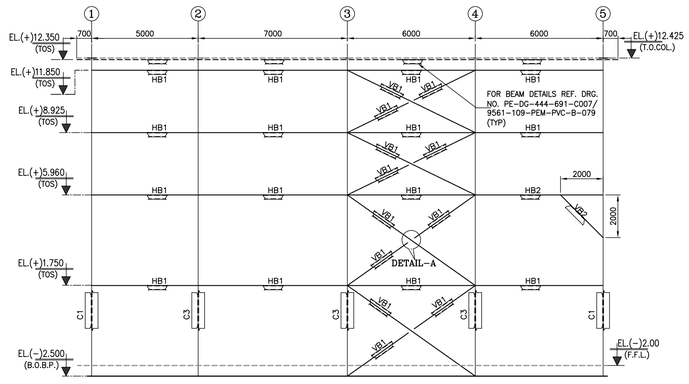


MOMENT CONNECTION & SPLICE DETAIL FOR MAIN BEAM (TYP.)

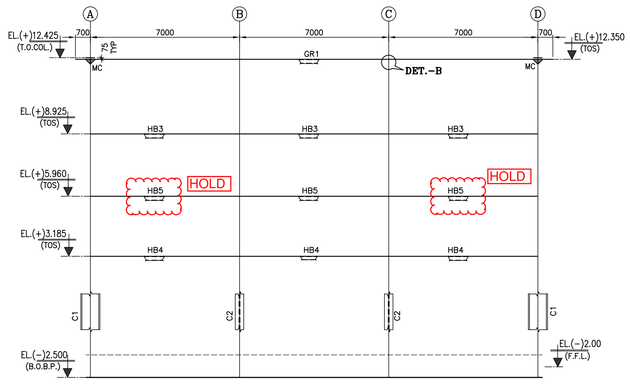


TYP. DETAIL-A

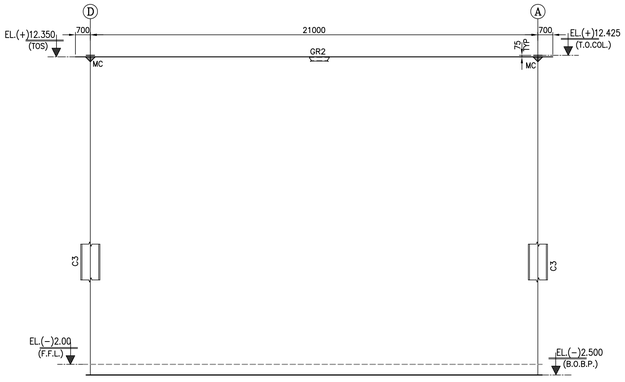
CONNECTION SHALL BE AS PER FABRICATION DRG.



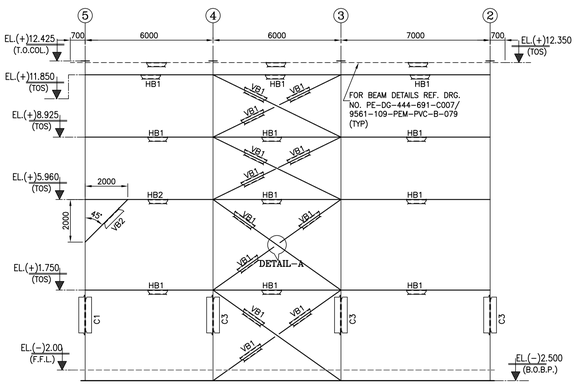
ELEVATION ALONG (A) ROW



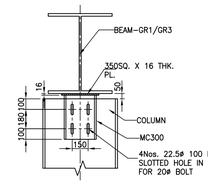
ELEVATION ALONG (5) ROW



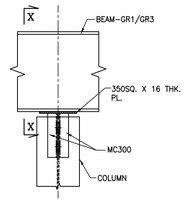
ELEVATION ALONG ROWS (2) TO (4)



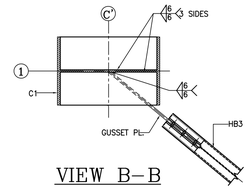
ELEVATION ALONG (D) ROW



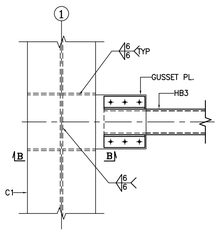
VIEW X-X



DETAIL-B



VIEW B-B



DETAIL-C

Signature Not Verified
Digitally signed by SANJANTA
Date: 2021.02.02 12:02:55 IST
Reason: CAT I
Location: NTPCEOR

TOTAL QTY OF STEEL - 125 M.T.(APPROX.)

NOTES: -

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS AND CONDITIONS, TECHNICAL SPECIFICATIONS AND SCHEDULE OF ITEMS.
2. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS NOTED OTHERWISE.
3. ALL ELEVATIONS ARE WITH RESPECT TO MAIN POWER HOUSE BUILDING GROUND FLOOR LEVEL AS EL.(±)0.00 M. WHICH CORRESPONDS TO R.L. (+)269.00M ABOVE M.S.L.
4. FOR GENERAL NOTES FOR STRUCTURAL STEEL WORKS REF. BHEL DWG. NO. PE-DG-444-600-C002/NTPC DWG. NO. 9561-109-PEM-PVC-B-002.
5. ALL WORK SHALL BE CARRIED OUT AS PER TECHNICAL SPECIFICATION, SCHEDULE OF ITEMS CONFORMING TO THE QUALITY CHECKS,SPECIFIED THEREIN AND IN FIELD QUALITY PLAN.
6. ALL WELDS SHALL BE 8mm FILLET CONTINUOUS UNLESS NOTED.
7. ALL CONNECTION OF MAIN BEAM TO SECONDARY BEAM SHALL BE SHEAR CONNECTION UNO.
8. PAINTING ON STEEL STRUCTURE SHALL BE AS PER TECHNICAL SPECIFICATION.
9. ALL STRUCTURAL CONNECTIONS SHALL COMPLY TO SECTION-12 OF IS:800-2007
10. STRUCTURE COMING FROM BALL MILL SILO BUILDING TO BALL MILL BUILDING SHALL BE SUPPORTED WITH PTFE SLIDER BEARING AT BALL MILL BUILDING END.

REFERENCE DRGS.: -

1. PLANT LAYOUT OF FGD SYSTEM----------0-FW-000-00777/9561-109-RP-PVM-F-386
2. LAYOUT AND ELEVATION DETAIL OF BALL MILL BUILDING-------0-FW-000-00843
3. GEN. NOTES & STD. DETAILS FOR ARCH. WORKS---PE-DG-444-600-C003/9561-109-PEM-PVC-B-003
4. ARCH. ELEVATIONS & FINISHING SCHEDULE--------PE-DG-444-691-C002/9561-109-PEM-PVC-B-074
5. PILING LAYOUT of FOUNDATION----------PE-DG-444-691-C003/9561-109-PEM-PVC-B-075
6. BASE PLATE DETAIL, LONGITUDINAL----------PE-DG-444-691-C005/9561-109-PEM-PVC-B-077 & TRANSVERSE FRAMING ARRANGEMENT
7. FLOOR FRAMING AT ROOF LEVEL----------PE-DG-444-691-C007/9561-109-PEM-PVC-B-079
8. WALL BEAM & CLADDING DETAILS----------PE-DG-444-691-C009/9561-109-PEM-PVC-B-081
9. GA & RC DETAIL AT GROUND FLOOR----------PE-DG-444-691-C011/9561-109-PEM-PVC-B-083
10. BALL MILL BUILDING ARCH FINISHING SCHEDULE----PE-DG-444-691-C001/9561-109-PEM-PVC-B-073

LEGEND: -

FFL : FLOOR FINISHED LEVEL
TOS : TOP OF STEEL
FGL : FINISHED GROUND LEVEL
T.O.COL. : TOP OF COLUMN
EL : ELEVATION
TYP : TYPICAL
B.O.BEAM : BOTTOM OF BEAM
MC : MOMENT CONNECTION

REV.	DATE	ALTD	CHD	APPD
02	21.01.2021	KAMAL JEET	AK/HK	AN
	DRAWING IS REVISED AS PER LATEST INPUT DRAWING.			
01	11.08.20	KAMAL JEET	AK/HK	AN
	DRAWING IS REVISED AS PER LATEST INPUT DRAWING.			

NTPC DRG. No. 9561-109-PEM-PVC-B-078

OWNER: एन टी पी सी NTPC

NTPC Limited
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT : 2x500 MW MAUDA TPP FGD PROJECT

JOB NO. 444
STATUS CONTRACT
DISTRIBUTION
TO
No. OF

ENGG / SUB CONTRACTOR: BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NEW DELHI

DEPT CODE		NAME	SIGN	DATE
C	DRN	YK	-SD-	13.06.2019
	DESN	AK	-SD-	13.06.2019
	CHD	RP	-SD-	13.06.2019
	APPD	HK	-SD-	13.06.2019

TITLE
BALL MILL BUILDING
DETAIL OF COLUMN, MAIN BEAM, TRANSVERSE & LONGITUDINAL FRAMING

MPL	ELEC	C&I	MSE	MAX	DEPT.	SCALE 1:100	DRAWING NO. PE-DG-444-691-C006
					SIGN		
					DATE		SHEET 1 OF 1 REV. 02

Jan 21, 2021 - 3:20pm

FORMAT SIZE A0

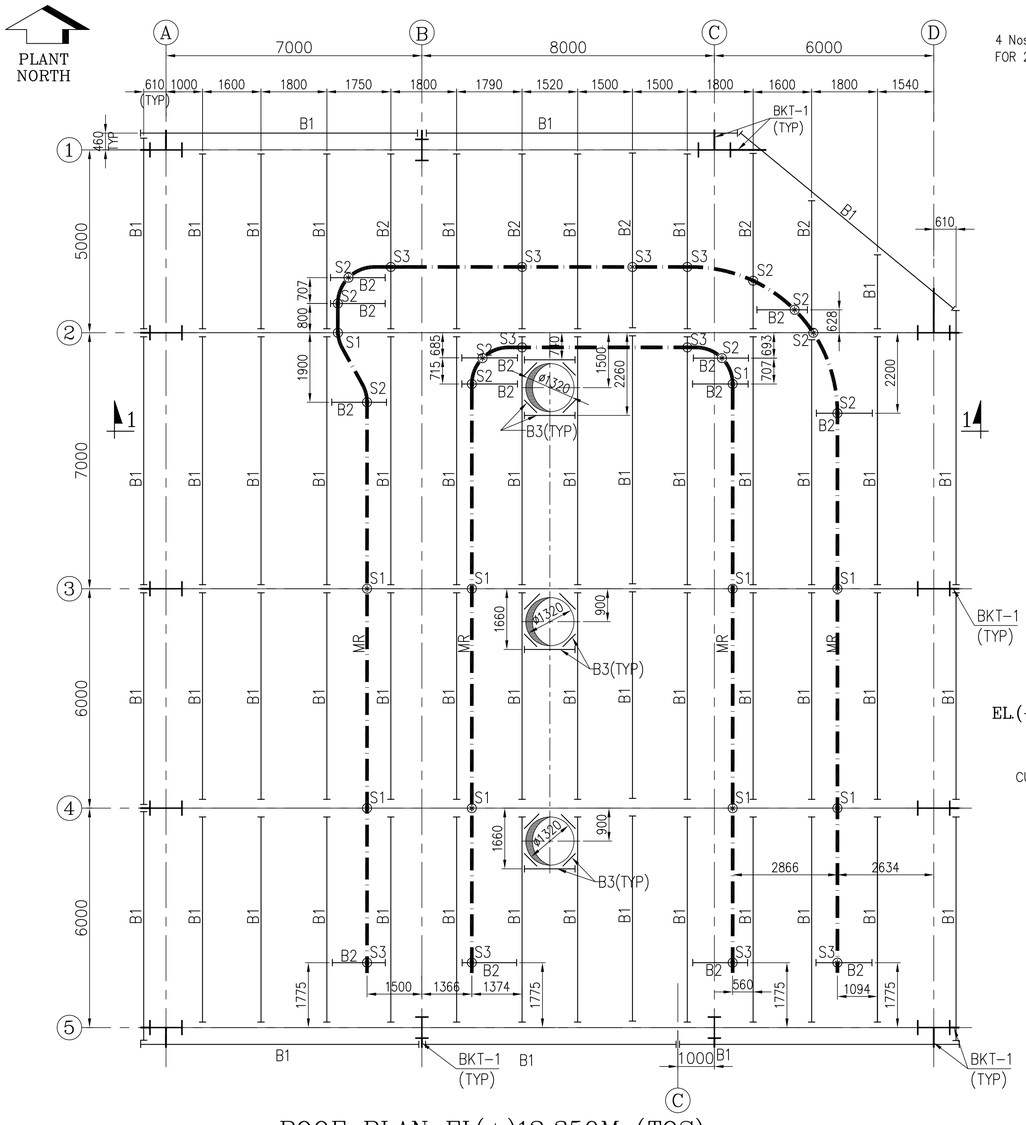
COMPLIANCE REPORT

FOR 9561-109-PEM-PVC-B-078 R1

SL NO	NTPC COMMENT	BHEL REPLY
1	No comment.	Drawing has been revised due to change in ball mill building layout as per site observations.

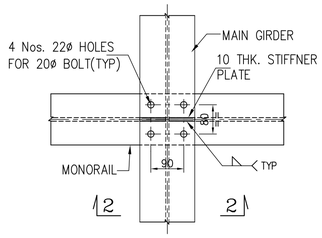
DRAWING NO. PE-DG-444-691-C007

FIRST ANGLE PROJECTION — ALL DIMENSIONS ARE IN MM

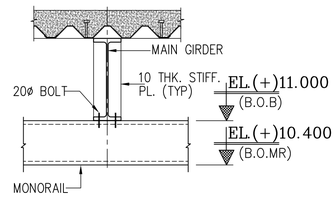


ROOF PLAN EL(+)12.350M (TOS)

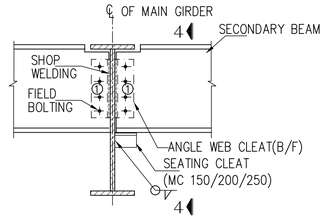
BKT-1 SHALL BE AT TOS EL(+)11.953



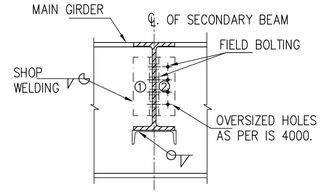
DETAILS OF SUPPORT S1



SECTION 2–2

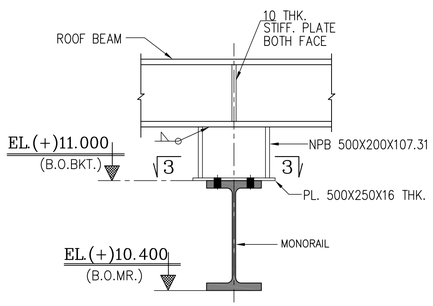


SECONDARY BEAM TO MAIN BEAM CONNECTION DETAIL

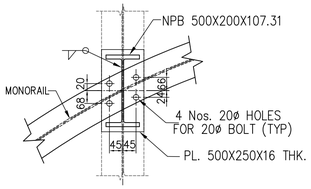


SECTION 4–4

(REFER ERECTION SEQUENCE–1)



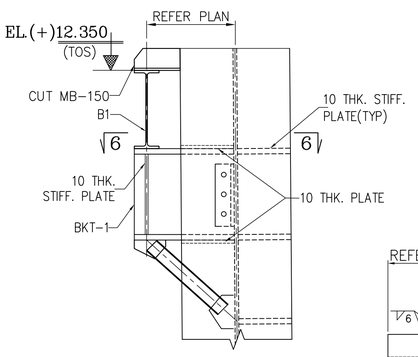
DETAILS OF SUPPORT S2/S3



SECTION 3–3

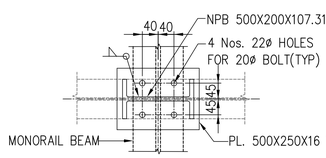
(FOR SUPPORT S2)

(FOR SUPPORT S2 – INDICATIVE DETAIL, FABRICATOR TO DETAIL INLINE AND MAY CHANGE PLATE ROTATION/SIZE/HOLE AT CURVATURE LOCATIONS ONLY. SUIT TO DETAILING REQUIREMENTS FOR BOTH MONORAILS.)



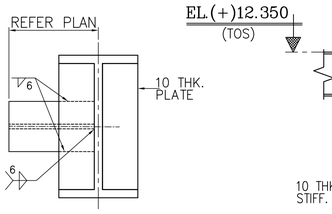
TYP. DETAIL OF BKT–1

(CONNECTION IN COLUMN WEB)

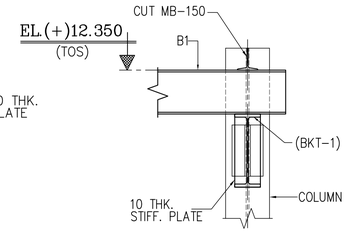


SECTION 3–3

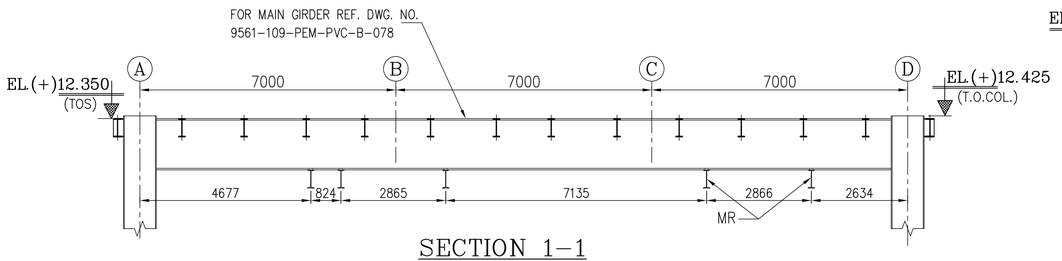
(FOR SUPPORT S3)



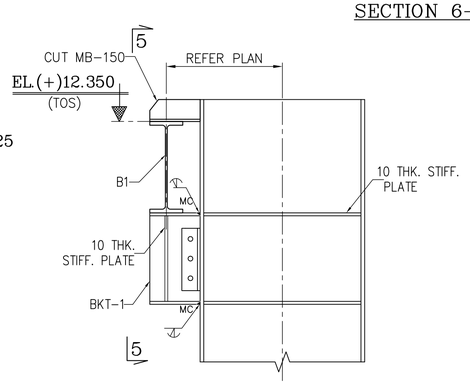
SECTION 6–6



SECTION 5–5



SECTION 1–1



TYP. DETAIL OF BKT–1

(CONNECTION IN COLUMN FLANGE)

TOTAL QTY OF STEEL – 25 MT(APPROX.)

SCHEDULE OF BEAM

SL.NO.	BEAM MARKED	SECTION DETAILS D	B	Tf	Tw	BEAM SECTION
1	B1	NPB 400X180X57.38				
2	B2	NPB 500X200X107.31				
3	BKT–1	NPB 400X180X57.38				
4	B3	ISMC 200				
5	MR	600	300	25	16	

ERECTION SEQUENCE–1

1. ONE LEG OF ANGLE 1 SHALL BE WELDED WITH MAIN BEAM AT SHOP.
2. HOLES FOR BOLT SHALL BE DRILLED AT SHOP IN OTHER OUTSTANDING LEG OF ANGLE 1 AS PER FABRICATION DRAWING.
3. ANGLE 2 WILL HAVE HOLES DRILLED IN BOTH LEGS AT SHOP AS PER FABRICATION DRAWING AND SHALL BE SHIPPED LOOSE TO SITE.
4. AFTER PLACING SECONDARY BEAM IN POSITION WITH CRANE, BOTH ANGLE 1 & 2 SHALL BE BOLTED TO SECONDARY BEAM.
5. OUTSTANDING LEG OF ANGLE 2 SHALL BE BOLTED TO MAIN BEAM.

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS AND CONDITIONS, TECHNICAL SPECIFICATIONS AND SCHEDULE OF ITEMS.
2. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS NOTED OTHERWISE.
3. ALL ELEVATIONS ARE WITH RESPECT TO MAIN POWER HOUSE BUILDING GROUND FLOOR LEVEL AS EL.(±)0.00 M. WHICH CORRESPONDS TO R.L. +271.50M ABOVE M.S.L.
4. FOR GENERAL NOTES FOR STRUCTURAL STEEL WORKS REF. BHEL DWG. NO. PE–DG–444–600–C002/NTPC DWG. NO. 9561–109–PEM–PVC–B–217.
5. ALL WORK SHALL BE CARRIED OUT AS PER TECHNICAL SPECIFICATION, SCHEDULE OF ITEMS CONFORMING TO THE QUALITY CHECKS,SPECIFIED THEREIN AND IN FIELD QUALITY PLAN.
6. ALL WELDS SHALL BE 8mm FILLET CONTINUOUS UNLESS NOTED.
7. ALL CONNECTION OF MAIN BEAM TO SECONDARY BEAM SHALL BE SHEAR CONNECTION UNO.
8. PAINTING ON STEEL STRUCTURE SHALL BE AS PER TECHNICAL SPECIFICATION.
9. ALL STRUCTURAL CONNECTIONS SHALL COMPLY TO SECTION–12 OF IS:800–2007.
10. STRUCTURE COMING FROM BALL MILL SILO BUILDING TO BALL MILL BUILDING SHALL BE SUPPORTED WITH PTFE SLIDER BEARING AT BALL MILL BUILDING END.

REFERENCE DRGS.

1. PLANT LAYOUT OF FGD SYSTEM ------ 0–FW–000–00777/ 9561–109–RP–PVM–F–386
2. LAYOUT AND ELEVATION DETAIL OF BALL MILL BUILDING -- 0–FW–000–00843
3. ARCHITECTURAL PLANS & SECTIONS ---- PE–DG–444–691–C001/ 9561–109–PEM–PVC–B–073
4. ARCH. ELEVATIONS & FINISHING SCHEDULE--PE–DG–444–691–C002/ 9561–109–PEM–PVC–B–074
5. GA & RC DETAILS OF FOUNDATION-------PE–DG–444–691–C004/ 9561–109–PEM–PVC–B–076
6. BASE PLATE DETAIL, LONGITUIDINAL & TRANSVERSE FRAMING ARRANGEMENT ----- PE–DG–444–691–C005/ 9561–109–PEM–PVC–B–077
7. DETS. OF COL., MAIN BEAM, TRANSVERSE & LONGITUDINAL FRAMING---PE–DG–444–691–C006/ 9561–109–PEM–PVC–B–078
8. WALL BEAM & CLADDING DETAILS---------PE–DG–444–691–C009/ 9561–109–PEM–PVC–B–081
9. GA & RC DETAIL AT GROUND FLOOR------PE–DG–444–691–C011/ 9561–109–PEM–PVC–B–083

LEGEND: –

TOS : TOP OF STEEL
BOB : BOTTOM OF BEAM
BOBKT : BOTTOM OF BRACKET
BOMR : BOTTOM OF MONORAIL
TYP : TYPICAL
MC : MOMENT CONNECTION

Documents / Drawings are being submitted to NTPC for Information.
Contractor/Vendor hereby confirms full compliance to all the specified requirements of the tender specification, without any deviation, whatsoever. In case during the tenure of the contract it is observed/found that the data/ information in approved Drg/ document is not meeting the tender specification, Contractor/ vendor will modify/ rectify/replace the Equipments/ System/ Utilities to meet the specification without any commercial implication or any time extension to NTPC in this regard.

(DIA., NO. & SPACING OF BOLTS ARE INDICATIVE. ACTUAL DIA., NO. & SPACING OF BOLTS TO BE REFERRED FROM CORRESPONDING FABRICATION DRG.)

Digitally signed by S.K.Samanta
DN: cn=S.K.Samanta, o=N. o=NTPC LTD., ou=EOC, email=sksamanta@ntpc.co.in
Reason: Cat-Rel
Date: 2021.01.29 17:03:46 +05'30'

REV	DATE	ALTD	CHD	APPD	DRAWING IS REVISED AS PER CHANGE IN INPUT.
02	23.01.21	KJ.SINGH	AK	HK/AN	
01	27.10.20	KJS	AK	HK/AN	DRAWING IS REVISED AS PER INPUT

JOB NO. 444
STATUS CONTRACT
DISTRIBUTION
TO
No. OF

NTPC DRAWING NO. 9561–109–PEM–PVC–B–079

OWNER : एन टी पी सी NTPC

NTPC Limited
(A GOVERNMENT OF INDIA ENTERPRISE)
ENGINEERING DIVISION

PROJECT : 2x500 MW MAUDA TPP FGD PROJECT

भा ह वि लि
BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NEW DELHI

DEPT CODE		NAME	SIGN	DATE
C	DRN	YK	–SD–	04.07.2019
	DESN	AK	–SD–	04.07.2019
	CHD	RKP	–SD–	04.07.2019
	APPD	HK	–SD–	04.07.2019

TITLE : BALL MILL BUILDING
FRAMING PLAN OF ROOF BEAMS

MPL	ELEC	C&I	MSE	MAX	DEPT. SIGN DATE	SCALE VARIES

DRAWING NO. PE–DG–444–691–C007

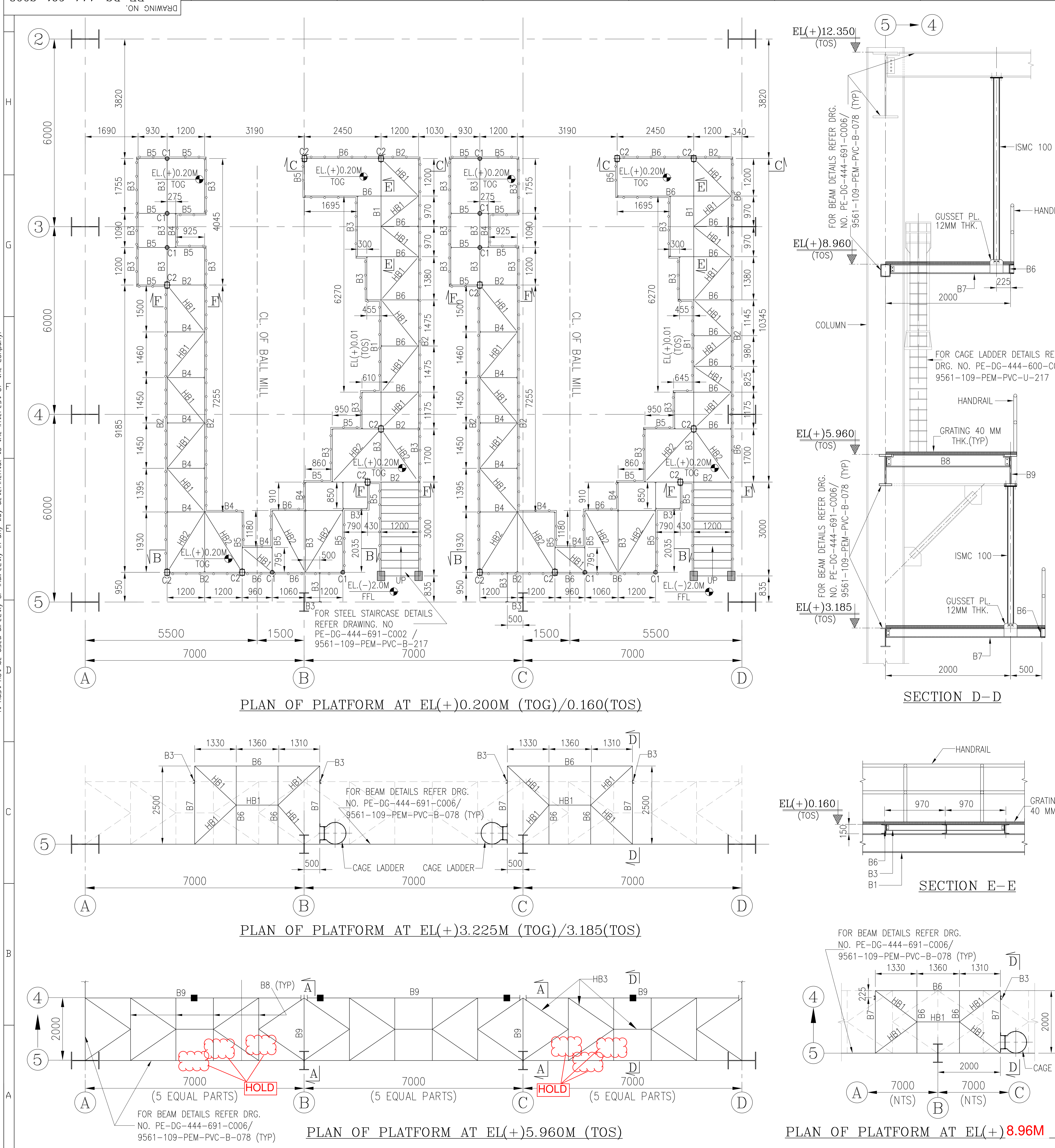
SHEET 1 OF 1 REV. 02

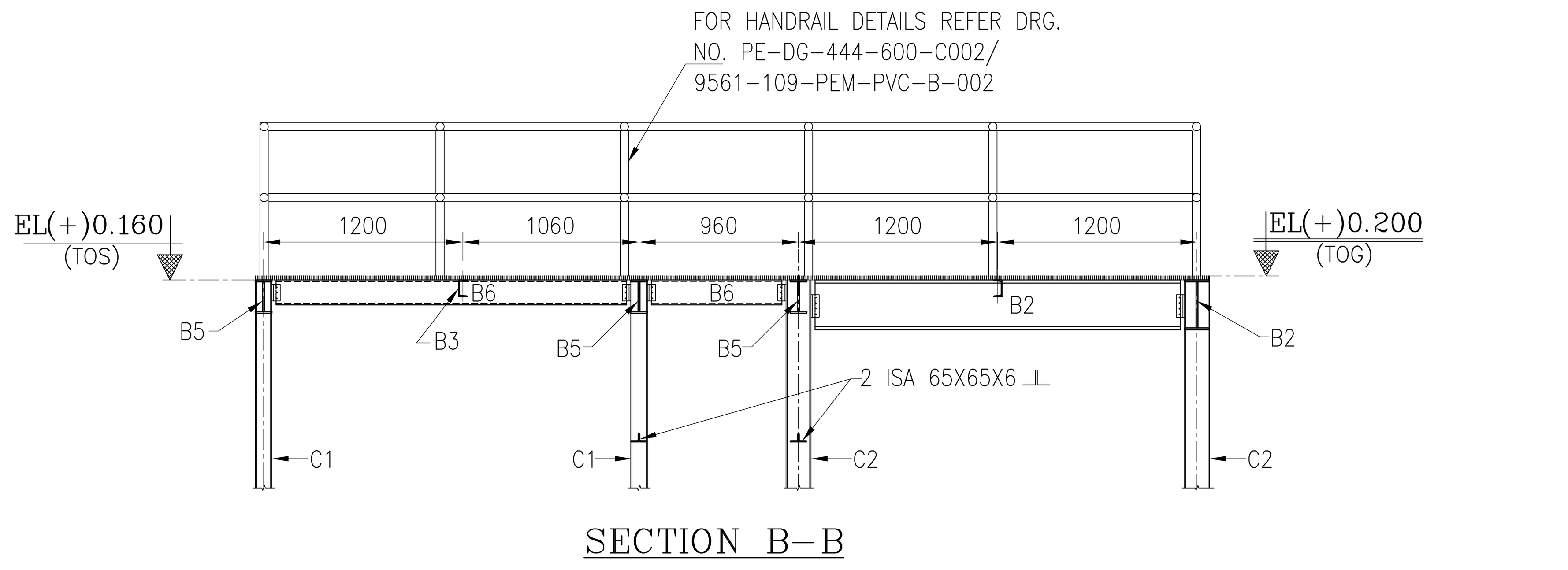
CAD FILE NAME: F:\FGD PROJECT\MAUDA STAGE–I(2X250MW)\Boil Mill Building\R2\9561–109–PEM–PVC–B–079_R2_BALL_MILL_BUILDING_FRAMING_PLAN_OF_ROOF_BEAMS.dwg

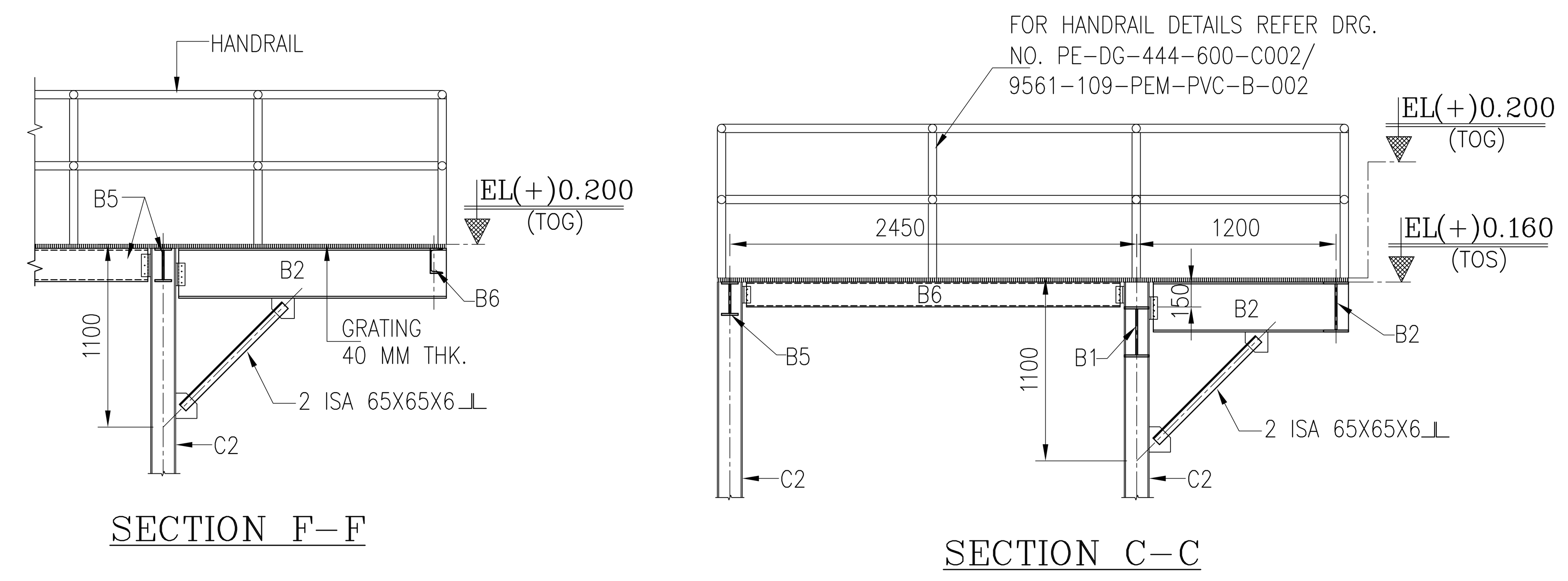
COMPLIANCE REPORT

FOR 9561-109-PEM-PVC-B-079 R1

SL NO	NTPC COMMENT	BHEL REPLY
1	No comment.	Drawing has been revised due to change in ball mill building layout as per site observations.







NOTES: –

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS AND CONDITIONS, TECHNICAL SPECIFICATIONS AND SCHEDULE OF ITEMS.
2. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS NOTED OTHERWISE.
3. ALL ELEVATIONS ARE WITH RESPECT TO MAIN POWER HOUSE BUILDING GROUND FLOOR LEVEL AS EL.(±)0.00 M. WHICH CORRESPONDS TO R.L. +271.500M. ABOVE M.S.L. FGL IN THIS AREA IS AT RL.(+)269.00M .
4. FOR GENERAL NOTES FOR STRUCTURAL STEEL WORKS REF. BHEL DWG. NO. PE-DG-444-600-C002/NTPC DWG. NO. 9561-109-PEM-PVC-U-217.
5. ALL WORK SHALL BE CARRIED OUT AS PER TECHNICAL SPEC., SCHEDULE OF ITEMS CONFORMING TO THE QUALITY CHECKS,SPECIFIED THEREIN AND IN FIELD QUALITY PLAN.
6. ALL WELDS SHALL BE 8mm FILLET CONTINUOUS UNLESS NOTED.
7. PAINTING ON STEEL STRUCTURE SHALL BE AS PER TECHNICAL SPECIFICATION.
8. ALL STRUCTURAL CONNECTIONS SHALL COMPLY TO SECTION–12 OF IS:800–2007

REFERENCE DRGS.: –

1. PLANT LAYOUT OF FGD SYSTEM---------------0-FW-000-00777/ 9561-109-RP-PVM-F-386
2. LAYOUT AND ELEVATION DETAIL OF BALL MILL BUILDING--0-FW-000-00843
3. GEN. NOTES & STD. DETAILS FOR ARCH. WORKS---PE-DG-444-600-C003/ 9561-109-PEM-PVC-B-218
4. BALL MILL BUILDING ARCH FINISHING SCHEDULE----PE-DG-444-691-C001/ 9561-109-PEM-PVC-B-073
5. BASE PLATE DETAIL, LONGITUDINAL & TRANSVERSE-PE-DG-444-691-C005/ FRAMING ARRANGEMENT 9561-109-PEM-PVC-B-077
6. DETAIL OF COLUMN MAIN BEAM---------------PE-DG-444-691-C006/ 9561-109-PEM-PVC-B-078
7. FLOOR FRAMING AT ROOF LEVEL--------------PE-DG-444-691-C007/ 9561-109-PEM-PVC-B-079
8. WALL BEAM & CLADDING DETAILS-------------PE-DG-444-691-C009/ 9561-109-PEM-PVC-B-081
9. GA & RC DETAIL AT GROUND FLOOR-----------PE-DG-444-691-C0011/ 9561-109-PEM-PVC-B-083

LEGEND: –

TOS : TOP OF STEEL
EL : ELEVATION
TYP : TYPICAL
TOG : TOP OF GRATING

BEAM MARKED	SECTION DETAILS
C1	2ISMC–100 BOX []
C2	2ISMC–200 BOX []
B1	NPB400X180X57.38 [TOS(+)0.01] I
B2	NPB400X180X57.38 I
B3	ISMC–100 [
B4	ISMC–75 [
B5	NPB200X100X22.36
B6	ISMC–150 [
B7	ISMC–150 []
B8	ISMC–200 [
B9	NPB 500x200x90.7 I
HB1	ISA–50x50x6 L
HB2	ISA–65x65x6 L
HB3	2ISA–50x50x6 ⊥L

Signature Not Verified
Digitally signed by S K SAMANTA
Date: 2020.10.27 17:58:15 IST
Reason: CAT
catrel
Location: NTPCEOC

TOTAL STEEL QTY: 15 MT (APPROX.)

NTPC DRG. No. 9561–109–PEM–PVC–B–080

OWNER: एन टी पी सी NTPC — **NTPC Limited** (A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT: 2x500 MW MAUDA TPP FGD PROJECT

ENGG./SUBCONTRACTOR: BHEL — BHARAT HEAVY ELECTRICALS LTD, POWER SECTOR, PROJECT ENGINEERING MANAGEMENT, NEW DELHI — DEPT CODE C

	NAME	SIGN	DATE
DRN	YK	–sd–	17.06.2019
DESN	AK	–sd–	17.06.2019
CHD	RKP	–sd–	17.06.2019
APPD	HK	–sd–	17.06.2019

JOB NO. 444
STATUS CONTRACT
DISTRIBUTION
TO
No. OF

REV.	DATE	ALTD	CHD	APPD
01	03.10.2020	KAMALJEET	AK/HK	AN

DRAWING REVISED AS PER REVISED INPUT

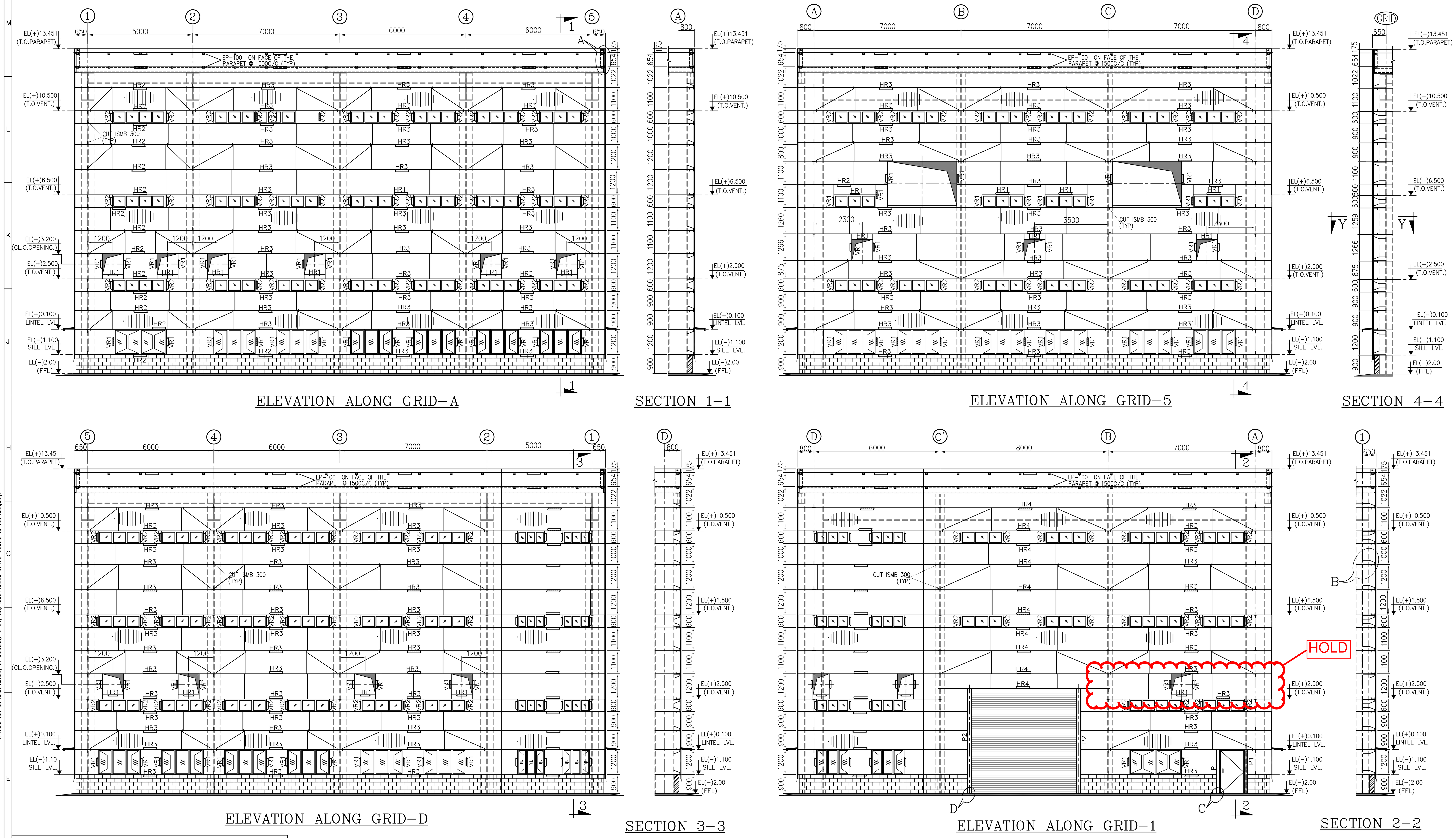
TITLE: BALL MILL BUILDING — DETAILS OF PLATFORM

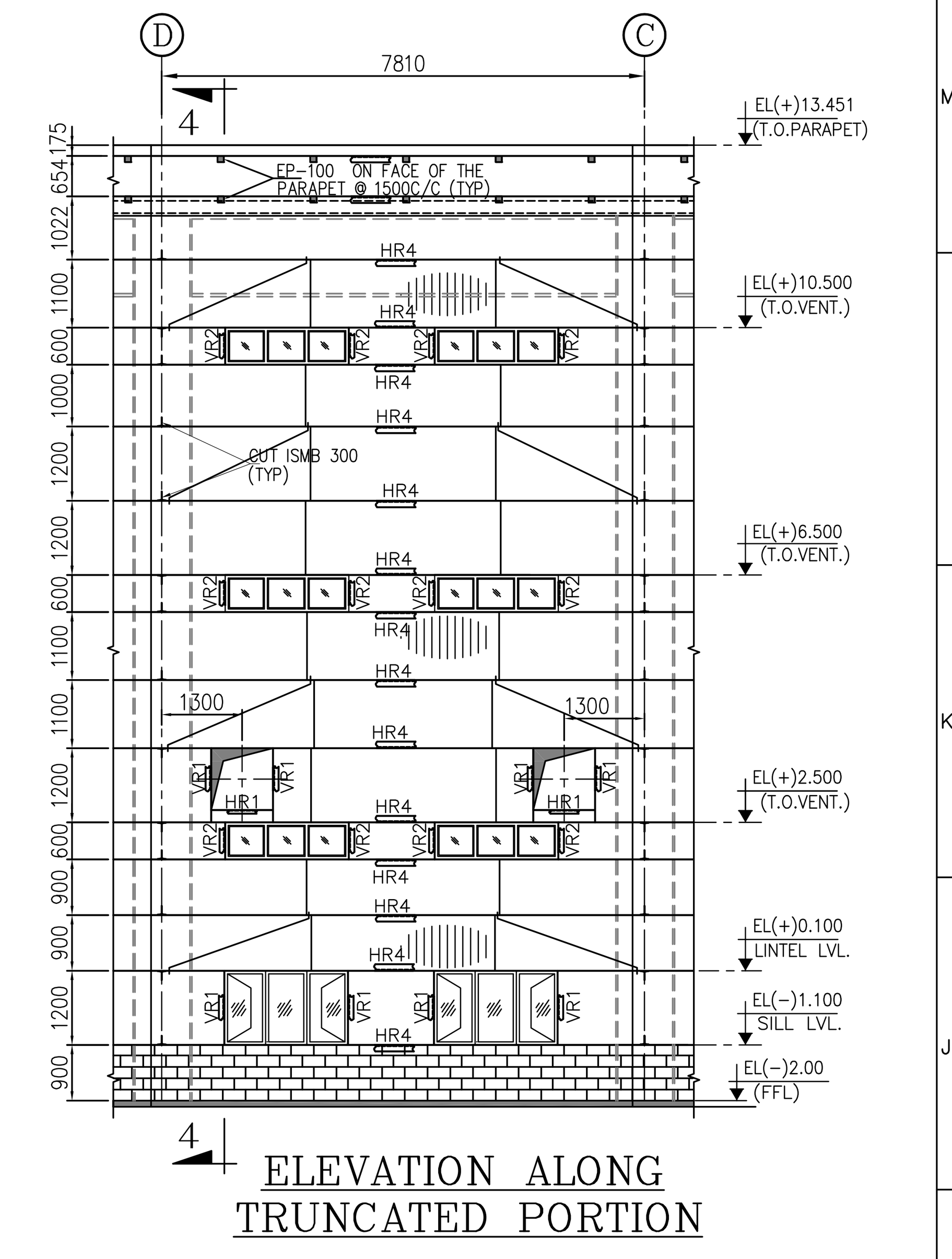
C & I. | MAX. | ELEC. | MPL. | DEPT. | SCALE 1:100
SIGN
DATE

DRAWING NO. PE–DG–444–691–C008
SHEET 1 OF 1 REV. 01

FIRST ANGLE PROJECTION

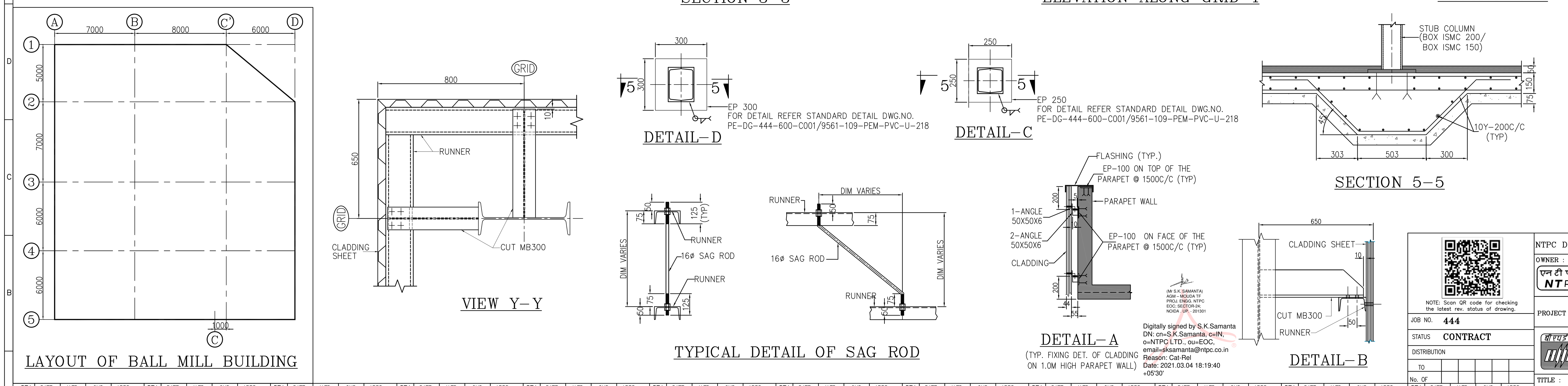
ALL DIMENSIONS ARE IN MM





MEMBER SCHEDULE

HR1	ISMC 75	CUT MB300
HR2	ISMC 150	
HR3	ISMC 200	
HR4	ISMC 250	
VR1	ISMC 100	
VR2	ISMC 75	
P1	ISMC 150 BOX	
P2	ISMC 200 BOX	



NOTES:-

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS AND CONDITIONS, TECHNICAL SPECIFICATIONS AND SCHEDULE OF ITEMS.
2. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS NOTED OTHERWISE.
3. ALL ELEVATIONS ARE WITH RESPECT TO MAIN POWER HOUSE BUILDING GROUND FLOOR LEVEL AS EL.(±)0.00 M. WHICH CORRESPONDS TO R.L. (+)271.50M. ABOVE M.S.L.
4. FOR ANY DETAIL & NOTES, REFER GENERAL NOTES DRG.(STANDARD DETAILS FOR ARCHITECTURAL WORKS)PE-DG-444-600-C003
5. ALL WINDOWS AT GROUND FLOOR LEVEL SHALL BE PROVIDED WITH SUITABLE ANODIZED ALUMINUM GRILL.
6. FOR INTERNAL & EXTERNAL FINISHES, ARCHITECTURAL ELEVATION REF. DWG. NO. 9561-109-PEM-PVC-B-074.

REFERENCE DRGS.:-

1. PLANT LAYOUT OF FGD SYSTEM---9561-109-ISG-PVM-B-560/6130-109-PVM-F-001
2. LAYOUT AND ELEVATION DETAIL OF BALL MILL BUILDING ---- 0-FW-000-00843
3. GEN. NOTES & STD. DETAILS FOR---PE-DG-444-600-C003/9561-109-PEM-PVC-B-003 ARCHITECTURAL WORKS
4. ARCHITECTURAL PLAN & SECTIONS--PE-DG-444-691-C001/9561-109-PEM-PVC-B-073
5. ARCHITECTURAL ELEVATIONS & ----PE-DG-444-691-C002/9561-109-PEM-PVC-B-074 FINISHING SCHEDULE
6. PILING LAYOUT of FOUNDATION----PE-DG-444-691-C003/9561-109-PEM-PVC-B-075
7. BASE PLATE DETAIL, LONGITUDINAL--PE-DG-444-691-C005/9561-109-PEM-PVC-B-077 & TRANSVERSE FRAMING ARRANGEMENT
8. COLUMN AND MAIN BEAM DETAIL---PE-DG-444-691-C006/9561-109-PEM-PVC-B-078
9. FLOOR FRAMING AT ROOF LEVEL---PE-DG-444-691-C007/9561-109-PEM-PVC-B-079
10. DETAIL OF INTERMEDIATE PLATFORM--PE-DG-444-691-C008/9561-109-PEM-PVC-B-080
11. GA & RC DETAIL AT GROUND FLOOR--PE-DG-444-691-C011/9561-109-PEM-PVC-B-083

LEGEND:-

FFL : FLOOR FINISHED LEVEL
TOS : TOP OF STEEL
FGL : FINISHED GROUND LEVEL
TOG : TOP OF GRATING
TOC : TOP OF CONCRETE
EL : ELEVATION
TYP : TYPICAL
B.O.BEAM : BOTTOM OF BEAM

Digitally signed by S.K.Samanta
DN: cn=S.K.Samanta, c=IN, o=NTPC LTD., ou=EOC, email=sksamanta@ntpc.co.in
Reason: Cat-Rel
Date: 2021.03.04 18:19:40 +05'30'

Documents / Drawings are being submitted to NTPC for Information.
Contractor/Vendor hereby confirms full compliance to all the specified requirements of the tender specification, without any deviation, whatsoever. In case during the tenure of the contract it is observed/found that the data/ information in approved Drg/document is not meeting the tender specification, Contractor/vendor will modify/ rectify/replace the Equipments/ System/Utilities to meet the specification without any commercial implication or any time extension to NTPC in this regard.

NOTE: Scan QR code for checking the latest rev. status of drawing.

JOB NO. 444

STATUS CONTRACT

DISTRIBUTION

NTPC DRAWING NO. 9561-109-PEM-PVC-B-081

OWNER : एन टी पी सी NTPC

NTPC Limited
(A GOVERNMENT OF INDIA ENTERPRISE)
ENGINEERING DIVISION

PROJECT : 2x500 MW MAUDA TPP FGD PROJECT

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NEW DELHI

DEPT CODE: C

	NAME	SIGN	DATE
DRN	KJSINGH	-SD-	03.02.2021
DESN	AK	-SD-	03.02.2021
CHD	HK	-SD-	03.02.2021
APPD	AN	-SD-	03.02.2021

TITLE : BALL MILL BUILDING
CLADDING DETAILS

MPL | ELEC | C&I | MSE | MAX | DEPT. SIGN DATE

SCALE VARIES

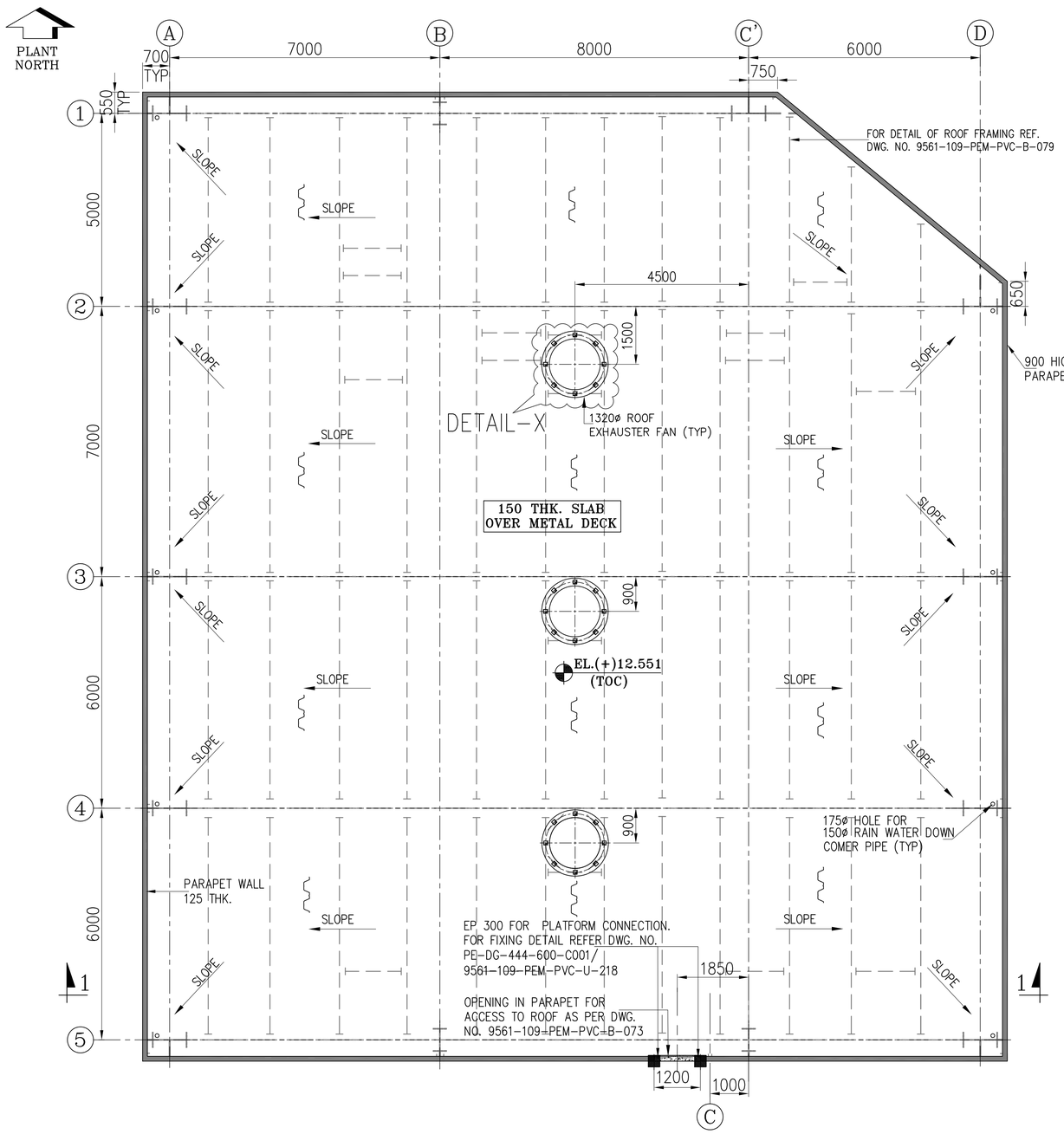
DRAWING NO. PE-DG-444-691-C009

SHEET 1 OF 1 REV. 0

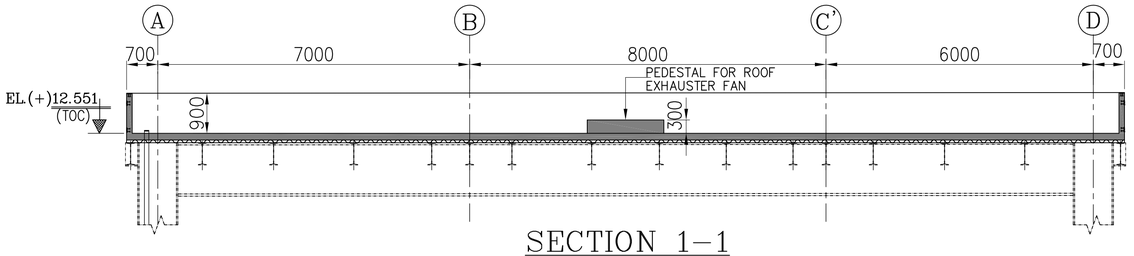
FORMAT SIZE A1

DRAWING NO. PE-DG-444-691-C010

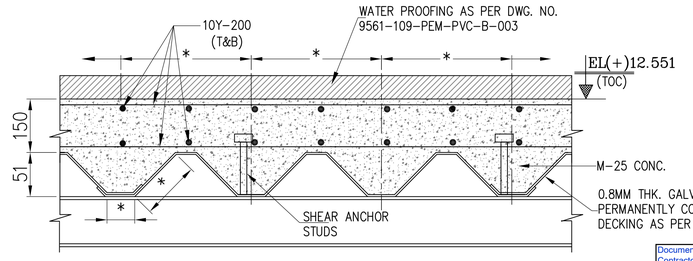
FIRST ANGLE PROJECTION | ALL DIMENSIONS ARE IN MM



ROOF PLAN EL(+)12.551M (TOC)

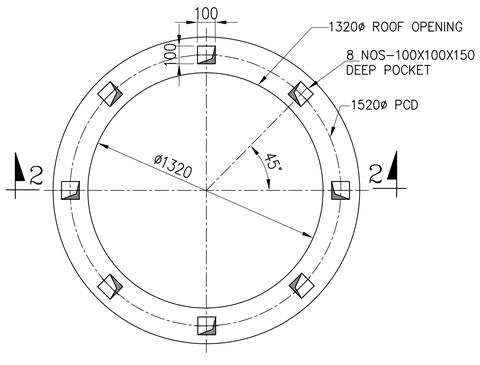


SECTION 1-1

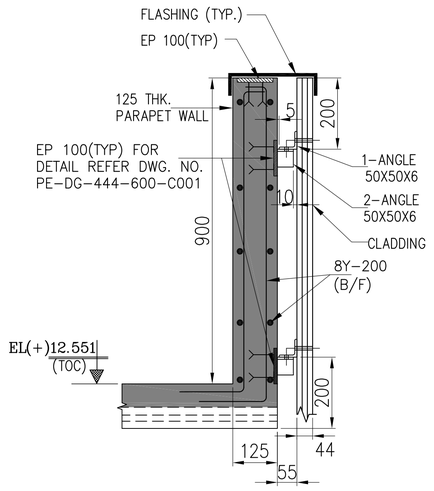


TYP. SECTIONAL DETAIL OF CONCRETE FILLED METAL DECK ROOF

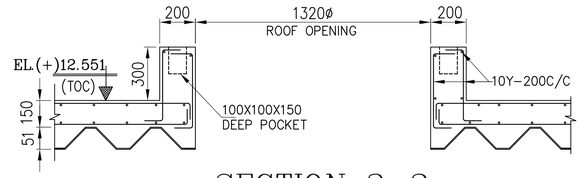
* AS PER APPROVED PROFILE/TECH. SPEC./BOQ.



DETAIL -X
TYP DETAIL OF ROOF EXTRACTOR FAN



TYP DETAIL OF PARAPET



SECTION 2-2

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS AND CONDITIONS, TECHNICAL SPECIFICATIONS AND SCHEDULE OF ITEMS.
2. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS STATED OTHERWISE.
3. ALL ELEVATIONS ARE WITH RESPECT TO MAIN POWER HOUSE BUILDING GROUND FLOOR LEVEL AS EL.(±)0.00 M. WHICH CORRESPONDS TO R.L. +271.50M ABOVE M.S.L.
4. ALL STRUCTURAL CONCRETE SHALL BE DESIGN MIX CONC. OF GRADE M-25 UNO.
5. ALL REINFORCEMENTS SHALL BE TMT BARS OF MINIMUM GRADE FE-500D, AND CONFORMING TO OTHER REQUIREMENTS OF IS 1786.
6. MINIMUM CLEAR COVER TO MAIN REINFORCEMENT SHALL BE AS PER GENERAL NOTES ON CONCRETE WORKS DWG. NO. 9561-109-PEM-PVC-U-218.
7. FOR GENERAL NOTES ON CONCRETE WORKS REF. BHEL DWG. NO. PE-DG-444-600-C001/ NTPC DWG. NO.9561-109-PEM-PVC-U-218.
8. ALL WORK SHALL BE CARRIED OUT AS PER TECHNICAL SPECIFICATION, SCHEDULE OF ITEMS CONFORMING TO THE QUALITY CHECKS,SPECIFIED THEREIN AND IN FIELD QUALITY PLAN.
9. LAP LENGTH AS PER IS:456 AND IS:13920
10. ALL HOOKS, BENDS AND LAPS OF REINFORCEMENT BARS SHALL CONFORM TO IS 2502 UNO.
11. DIMENSIONAL CHECK ON FINISHED STRUCTURES & DIMENSIONAL TOLERANCES SHALL BE AS PER IS:456/ TECH. SPEC.

REFERENCE DRGS.

1. PLANT LAYOUT OF FGD SYSTEM----------0-FW-000-00777/9561-109-RP-PVM-F-386
2. GEN. NOTES & STD. DETAILS FOR ARCH. WORKS-PE-DG-444-600-C003/9561-109-PEM-PVC-B-003
3. ARCHITECTURAL PLANS & SECTIONS------PE-DG-444-691-C001/9561-109-PEM-PVC-B-073
4. ARCH. ELEVATIONS & FINISHING SCHEDULE- PE-DG-444-691-C002/9561-109-PEM-PVC-B-074
5. GA & RC DETAILS OF FOUNDATION------ PE-DG-444-691-C004/9561-109-PEM-PVC-B-076
6. BASE PLATE DETAIL ---------- PE-DG-444-691-C005/9561-109-PEM-PVC-B-077
7. DETS. OF COL., MAIN BEAM, TRANSVERSE--- PE-DG-444-691-C006/9561-109-PEM-PVC-B-078 & LONGITUDINAL FRAMING
8. WALL BEAM & CLADDING DETAILS---------PE-DG-444-691-C009/9561-109-PEM-PVC-B-081
9. FRAMING PLAN OF ROOF BEAMS --------- PE-DG-444-691-C007/9561-109-PEM-PVC-B-079
10. GENERAL NOTES & STD. DETAILS FOR ---- PE-DG-444-600-C001/9561-109-PEM-PVC-B-001 CIVIL WORKS

LEGEND: -

TOC : TOP OF CONCRETE
THK : THICK
TYP : TYPICAL

APPROX. QTY OF CONCRETE	-	90 CUM
APPROX. QTY OF REINF.	-	7 MT

REV	DATE	ALTD	CHD	APPD
01	05.02.21	K.J.SINGH	AK	HK/AN

DRAWING IS REVISED AS PER CHANGE IN INPUT.

NOTE: Scan QR code for checking the latest rev. status of drawing.

JOB NO. 444
STATUS CONTRACT
DISTRIBUTION
TO
No. OF

NTPC DRAWING NO. 9561-109-PEM-PVC-B-082

OWNER : एन टी पी सी NTPC

NTPC Limited
(A GOVERNMENT OF INDIA ENTERPRISE)
ENGINEERING DIVISION

PROJECT : 2x500 MW MAUDA TPP FGD PROJECT

भेल BHEL

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NEW DELHI

DEPT CODE		NAME	SIGN	DATE
C	DRN	YK	-SD-	04.07.2019
	DESN	AK	-SD-	04.07.2019
	CHD	RKP	-SD-	04.07.2019
	APPD	HK	-SD-	04.07.2019

TITLE : BALL MILL BUILDING
GA & RC DETAIL OF ROOF

MPL	ELEC	C&I	MSE	MAX	DEPT.	SCALE	VARIES
					SIGN		
					DATE		

DRAWING NO. PE-DG-444-691-C010

SHEET 1 OF 1 REV. 01

(M. S.K. SAMANTA)
AGM - MOUDA TF
PROJ. ENGG. NTPC
EOC; SECTOR-24;
NOIDA . UP. - 201301

Digitally signed by S.K.Samanta
DN: cn=S.K. Samanta, c=IN, o=NTPC LTD., ou=EOC, email=sksamanta@ntpc.co.in
Reason: Cat-Rel
Date: 2021.03.08 16:58:06 +05'30'

Documents / Drawings are being submitted to NTPC for Information.
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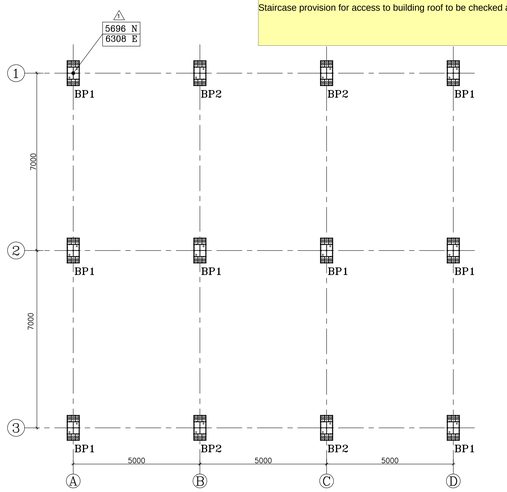
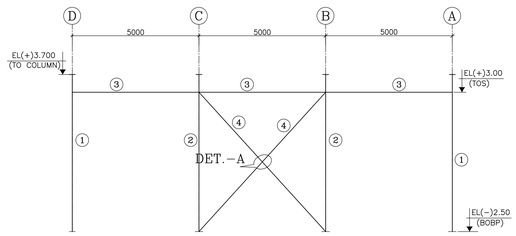
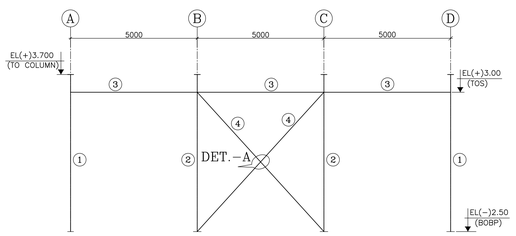
Staircase provision for access to building roof to be checked and



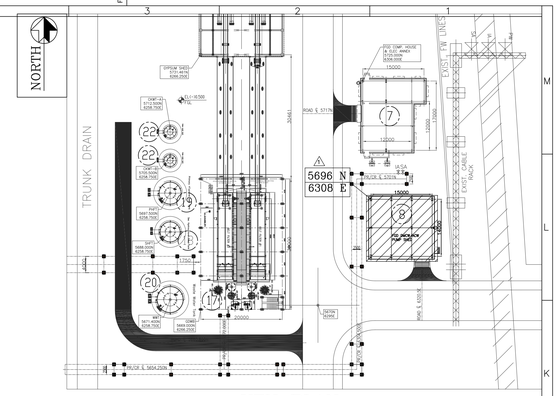
PLAN EL (–) 2.50M (BOBP)



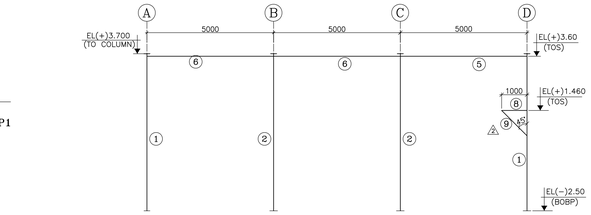
ELEVATION ALONG GRID 1



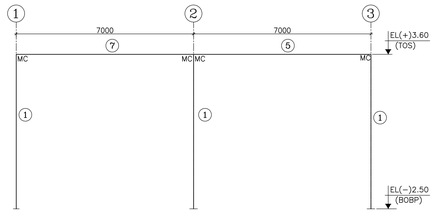
ELEVATION ALONG GRID 3



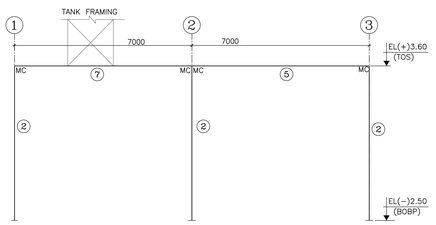
KEY PLAN



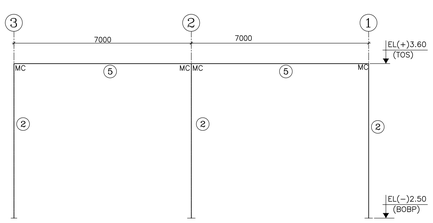
ELEVATION ALONG GRID 2



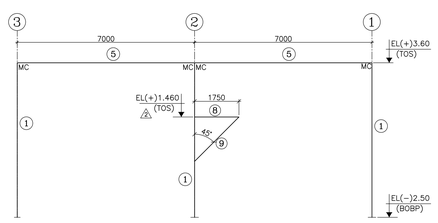
ELEVATION ALONG GRID A ⚠



ELEVATION ALONG GRID B ⚠



ELEVATION ALONG GRID C



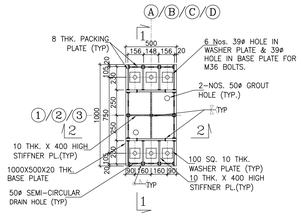
ELEVATION ALONG GRID D

NOTES:

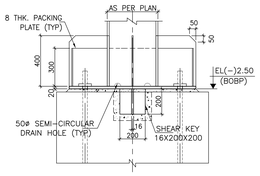
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS & CONDITIONS, SPECIFICATIONS AND SCHEDULE OF ITEMS.
2. EL 0.00 M CORRESPONDS TO RL(+) 271.5 M.
3. ALL DIMENSIONS ARE IN MILLIMETER & ALL LEVELS/ELEVATIONS ARE IN METER UNLESS NOTED OTHERWISE.
4. NON SHRINK FLOWABLE GROUT OF GRADE M30 SHALL BE USED FOR GROUTING. PROPER COMPACTION & CURING OF GROUT SHALL BE ENSURED. ALSO 100% CONTACT BETWEEN GROUNT & BOTTOM OF BASE PLATE SHALL BE ENSURED.
5. FOR ANY DETAIL & NOTES, REFER GENERAL NOTES DRG. (STEEL STRUCTURE) DRG. NO. PE–DG–444–600–C002/9561–109–PEM–PVC–B–002
6. QUANTITIES INDICATED IN BILL OF MATERIALS ARE APPROXIMATE & DO NOT INCLUDE FOR STIFFENERS, SPLICING, CONNECTION & WASTAGES.
7. UNLESS OTHERWISE NOTED BOLTS, SIZE OF GUSSET, SIZE OF WELD SHOWN IN TYP. DETAIL ARE INDICATIVE ONLY. THE ACTUAL NUMBER OF BOLTS REQUIRED AND CONNECTION TO BE DECIDED BY FABRICATOR.
8. ALL WELDS SHALL BE 8mm FILLET CONTINUOUS UNLESS NOTED.
9. ALL CONNECTION OF MAIN BEAM TO SECONDARY BEAM SHALL BE SHEAR CONNECTION UNO.
10. PAINTING ON STEEL STRUCTURE SHALL BE AS PER TECHNICAL SPECIFICATION.
11. SPLICING IN FLANGES AND WEB SHALL BE STAGGERED. SPLICING SHALL BE OF FULL STRENGTH BUTT WELD.
12. MEMBERS MARKED 'MC' SHALL BE MOMENT CONNECTED TO COLUMN UNLESS NOTED OTHERWISE.
13. ALL STRUCTURAL CONNECTIONS SHALL COMPLY TO SECTION–12 OF IS:800–2007

REFERENCE DRGS.:–

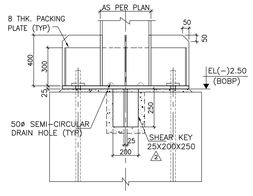
1. PLANT LAYOUT OF FGD SYSTEM ---- 0–FW–000–00777/9561–109–RP–PVM–F–386
2. GEN. NOTES & STD. DETAILS FOR ARCH. WORKS ---PE–DG–444–600–C003/9561–109–PEM–PVC–B–003
3. PIPING LAYOUT IN & AROUND ACW/DMCW PUMP --- PE–DG–444–181–M001/9561–109–PEM–PVM–F–315 SHED FOR FGD
4. ACW/ECW PUMP HOUSE–GA & RC DETAILS OF --- PE–DG–444–696–C003/9561–109–PEM–PVC–B–101 PILING LAYOUT OF FOUNDATION
5. ACW/ECW PUMP HOUSE–FRAMING ARRANGEMENT --- PE–DG–444–696–C005/9561–109–PEM–PVC–B–103 OF ROOF
6. ACW/ECW PUMP HOUSE–GA & RC DETAIL OF ROOF --- PE–DG–444–696–C006/9561–109–PEM–PVC–B–104
7. ACW/ECW PUMP HOUSE GA & RC DETAIL OF ---- PE–DG–444–696–C007/9561–109–PEM–PVC–B–105 EL.(±)0.00M. FLOOR
8. RC DETAILS FOR JOB PILES --- PE–DG–444–607–C002/9561–109–PEM–PVC–B–009



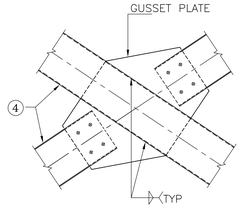
DETAIL OF BASE PLATE –BP1
(FOR COLUMN A1,A2,A3,D1,D2,D3) ⚠



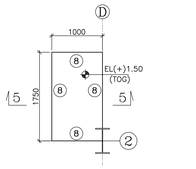
SECTION 1–1



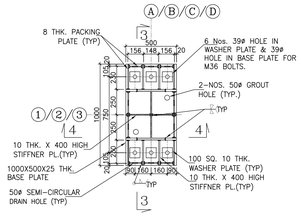
SECTION 3–3



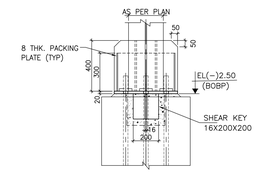
TYP. DETAIL–A
CONNECTION SHALL BE AS PER FABRICATION DRG.



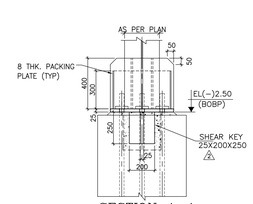
PLATFORM AT EL.1.5M TOG ⚠



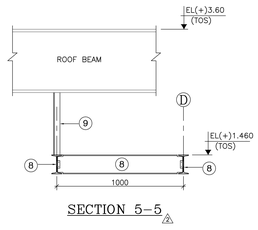
DETAIL OF BASE PLATE –BP2
(FOR COLUMN B1,B2,C1,C2,B3,C3) ⚠



SECTION 2–2



SECTION 4–4



SECTION 5–5 ⚠

SCHEDULE OF BRACINGS/COLUMN

	1	① FL. PL. 275X16 ② WEB 468X12	
	2	① FL. PL. 275X20 ② WEB 460X12	
	3	2 ISMC 100	
	4	2 ISMC 200	
	5	ISMB 600	
	6	ISMB 300	
⚠	7	① FL. PL. 250X16 ② WEB 468X12	
⚠	8	ISMB 150	
⚠	9	2–ISA 50X50X6	

LEGEND:–

BOBP : BOTTOM OF BASE PLATE
TOS : TOP OF STEEL
TOC : TOP OF COLUMN
MC : MOMENT CONNECTION
TYP : TYPICAL
EL : ELEVATION

TOTAL STEEL QUANTITY = 19.80 M.T. (APPROX)

REV	DATE	ALTD	CHD	APPD
R2	27.02.20	JSANI	MK	HK
R1	16.11.19	SAVITA	MK	HK

R2: 1. DRAWING HAS BEEN REVISED AS PER CUSTOMER COMMENTS TRANSMITTAL NO. 109:39703 dtd. 09.12.19. 3. DRAWING HAS BEEN REVISED AS PER REVISED MECH. INPUT DRG. & MKD. AS ⚠

R1: 1. DRAWING HAS BEEN REVISED AS PER CUSTOMER COMMENTS TRANSMITTAL NO. 109:39534 dtd. 09.10.19. 2. COORDINATES HAS BEEN REVISED AS PER LATEST PLOT PLAN REV.A. 3. DRAWING HAS BEEN REVISED AS PER REVISED MECH. INPUT DRG. AND MKD. AS ⚠

JOB NO.	444
STATUS	CONTRACT
DISTRIBUTION	
TO	
No. OF	

NTPC DRAWING NO. 9561–109–PEM–PVC–B–102

OWNER : NTPC Limited (A GOVERNMENT OF INDIA ENTERPRISE) ENGINEERING DIVISION

PROJECT : MOUDA SUPER THERMAL POWER PROJECT STAGE–I (2 x 500MW) – FGD SYSTEM

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NEW DELHI

DEPT CODE		NAME	SIGN	DATE
C	DRN	SAVITA	–SD–	03.08.2019
	DESN	MK	–SD–	03.08.2019
	CHD	RP	–SD–	03.08.2019
	APPD	HK	–SD–	03.08.2019

TITLE : ACW/ECW PUMP HOUSE
DETAIL OF COLUMN, MAIN BEAM, TRANSVERSE, LONGITUIDINAL FRAMING & BASE PLATE

MPL	ELEC	C&I	MSE	MAX	DEPT.	SCALE VARIES
					SIGN	
					DATE	

DRAWING NO. PE–DG–444–696–C004

SHEET 1 OF 1 REV. 02

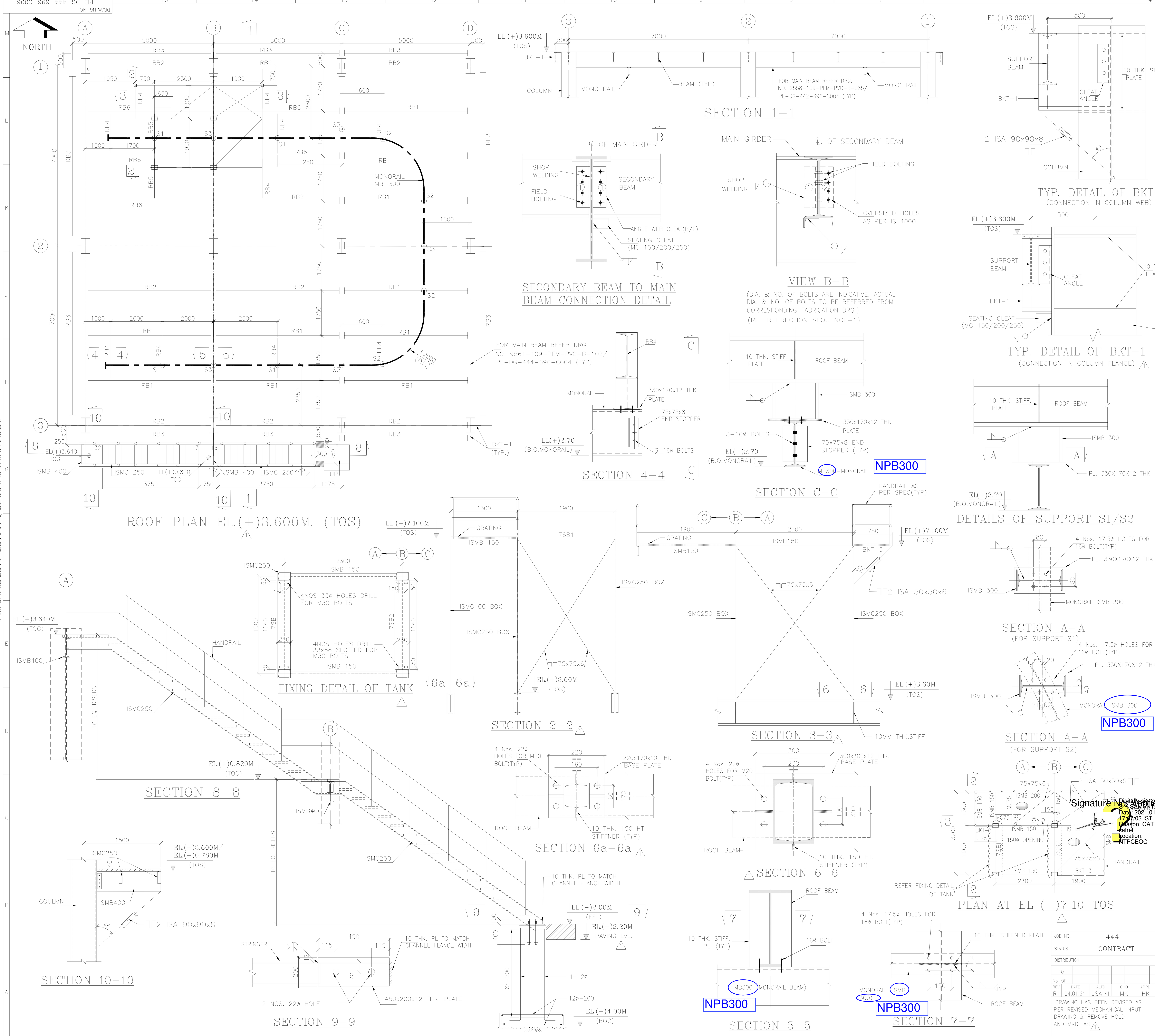
FORMAT SIZE A1

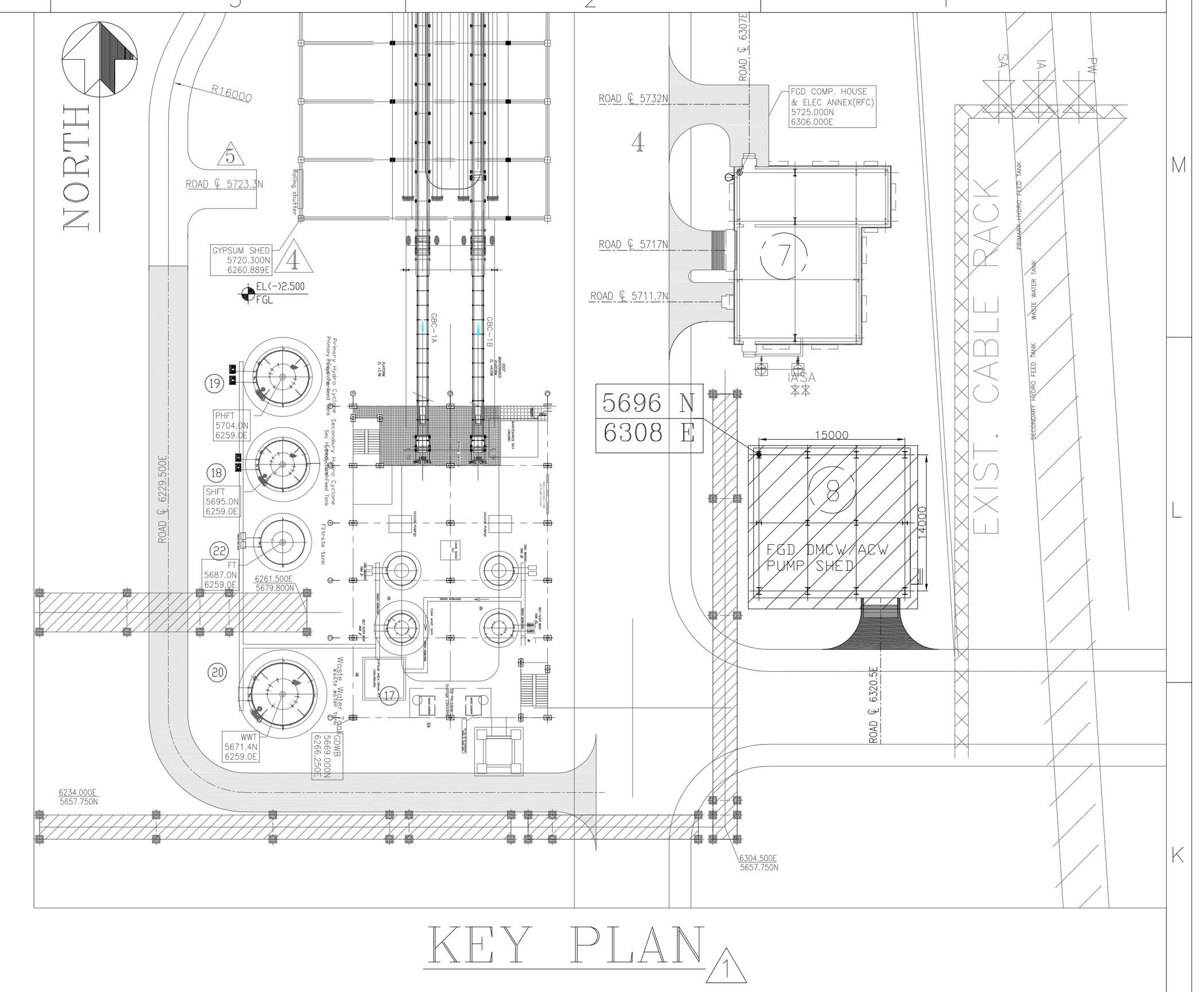
CAD FILE NAME: D:\JAGDEEP SAINI\9561109581 PROJECT\BARH MAUDA\MOUDA\ACW_ECW PUMP HOUSE\9561–109–PEM–PVC–B–102–02.dwg

COMPLIANCE REPORT

FOR 9561-109-PEM-PVC-B-102- R1 NTPC COMMENTS RECEIVED VIDE LETTER
Reference: CC:PE: 9561:109:39703 DATED 09.12.2019

SL NO	**NTPC COMMENT**	**BHEL REPLY**
1	Monorail beam to be shown in both plan and elevation and fixing detail of same also to be shown.	Monorail beam detail with plan and elevation will be shown in roof beam drg. Fixing detail also shown in that drawing.
2	Structure for hoist maintenance platform and access provision to the platform also to be shown.	Incorporated.





SCHEDULE OF BEAM

RB1	ISMB-600	
RB2	ISMB-300	
RB3	ISMB-250	
RB4	ISMB-300	
RB5	ISMB-500	
RB6	① FL. PL. 250x16 ② WEB 468x12	
7SB1	① FL. PL. 250x10 ② WEB 230x10	
7SB2	① FL. PL. 280x10 ② WEB 230x10	
BKT-1	ISMB-400	

ERECTION SEQUENCE-1

1. ONE LEG OF ANGLE 1 SHALL BE WELDED WITH MAIN BEAM AT SHOP.
2. HOLES FOR BOLT SHALL BE DRILLED AT SHOP IN OTHER OUTSTANDING LEG OF ANGLE 1 AS PER FABRICATION DRAWING.
3. ANGLE 2 WILL HAVE HOLES DRILLED IN BOTH LEGS AT SHOP AS PER FABRICATION DRAWING AND SHALL BE SHIPPED LOOSE TO SITE.
4. AFTER PLACING SECONDARY BEAM IN POSITION WITH CRANE, BOTH ANGLE 1 & 2 SHALL BE BOLTED TO SECONDARY BEAM.
5. OUTSTANDING LEG OF ANGLE 2 SHALL BE BOLTED TO MAIN BEAM.

NOTES:-

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS AND CONDITIONS, TECHNICAL SPECIFICATIONS AND SCHEDULE OF ITEMS.
2. ALL DIMENSIONS ARE IN MILLIMETER & ALL LEVELS/ELEVATIONS ARE IN METER UNLESS NOTED OTHERWISE.
3. EL.(±)0.00M. CORRESPONDS TO RL(+)271.5M AND FGL OF ACW AREA CORRESPOND TO RL(+)269.0 AS PER PLOT PLAN.
4. FOR ANY DETAIL & NOTES, REFER GENERAL NOTES DRG. (STEEL STRUCTURE) DRG. NO. PE-DG-444-600-C002/9561-109-PEM-PVC-B-002
5. ALL WORK SHALL BE CARRIED OUT AS PER TECHNICAL SPECIFICATION, SCHEDULE OF ITEMS CONFORMING TO THE QUALITY CHECKS,SPECIFIED THEREIN AND IN FIELD QUALITY PLAN.
6. ALL WELDS SHALL BE 8mm FILLET CONTINUOUS UNLESS NOTED.
7. ALL CONNECTION OF MAIN BEAM TO SECONDARY BEAM SHALL BE SHEAR CONNECTION UNO.
8. PAINTING ON STEEL STRUCTURE SHALL BE AS PE TECHNICAL SPECIFICATION.
9. SPLICING IN FLANGES AND WEB SHALL BE STAGGERED. SPLICING SHALL BE OF FULL STRENGTH BUTT WELD.
10. ALL STRUCTURAL CONNECTIONS SHALL COMPLY TO SECTION-12 OF IS:800-2007.

REFERENCE DRGS.:-

1. PLANT LAYOUT OF FGD SYSTEM --- 0-FW-000-00777/9561-109-RP-PVM-F-386
2. GEN. NOTES & STD. DETAILS ---- PE-DG-444-600-C003/9561-109-PEM-PVC-B-003 FOR ARCH. WORKS
3. PIPING LAYOUT IN & AROUND --- PE-DG-444-181-M001/9561-109-PEM-PVM-F-315 ACW/ECW PUMP SHED FOR FGD.
4. ACW/ECW PUMP HOUSE- GA & RC DETAILS--PE-DG-444-696-C003/9561-109-PEM-PVC-B-101 OF PILING LAYOUT OF FOUNDATIONS
5. ACW/ECW PUMP HOUSE-DETAIL OF -- PE-DG-444-696-C004/9561-109-PEM-PVC-B-102 COLUMN, MAIN BEAM, TRANSVERSE, LONGITUIDINAL FRAMING & BASE PLATE
6. ACW/ECW PUMP HOUSE GA & RC --- PE-DG-444-696-C007/9561-109-PEM-PVC-B-105 DETAIL OF 0.00M FLOOR

LEGEND:-

BOBP : BOTTOM OF BASE PLATE
TOS : TOP OF STEEL
TOC : TOC OF COLUMN
TYP : TYPICAL
EL : ELEVATION

TOTAL STEEL QUANTITY = 20 M.T. (APPROX)

Signature Not Verified
Digitally signed by K SAMANTA
Date: 2021.01.06 17:07:03 IST
Reason: CAT catrel
Location: NTPCEOC

NTPC DRAWING NO. 9561-109-PEM-PVC-B-104

OWNER : एन टी पी सी NTPC

NTPC Limited
(A GOVERNMENT OF INDIA ENTERPRISE)
ENGINEERING DIVISION

PROJECT : MOUDA SUPER THERMAL POWER PROJECT STAGE-I (2 x 500MW) - FGD SYSTEM

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NEW DELHI

DEPT CODE: C

	NAME	SIGN	DATE
DRN	JSAINI	-SD-	26.06.2020
DESN	MK	-SD-	29.06.2020
CHD	HK	-SD-	30.06.2020
APPD	AN	-SD-	30.06.2020

JOB NO. 444
STATUS CONTRACT
DISTRIBUTION
TO
No. OF

REV	DATE	ALTD	CHD	APPD
R1	04.01.21	JSAINI	MK	HK

DRAWING HAS BEEN REVISED AS PER REVISED MECHANICAL INPUT DRAWING & REMOVE HOLD AND MKD. AS ⚠1

TITLE : ACW/ECW PUMP SHED GA & RC DETAIL OF ROOF BEAM & SLAB

MPL | ELEC | C&I | MSE | MAX | DEPT. SIGN DATE

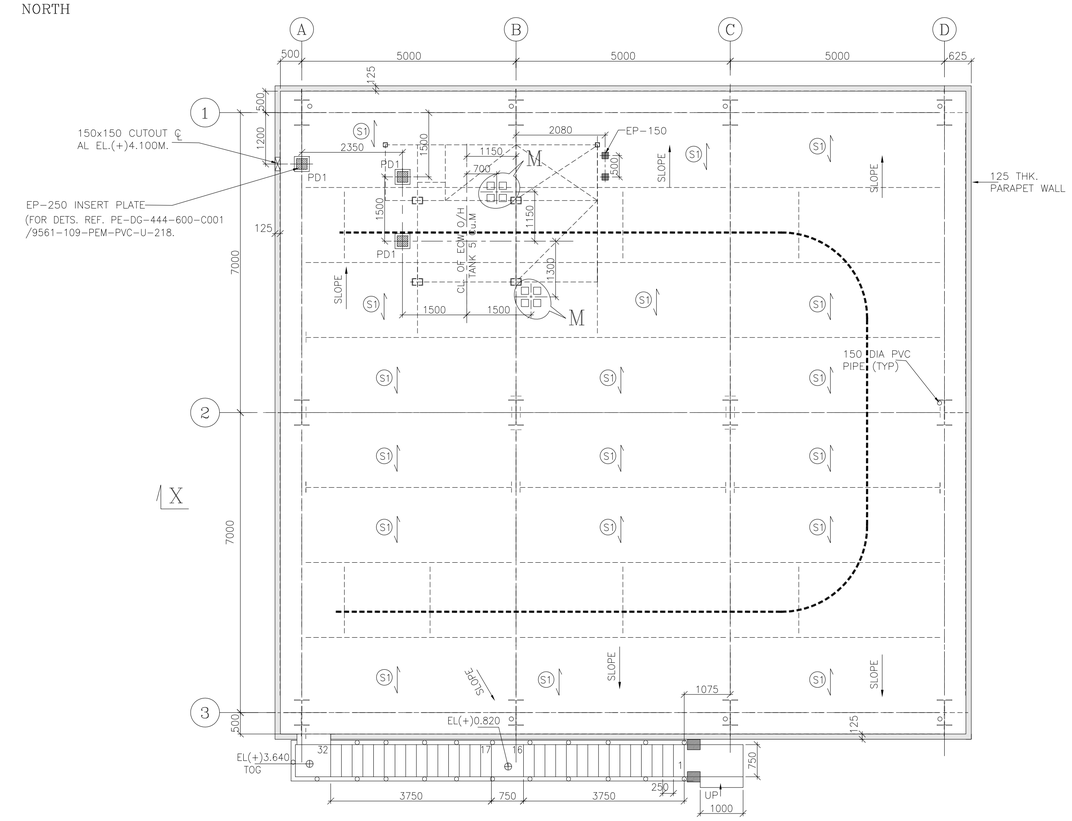
SCALE VARIES

DRAWING NO. PE-DG-444-696-C006
SHEET 1 OF 2 REV. 1

FORMAT SIZE A1

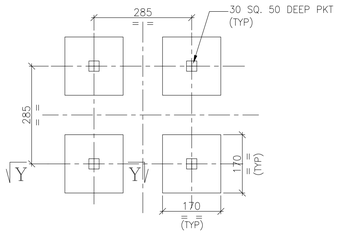
CAD FILE NAME: D:\JAGDEEP SAINI\6096581 PROJECT\BARH MAUDA\MODA\ACW_ECW PUMP HOUSE\New folder\9561-109-PEM-PVC-B-104-R1 (ROOF BEAM SLAB).dwg

NORTH



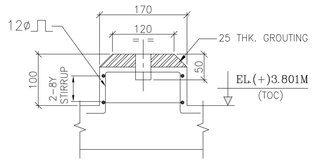
ROOF PLAN EL.(+)3.801M. (TOC)

SECTION X–X

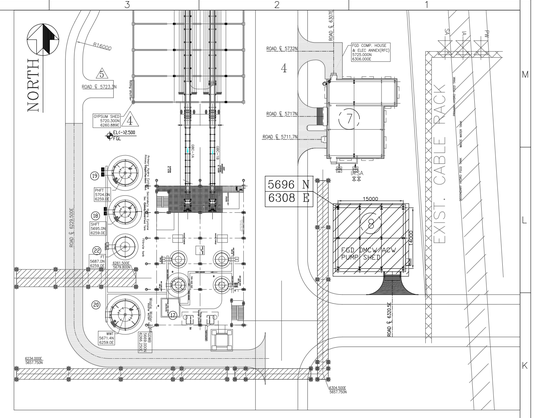


DETAIL–M

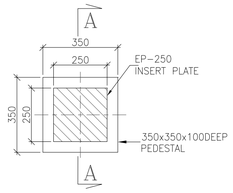
FOR NAOH AND SEAL POT



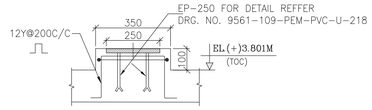
SECTION Y–Y



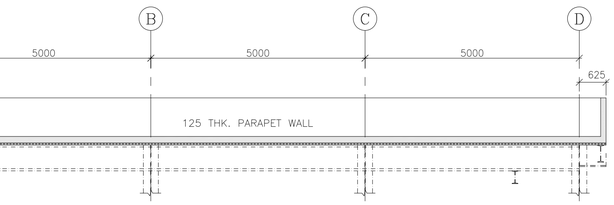
KEY PLAN



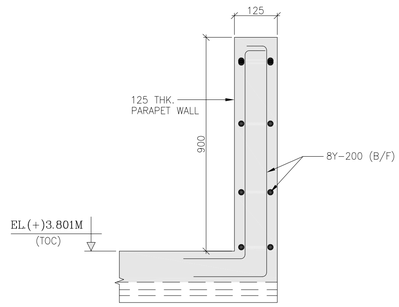
DETAIL FOR PEDESTAL PD1



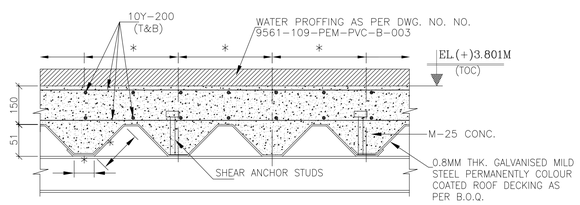
SECTION A–A



SECTION X–X



TYP DETAIL OF PARAPET



TYP. SECTIONAL DETAIL OF CONCRETE FILLED METAL DECK ROOF

* AS PER APPROVED PROFILE/TECH. SPEC./BOQ.

NOTES: –

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS AND CONDITIONS, TECHNICAL SPECIFICATIONS AND SCHEDULE OF ITEMS.
2. ALL DIMENSIONS ARE IN MILLIMETER & ALL LEVELS/ELEVATIONS ARE IN METER UNLESS NOTED OTHERWISE.
3. EL.(±)0.00M. CORRESPONDS TO RL(+)271.5M AND FGL OF ACW AREA CORRESPOND TO RL(+)269.0 AS PER PLOT PLAN.
4. MINIMUM CLEAR COVER TO MAIN REINFORCEMENT SHALL BE AS PER GENERAL NOTES ON CONCRETE WORKS DWG. NO. PE–DG–444–600–C001/9561–109–PEM–PVC–B–001.
5. FOR GENERAL NOTES ON CONCRETE WORKS REF. BHEL DWG. NO. PE–DG–444–600–C001/ NTPC DWG. NO. 9561–109–PEM–PVC–B–001.
6. ALL WORK SHALL BE CARRIED OUT AS PER TECHNICAL SPECIFICATION, SCHEDULE OF ITEMS CONFORMING TO THE QUALITY CHECKS,SPECIFIED THEREIN AND IN FIELD QUALITY PLAN.
7. ALL STRUCTURAL CONCRETE SHALL BE DESIGN MIX CONC. OF GRADE M–25 UNO.
8. REINFORCEMENT USED SHALL BE OF GRADE FE–500 TMT WITH MIN. ELONGATION OF 14.5% OR FE–500D
9. LAPS SHALL BE STAGGERED AS FAR AS POSSIBLE. LENGTH OF LAP SHALL BE FIFTY (50) TIMES DIAMETER OF BARS UNLESS NOTED OTHERWISE.
10. ALL HOOKS, BENDS AND LAPS OF REINFORCEMENT BARS SHALL CONFORM TO IS 2502 UNO.
11. DIMENSIONAL CHECK ON FINISHED STRUCTURES & DIMENSIONAL TOLERANCES SHALL BE AS PER IS:456/ TECH. SPEC.

REFERENCE DRGS.: –

1. PLANT LAYOUT OF FGD SYSTEM --- 0–FW–000–00777/9561–109–RP–PVM–F–386
2. GEN. NOTES & STD. DETAILS ---- PE–DG–444–600–C003/9561–109–PEM–PVC–B–003 FOR ARCH. WORKS
3. PIPING LAYOUT IN & AROUND --- PE–DG–444–181–M001/9561–109–PEM–PVM–F–315 ACW/ECW PUMP SHED FOR FGD.
4. ACW/ECW PUMP HOUSE– GA & RC DETAILS––PE–DG–444–696–C003/9561–109–PEM–PVC–B–101 OF PILING LAYOUT OF FOUNDATIONS
5. ACW/ECW PUMP HOUSE–DETAIL OF –– PE–DG–444–696–C004/9561–109–PEM–PVC–B–102 COLUMN, MAIN BEAM, TRANSVERSE, LONGITUIDINAL FRAMING & BASE PLATE
6. ACW/ECW PUMP HOUSE GA & RC --- PE–DG–444–696–C007/9561–109–PEM–PVC–B–105 DETAIL OF 0.00M FLOOR

LEGEND: –

BOBP : BOTTOM OF BASE PLATE
TOS : TOP OF STEEL
TOC : TOC OF COLUMN
TYP : TYPICAL
EL : ELEVATION

CONCRETE QUANTITY(M25) = 50 CUM. (APPROX)
R/F STEEL QUANTITY(FE500D) = 3.5 M.T. (APPROX)

JOB NO.	444
STATUS	CONTRACT
DISTRIBUTION	
TO	
No. OF	

REV	DATE	ALTD	CHD	APPD
R1	04.01.21	JSAINI	MK	HK

DRAWING HAS BEEN REVISED AS PER REVISED MECHANICAL INPUT DRAWING & REMOVE HOLD AND MKD. AS ⚠1

NTPC DRAWING NO. 9561–109–PEM–PVC–B–104

OWNER : एन टी पी सी NTPC

NTPC Limited
(A GOVERNMENT OF INDIA ENTERPRISE)
ENGINEERING DIVISION

PROJECT : MOUDA SUPER THERMAL POWER PROJECT STAGE–I (2 x 500MW) – FGD SYSTEM

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NEW DELHI

DEPT CODE		NAME	SIGN	DATE
C	DRN	JSAINI	–SD–	26.06.2020
	DESN	MK	–SD–	29.06.2020
	CHD	HK	–SD–	30.06.2020
	APPD	AN	–SD–	30.06.2020

TITLE : ACW/ECW PUMP HOUSE
GA & RC DETAIL OF ROOF BEAM & SLAB

MPL	ELEC	C&I	MSE	MAX	DEPT.	SCALE VARIES
					SIGN	
					DATE	

DRAWING NO. PE–DG–444–696–C006

SHEET 2 OF 2 REV. 1

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