

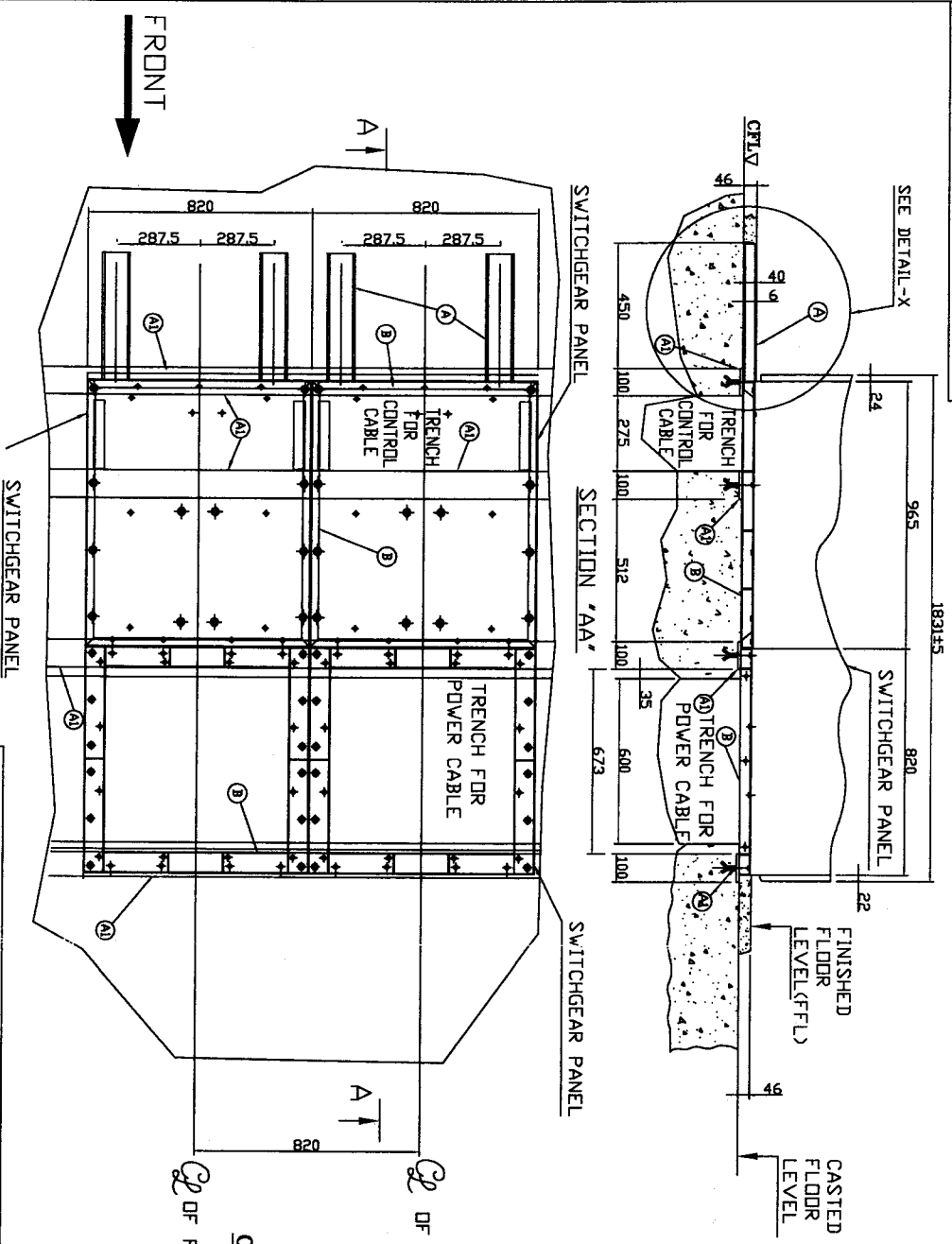
FIRST ANGLE PROJECTION

DRG. NO.

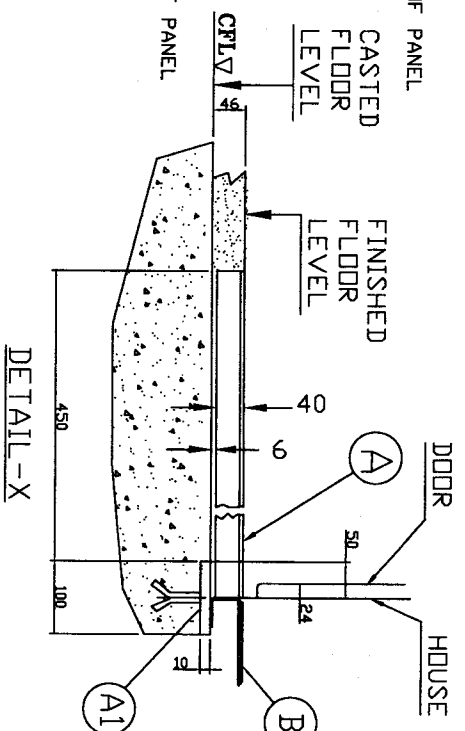
183145

35210001253C

(ALL DIMENSIONS ARE IN mm)



- LEGEND:-**
- A FLOOR EMBEDMENTS ISMC 75X500 LG. CHANNEL WITH SUITABLE ANCHOR POINTS ARE TO BE GROUTED AFTER COMPLETION OF PANEL ERECTION TO ENABLE EASY WITHDRAWAL V.C.B. TRUCK, TOP OF CHANNEL AND TOP OF PANEL'S BOTTOM SHEET ARE TO BE KEPT AT SAME LEVEL. (CUSTOMER'S SCOPE)
 - A1 FLOOR EMBEDMENTS 10 TKX100 WIDE STEEL PLATES WITH SUITABLE ANCHORS ARE TO BE GROUTED BEFORE PANEL ERECTION. (CUSTOMER'S SCOPE) SEE NOTE-3.
 - B FOUNDATION TRAY (PART OF PANEL) IS TO BE SPACE WELDED TO A1
- NOTE:-**
- 1. WEIGHT OF PANEL INCLUDING CIRCUIT BREAKER = 1300KG
 - 2. IMPACT LOADING FOR FOUNDATION DESIGN (INCLUSIVE OF PANEL WEIGHT) = 1800KG
 - 3. A1 SHOULD BE LEVELLED PROPERLY BEFORE EMBEDMENT. REFER SHT. 02



FDR TENDER ENQUIRY

REF. DRG. NO.
SIGN. & DATE
REV.

FIDELIS LAKRA
By General Manager
Bharat Heavy Electricals Ltd.
(Sole. Of India Undertaking)
Jagdishpur, Distt. Sahibpur, U.P.

REV.	DATE	ALTERED CHECKED	APPROVED
01	24.05.06		

ADDITIONAL INFORMATION			
STATUS OF DRAWING			
DISTRIBUTION OF PRINTS			
D/C	SVM	TCX	
1	3	1	

35210006043
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT
BHARAT HEAVY ELECTRICALS LTD.
BHOPAL

REVISION	DATE	BY	CHKD	APPD
01	24.05.06			

REV.	DATE	ALTERED CHECKED	APPROVED
01	24.05.06		

REV.	DATE	ALTERED CHECKED	APPROVED
01	24.05.06		

DRG AND NOTES UPDATED.
DIN673 VAS 6605
(DCA-25815)

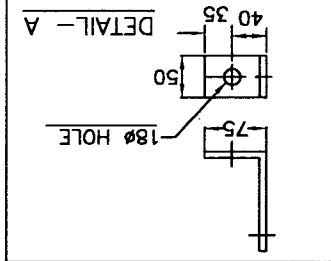
FOUNDATION ARRANGEMENT OF VM12 SWITCHGEAR

35210006043

01

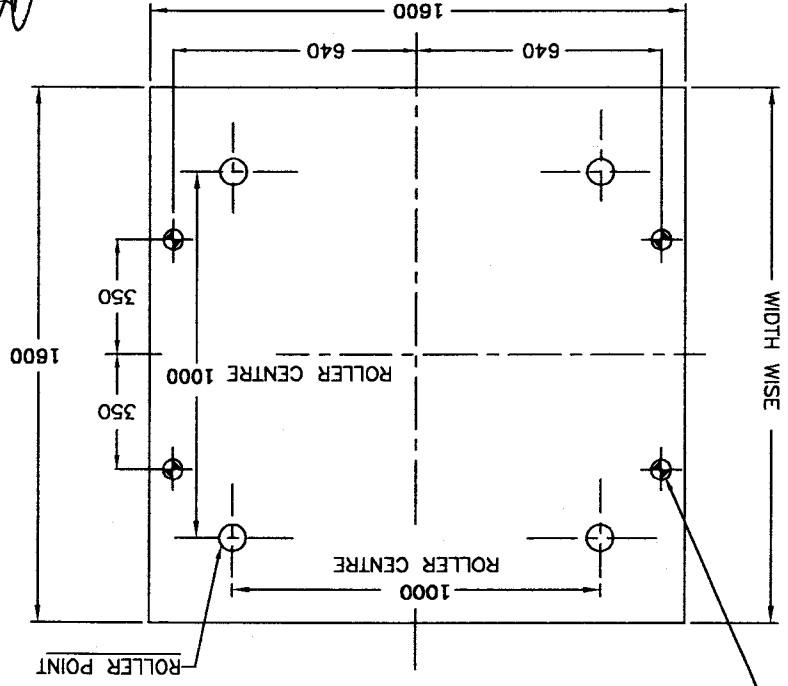
COPYRIGHT of this drawing remains with the EMCO LTD. Every use not authorized by the EMCO (duplication, handling for other purposes, making use for any construction etc.) is not permissible and liable to courts.

REV	No.	BRIFE RECORD	SD	D	2000 KVA		W.O.	DT0228	DRG. No. DTO/A0607	RO
					APP'D.	CH'D.				
					RKA					
					DR.N.	A S M W I N T	TITLE	FOUNDATION DETAILS		
EMCO LIMITED										
JALGAON										

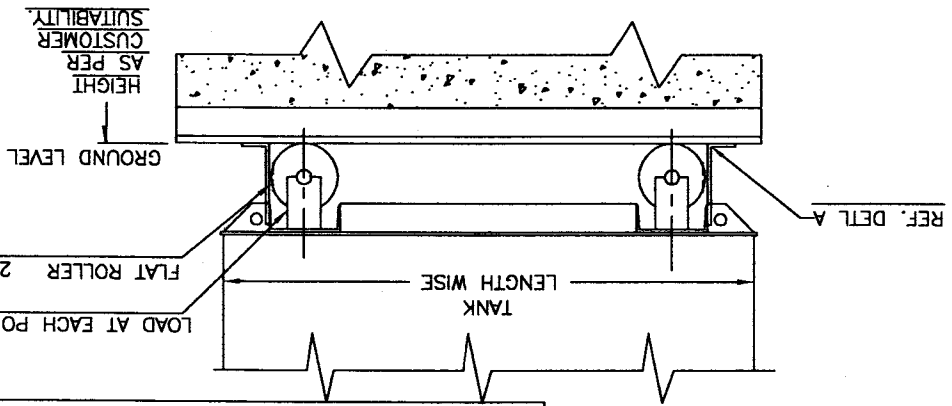


भारतीय वाणिज्य
FIDELIS LAKRA
Dy. General Manager
Bharat Heavy Electricals Ltd.
(A Govt. Of India Undertaking)
(भारत भारत भारत)
C.S.U. Jagdishpur, Distt. Sukhampur U.P.

For Tender Enquiry



M16 FOUNDATION BOLT NOT IN EMCO'S SCOPE OF SUPPLY



CUSTOMER :- M/S BHARAT HEAVY ELECTRICALS LTD.
LOI NO.-BHEL/CSU/Transformer/LOI-4/07-08 DT. 29.02.08

ALL DIMNS. ARE IN mm. UNLESS OTHERWISE STATED.



IF IN DOUBT, ASK.

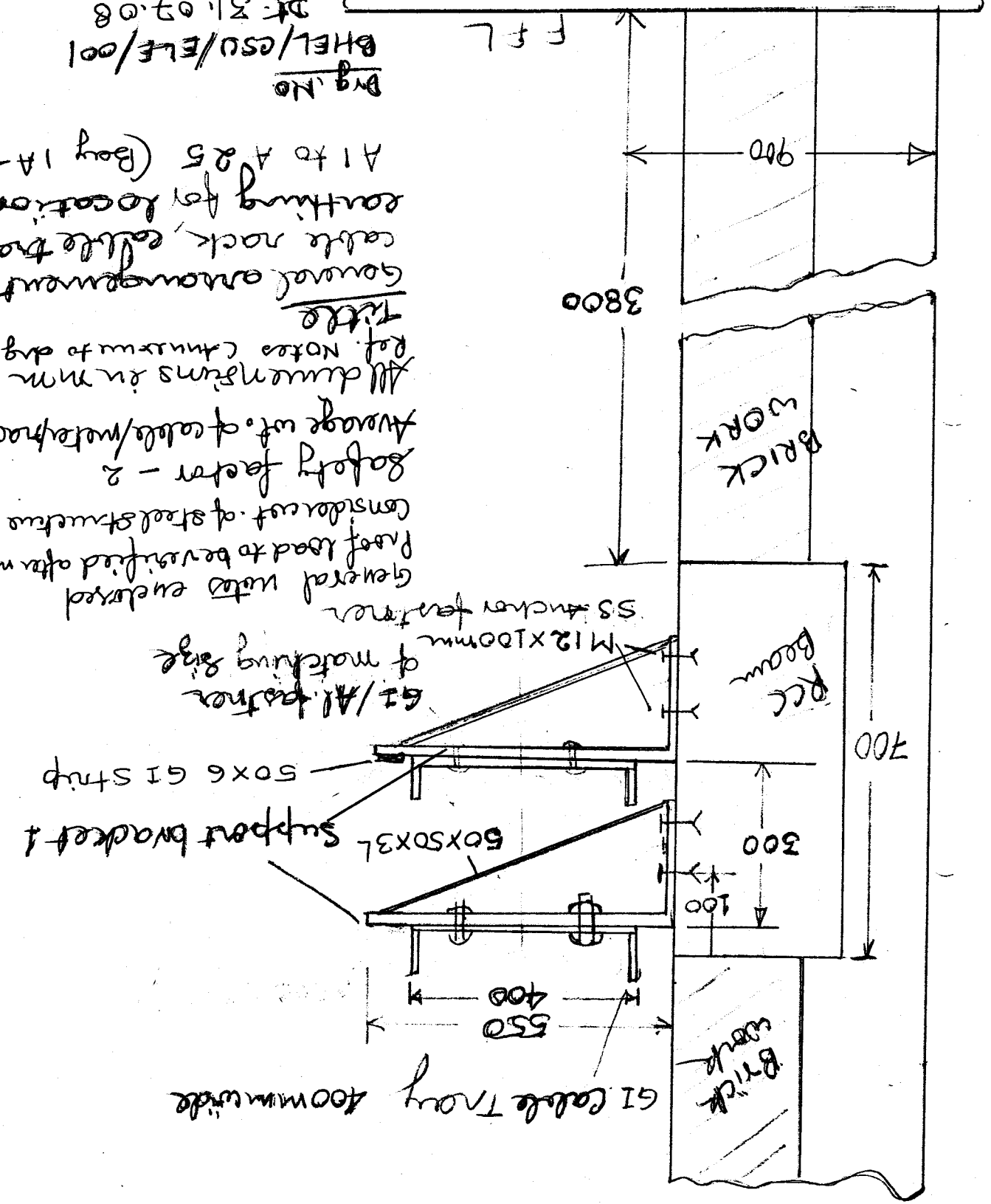
FIDELIS LAKRA
 ११११११११११११

Page 1/5

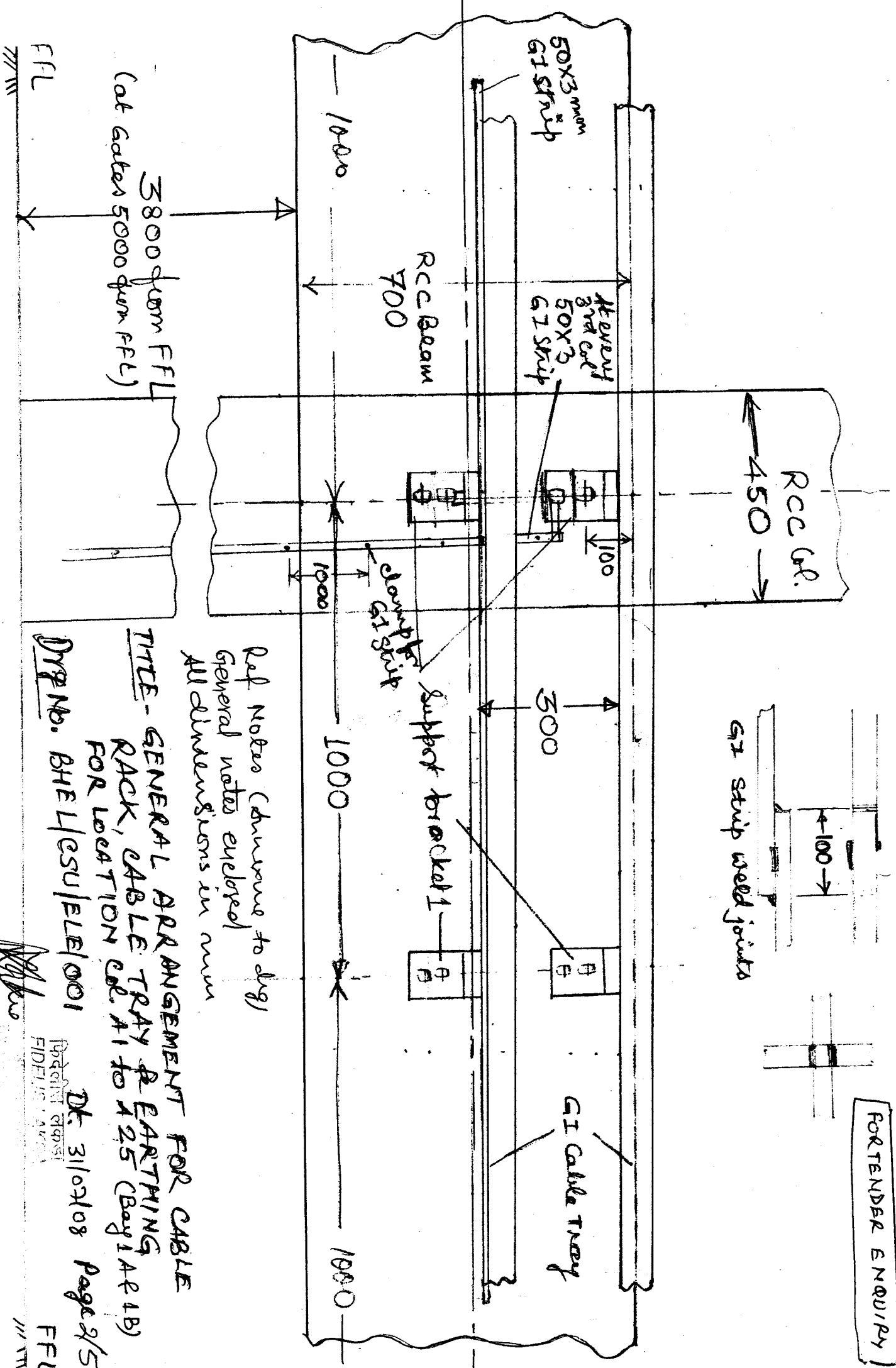
Drg. No. BHSL/GSU/EE/001
 Dt: 31.07.08

[Handwritten signature]

All dimensions in mm
 Ref. Notes (Annexure to drg.)
 Title
 General arrangement for
 cable rack, cable tray &
 earthing for location
 A1 to A25 (Bay 1A & 1B)
 Average wt. of cable/meter/tray - 65 kg/mtr
 Safety factor - 2
 Considered of steel structure accordingly
 Proof load to be verified after mounting sample
 General notes enclosed
 SS anchor fastener
 GI/Al. fastener
 50x50x3L Support bracket
 50x6 GI Strip
 50x50x3L Support bracket
 50x6 GI Strip
 M12x100mm of matching size
 GI/Al. fastener
 50x6 GI Strip



FOR TENDER ENQUIRY



3800 from FFL
(at gates 5000 from FFL)

Ref Notes (drawings to dig)
General notes employed
All dimensions in mm

TITLE - GENERAL ARRANGEMENT FOR CABLE RACK, CABLE TRAY & EARTHING FOR LOCATION cat A1 to A25 (Bay 1A & 1B)

DRW NO. BHEL/ESU/EL/001

DR. 31/07/08 Page 2/5

[Signature]

प्रधान अभियंता
FIDELITY

FFL

FOR TENDER ENQUIRY

FIDELIS LAKRA
 प्रदत्त मपस

Page 3/5

Drg. No. BHSL/GSU/ELE/001
 Dt. 31/07/08

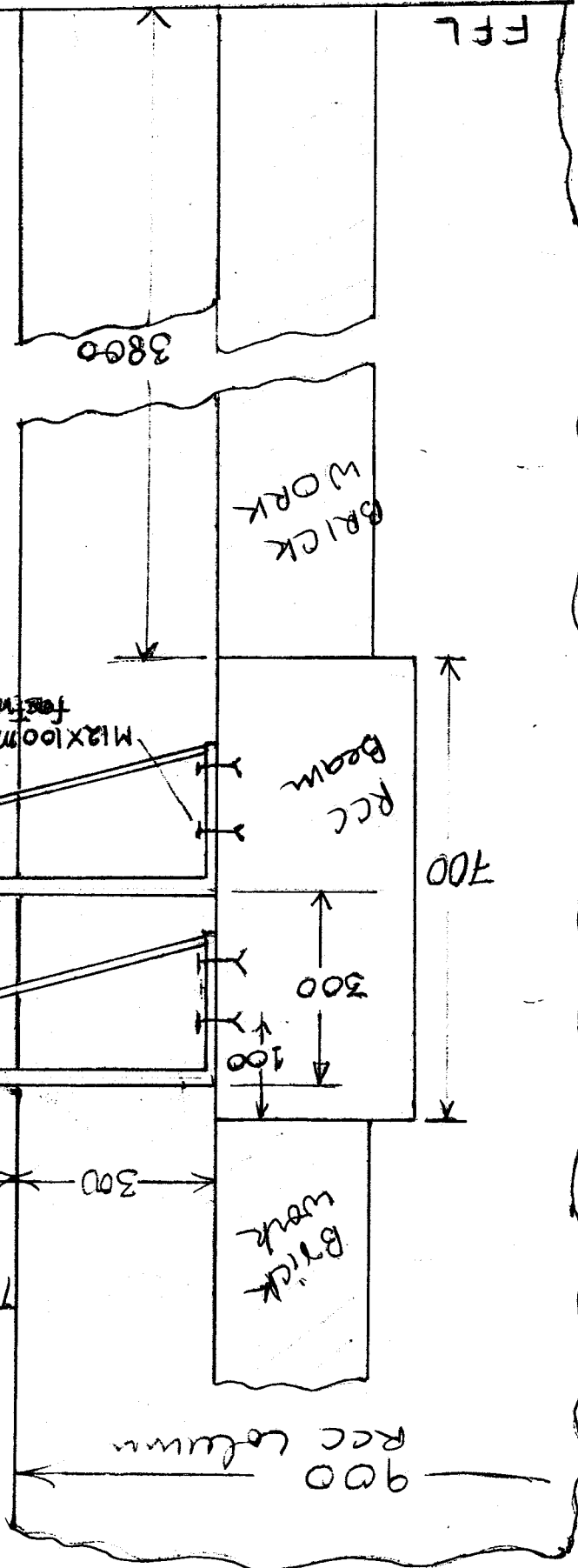
(Signature)

Title
 General arrangement for
 cable rack, cable tray &
 earthing for section
 I 1 to I 14 (Bay 8A)

All dimensions in mm
 Average wt. of cable/meter rack - 65 kg/Mtr.
 Safety factor - 2
 consider weight of steel structure accordingly
 Proof load to be verified after mounting sample
 General notes enclosed.
 Pot Nuts (Anchors to dry)

GI/M. fastener
 matching size
 50x6 GI strap
 Support bracket 1 on column
 Support bracket 2 on beam

GI Cable
 Tray 400mm wide



FOR TENDER ENQUIRY

Dy. General Manager
 Bharat Heavy Electricals Ltd.
 (A Govt. Of India Undertaking)
 (भारत भारती का उपकरण)
 C.S.U. Jagdishpur, Distt. Sultanpur U.P.

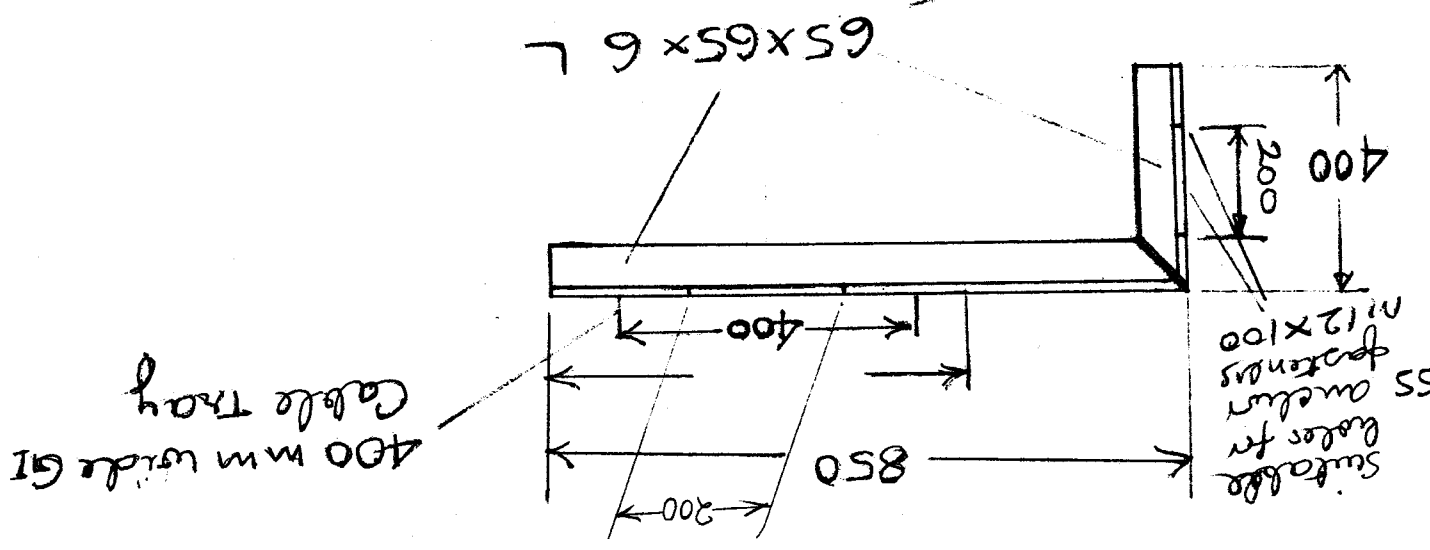
FIDELIS LAKRA
 प्रकल्प प्रमुख

Dt. 31/07/08
 Page 5/5

Drg. No. BHEL/ESU/ELE/001

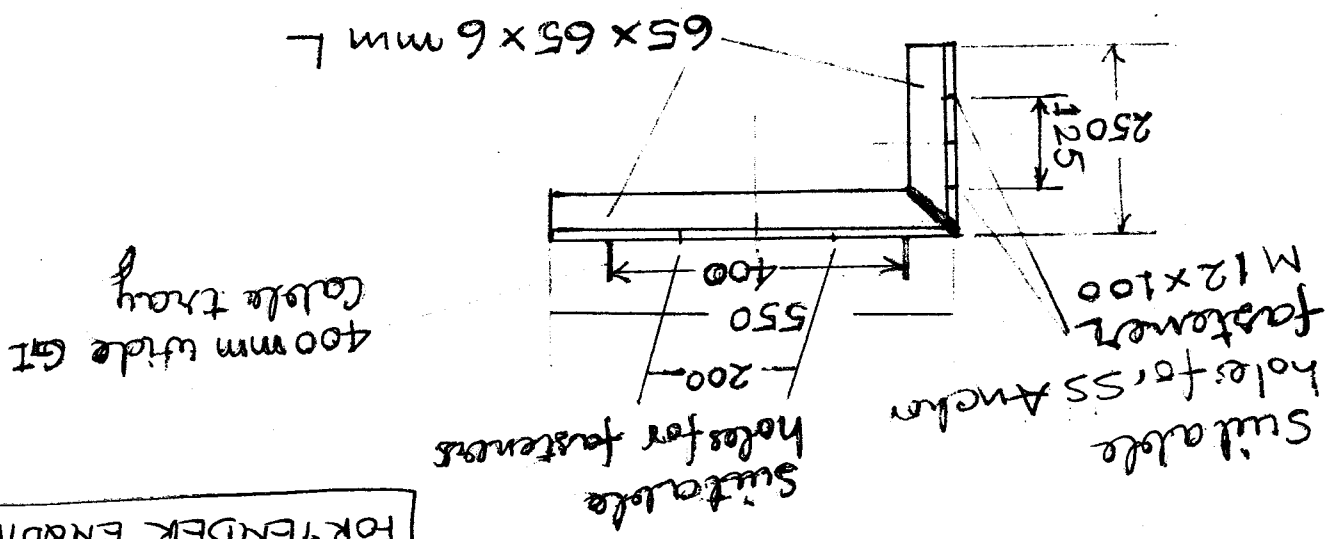
TYPICAL SUPPORT BRACKET 2

Titlo Typical Support Bracket.
 All dimensions in mm
 General notes enclosed
 Ref. notes (Chuvavut doq)



Suitable holes for fasteners

TYPICAL SUPPORT BRACKET 1

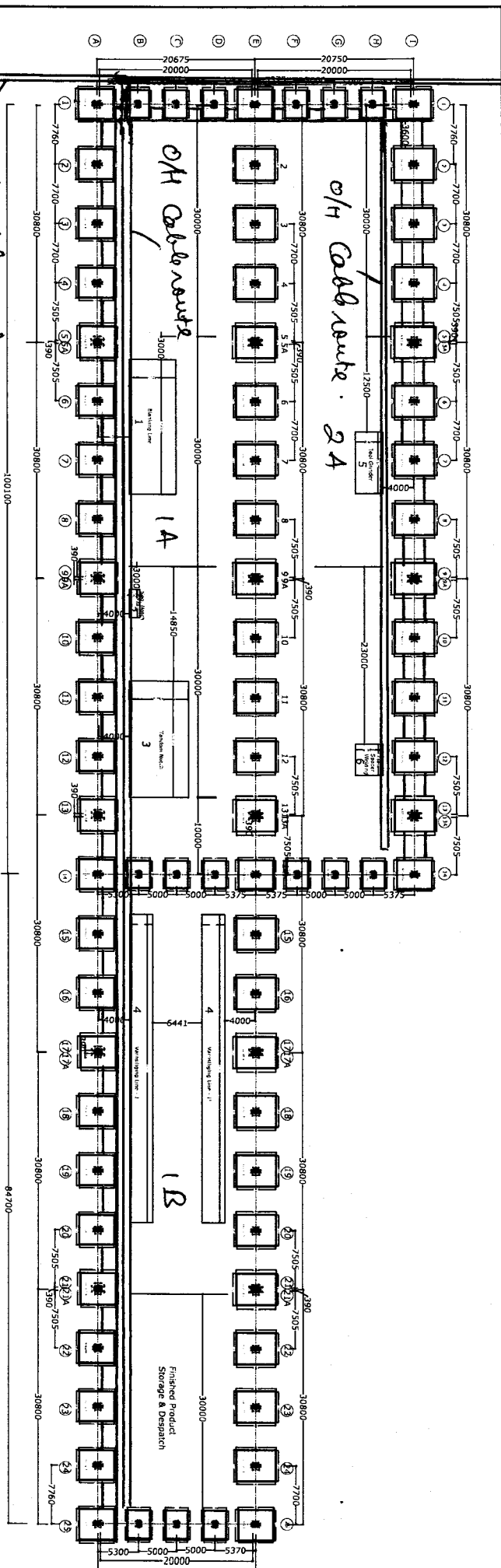


FOR TENDER ENQUIRY

FOR TENDER ENQUIRY

To Electrical bldg.

O/H Cable route



To Admin bldg, Sec. bldg, Main gate

Foundation Plan of Columns,
Beams, Cable route

Drng. No. BHBL/ESU/ES/002

BHBL/ESU JAGDISHPUR

Dt. 31/07/08

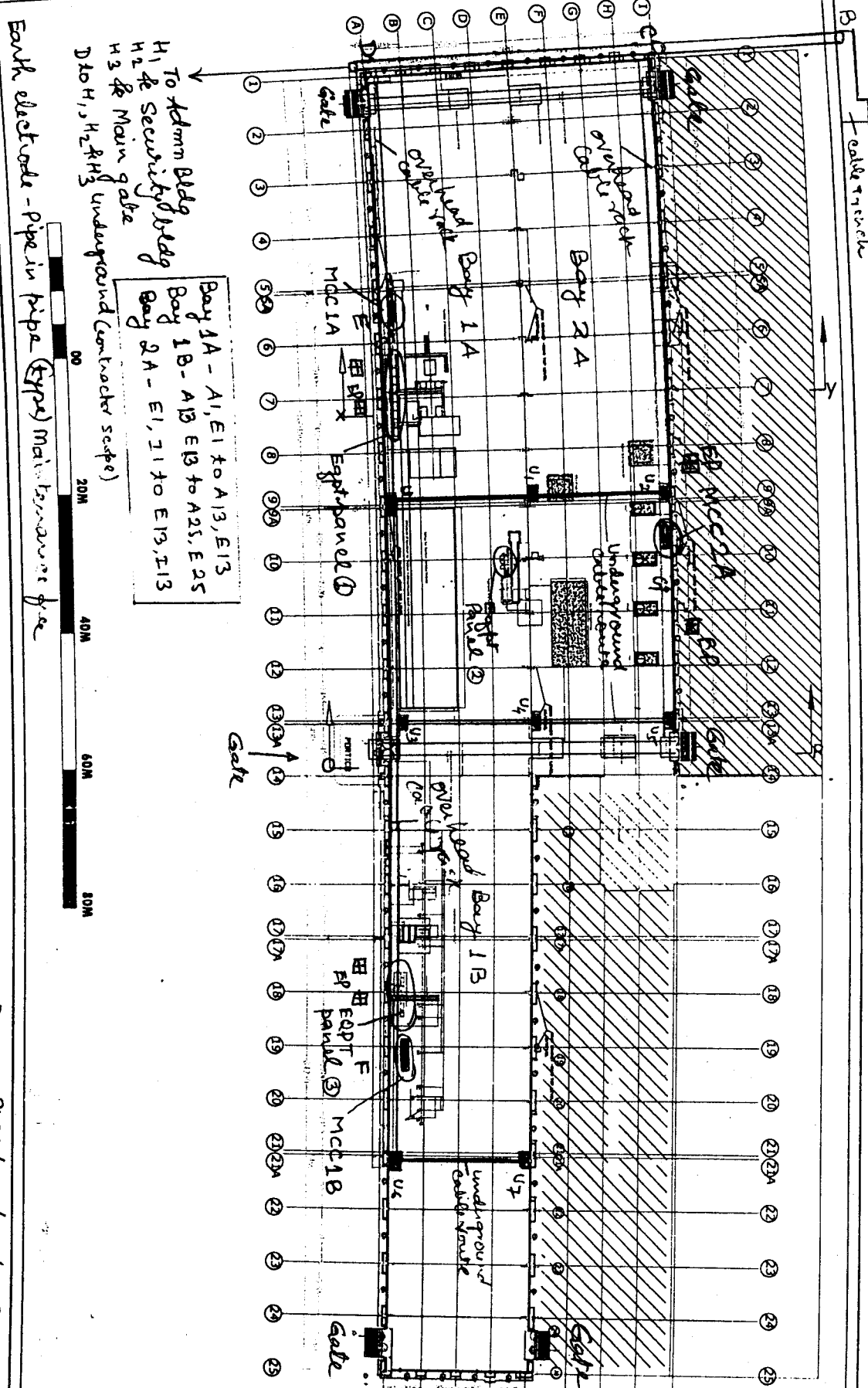
Page 2/2

फिदलीस लकड़ा
FIDELIS LAKRA

सु महा प्रबंधक

Dy. General Manager
Bharat Heavy Electricals Ltd.
(A Govt. Of India Undertaking)
(भारत भारत का उपक्रम)
C.S.U. Jagdishpur, Distt. Sultanpur U.P.

ELECT BLDG.
STORES



Cable Route
 AB - Cable Trench
 BC - Underground
 CD - Overhead cable
 CE - rack
 DE -
 EF -

U1, U2 } Underground
 U3, U4 } laying only
 U5, U6 } (Pipe laying in
 BHFL scope)

1M X 1M PIP
 of U1, U2, U3, U4
 U5, U6 & U7 (BHFL scope)

Ladder type
 cable tray size
 400(W) x 50(H) x 2 (T)

GI strip for cabling
 50 x 6 mm
 25 x 3 mm

PROJECT	CELL. AND EQUIPMENT
DATE	CENTRALISED STAMPING
UNIT, BHFL, JAGDSHPUR	
NO.	
REV.	
DATE	
BY	
CHECKED	
DATE	
SCALE	
DATE	

DRG NO. BHFL/ESU/ELE/003

TITLE: General arrangement equipment layout,
 cable route, cabling

Dy. General Manager
FIDELIS LAKRA
 भारत भारी प्रबंधक
 Bharat Heavy Electricals Ltd.
 (A Govt. Of India Undertaking)
 भारत सरकार का उद्योग
 C.S.U. Jagdishpur, Distt. Sultanpur U.P.

DRG NO. BHFL/ESU/ELE/003

फिदेलिस लक्रा
FIDELIS LAKRA

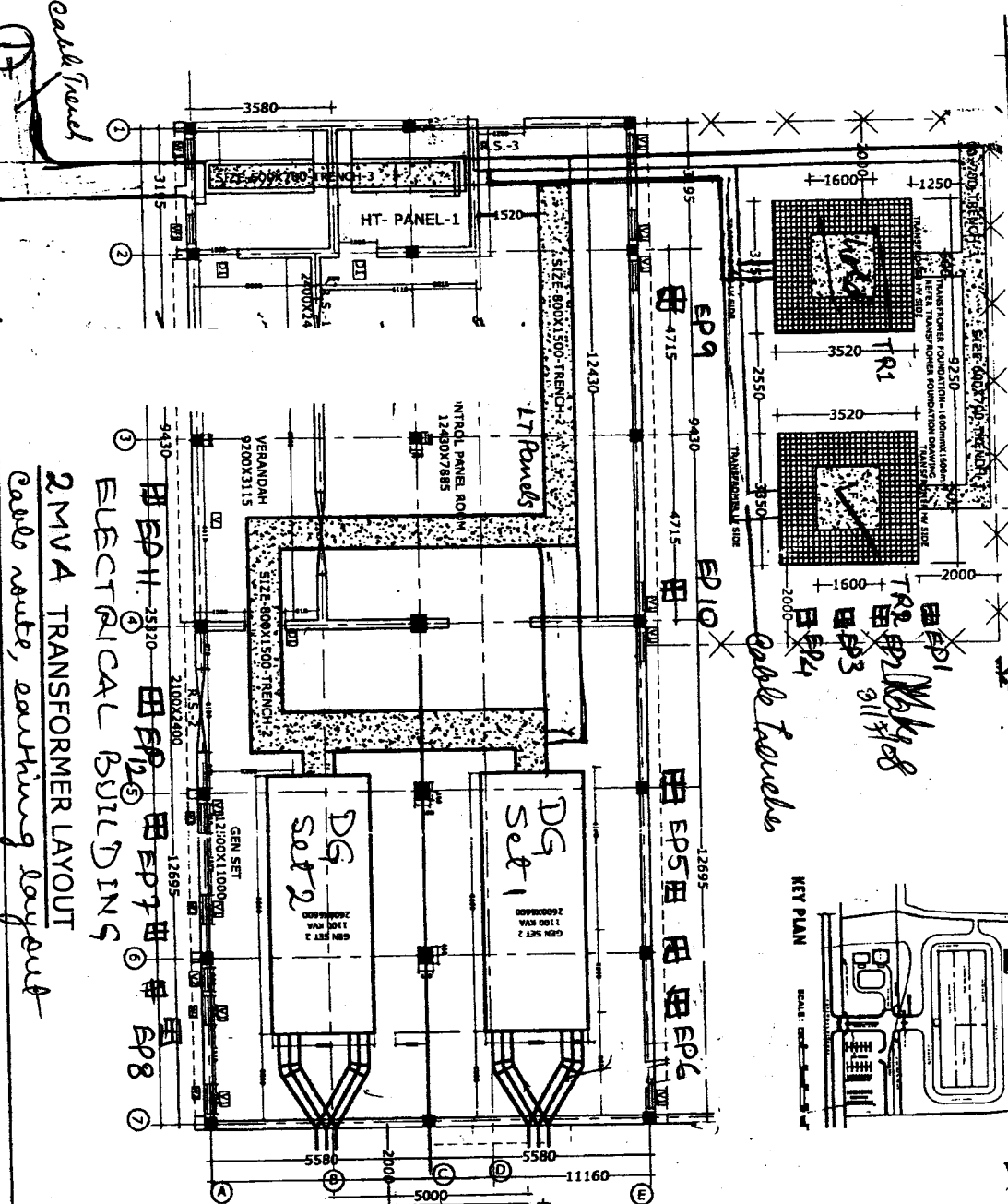
भारत भारी प्रबंधक

Bharat Heavy Electricals Ltd.
 (A Govt. Of India Undertaking)

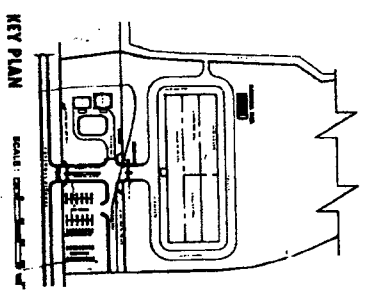
भारत सरकार का उद्योग

C.S.U. Jagdishpur, Distt. Sultanpur U.P.

To Manuf returning block



Road →



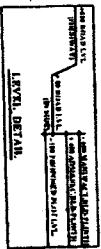
EP - Earth Electrodes

2MVA TRANSFORMER LAYOUT
cable route, earthing layout

Drwg No. BHEL/350/EE/004
page 1/1

GENERAL NOTES

- All Dimensions are in MM. Do not scale follow the written dimensions.
- Any discrepancy found in the Drawing must be brought to the notice of the consultants before implementation on the same.
- All dimensions shall be checked, read and co-related with their respective Architectural, Engineering Drawing & details.



NO.	REVISION	DATE
01	PLAN	10-04-03
02	PLAN	01-09-03
03	PLAN	01-09-03
04	PLAN	01-09-03
05	PLAN	01-09-03
06	PLAN	01-09-03
07	PLAN	01-09-03
08	PLAN	01-09-03
09	PLAN	01-09-03
10	PLAN	01-09-03
11	PLAN	01-09-03
12	PLAN	01-09-03
13	PLAN	01-09-03
14	PLAN	01-09-03
15	PLAN	01-09-03
16	PLAN	01-09-03
17	PLAN	01-09-03
18	PLAN	01-09-03
19	PLAN	01-09-03
20	PLAN	01-09-03

PROJECT: DEVELOPMENT OF C.S.I.L. PLANT AND OFFICE.

CLIENT: CENTRALISED STAMPING UNIT, BHEL, JAGDISHPUR.

DESIGNER: Planner India (P) Ltd.

DRG NO. BHEL/350/EE/004

DESIGNED BY: V. L. NINGRA

DRAWN BY: S. J. SURESH & S. S. SURESH

CHECKED BY: S. J. SURESH & S. S. SURESH

DATE: 01-09-03

SCALE: 1:1000

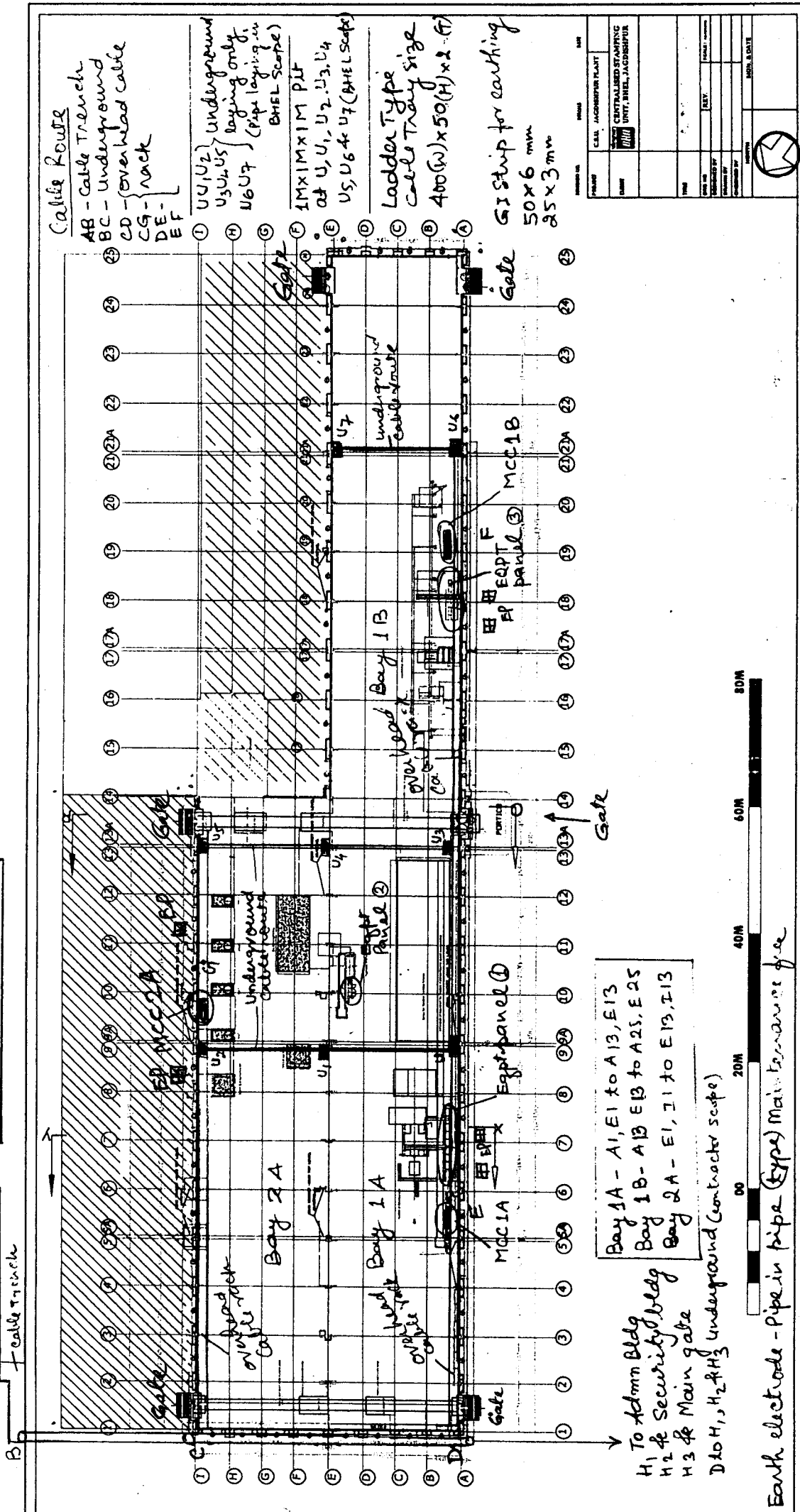
NORTH

SIGN. & DATE

FOR TENDER ENQUIRY

ELECT BLDGS.

STORES



Cable Route
 AB - Cable Trench
 BC - Underground
 CD - overhead cable
 DE - Rack
 EF -

① U1, U2 } underground laying only
 U3, U5 }
 U6, U7 } (pipe laying in BHEL scope)

④ 1Mx1Mx1M PUF at U, U1, U2, U3, U4
 U5, U6 & U7 (BHEL scope)

⑤ Ladder Type Cable Tray size 400(W)x50(H)x2(F)

⑥ GI Strip for earthing 50x6 mm 25x3 mm

Bay 1A - A1, E1 to A13, E13
 Bay 1B - A13, E13 to A25, E25
 Bay 2A - E1, I1 to E13, I13

H1 To Admn Bldg
 H2 & Security Bldg
 H3 & Main gate
 D to H1, H2 & H3 underground (Contractor scope)

Earth electrode - Pipe in pipe (EPP) maintenance yard

PROJECT	CELL. JACKSONPUR PLANT
UNIT	CENTRALISED STAMPING UNIT, BHEL, JACKSONPUR
DATE	
SCALE	
DESIGNER	
CHECKED BY	
APPROVED BY	
DATE	

old 310708 page VI

Drq No. BHEL/CSU/ELE/003

TITLE - General arrangement equipment layout, Cable route, earthing

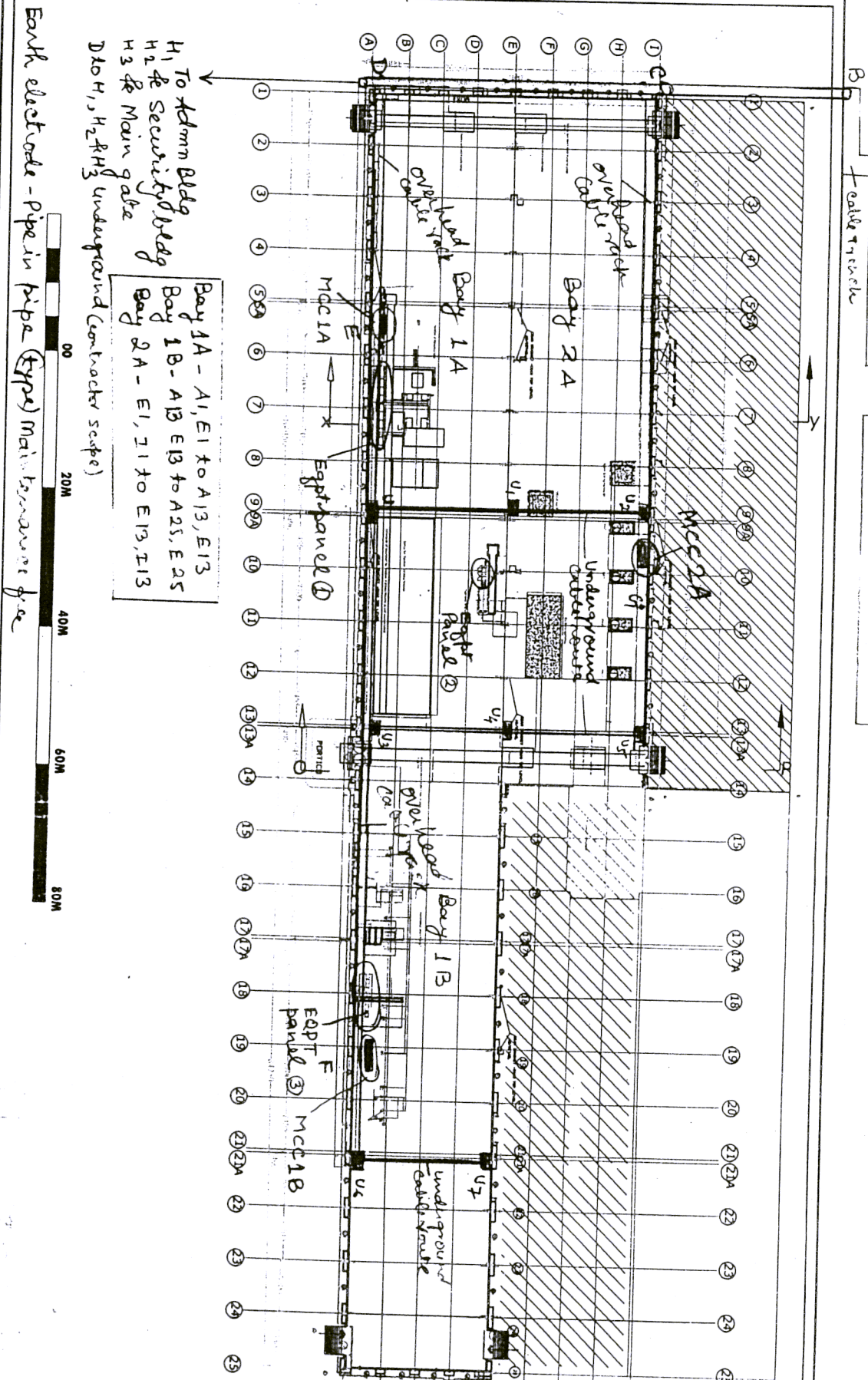
फिदेलीस लकड़ा
FIDELIS LAKRA
 उप महा प्रबंधक

Dy. General Manager
 Bharat Heavy Electricals Ltd.
 (A Govt. Of India Undertaking)
 (भारत भारती का उद्योग)
 C.S.U. Jagdishpur, Distt. Sultanpur U.P.

ELECT
A BLDG.

STORES

FOR TENDER ENQUIRY



To Admin Bldg
H₁ Fe Security Bldg
H₂ Fe Main gate
H₃ Fe Main gate
D₁ H₁, H₂, H₃ underground (contractor scope)

Bay 1A - A₁, E₁ to A₁₃, E₁₃
Bay 1B - A₁₃, E₁₃ to A₂₅, E₂₅
Bay 2A - E₁, I₁ to E₁₃, I₁₃

Earth electrode - pipe in pipe (type) main transformer p.c.e.



Cable Route

AB - Cable Trench
BC - underground
CD - overhead cable
CE - rack
DE -

U₁, U₂ } underground
U₃, U₄, U₅ } laying only
U₆, U₇ } (pipe laying in BHEL scope)

1M x 1M x 1M PIT
at U₁, U₂, U₃, U₄
U₅, U₆ & U₇ (BHEL scope)

Ladder type
cable tray size
400(W) x 50(H) x 2 (T)

GI Strip for earthing
50 x 6 mm
85 x 3 mm

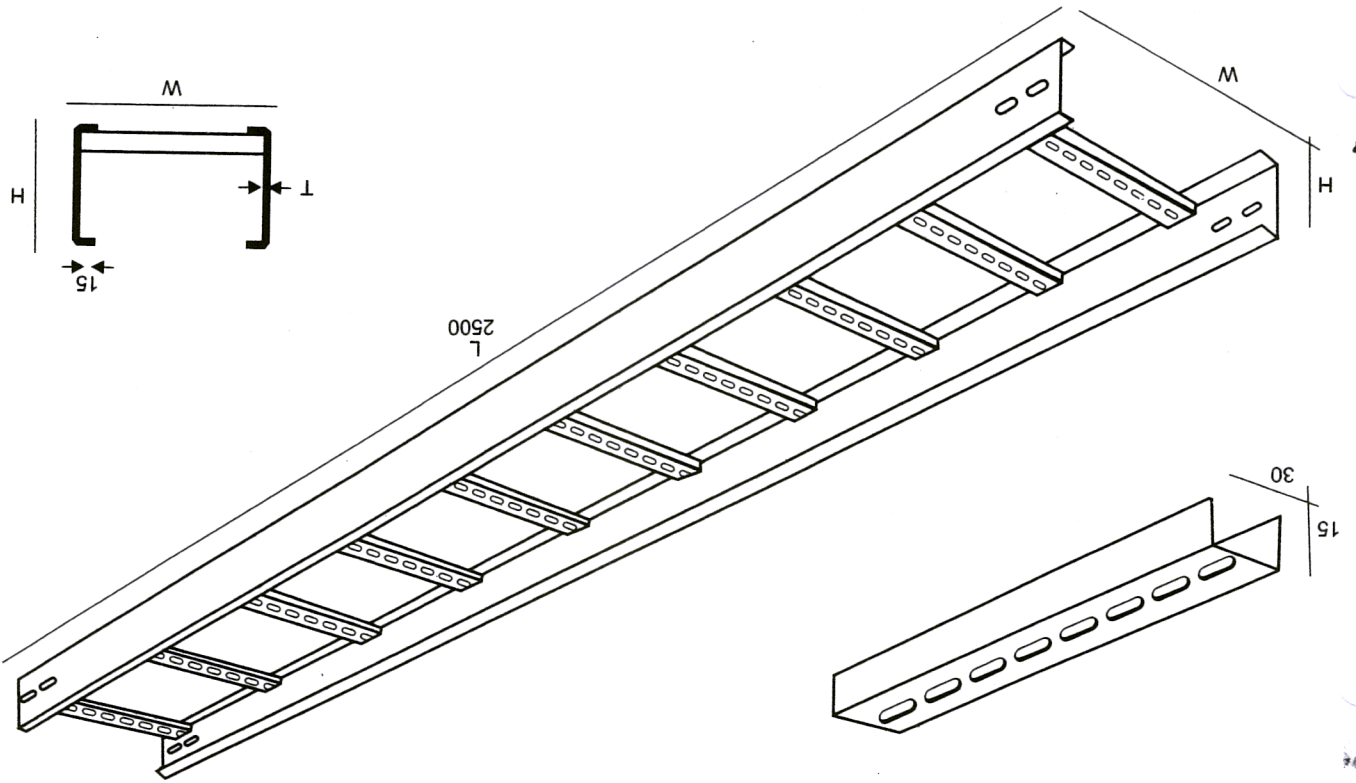
TITLE - General arrangement equipment layout,
Cable route, earthing

Drwg No. BHEL/ESU/ELE/003

dt 31/07/08 page 11

PROJECT	CALL. JACOBS/RIPLANT	DATE
CLIENT	CENTRALISED STAMPING UNIT, BHEL, JACOBSPUR	
DESIGNED BY		
CHECKED BY		
APPROVED BY		
SCALE		
DRWING NO.		
REV.		
TOTAL SHEETS		
SHEET NO.		

W(mm)	H(mm)	T(mm)
900	50/75/100	2.5/3
750	50/75/100	2/2.5
600	50/75/100	2/2.5
400	50/75	2/2.5
300	50/75	2/2.5
200	50/75	2/2.5
150	50/75	2/2.5

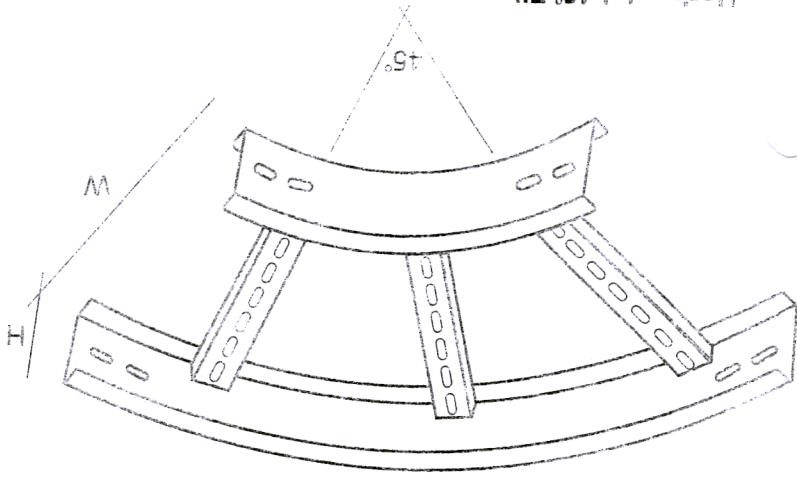


STANDARD CABLE SUPPORT SYSTEM LADDER TYPE

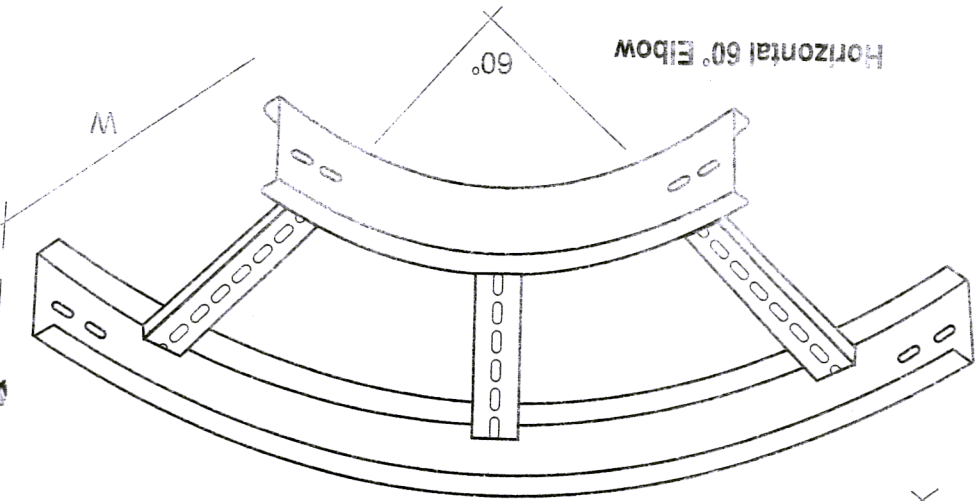
W	T	(mm)	(mm)
900	2.5/3	150	2/2.5
750	2/2.5	200	2/2.5
600	2/2.5	300	2/2.5
400	2/2.5	400	2/2.5
200	2/2.5	600	2/2.5
		750	2/2.5
		900	2.5/3

Horizontal 90°, 60° & 45° Elbow

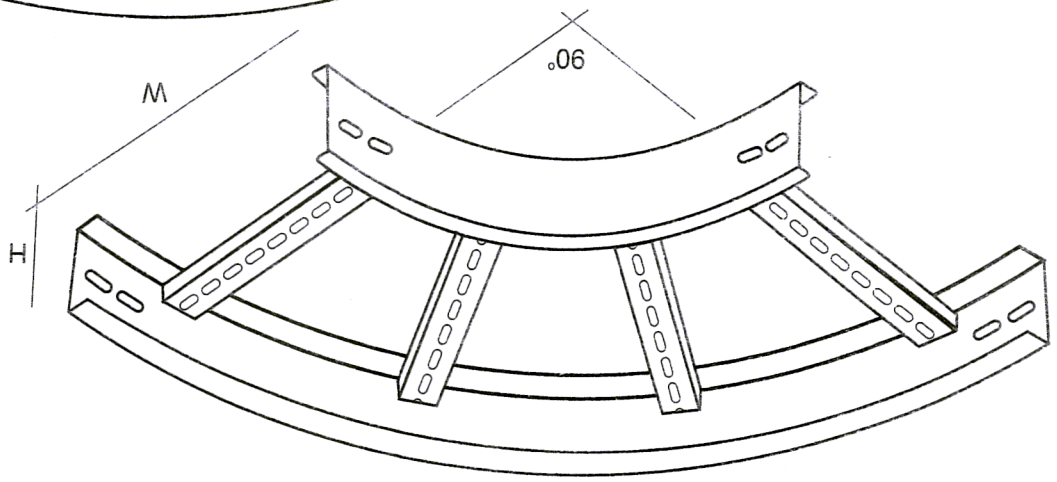
Horizontal 45° Elbow



Horizontal 60° Elbow

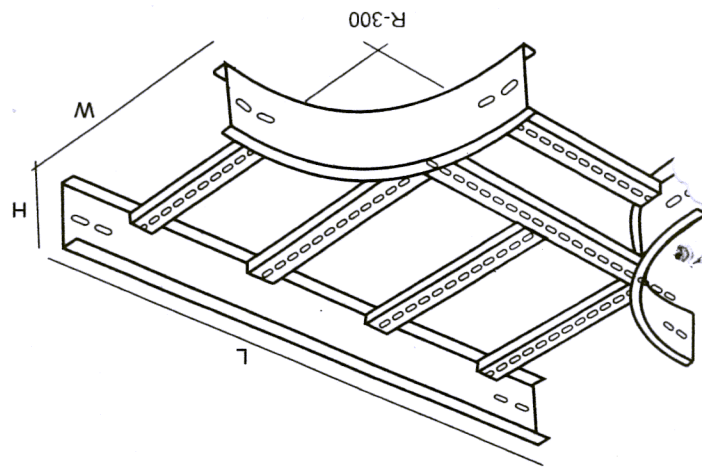


90°



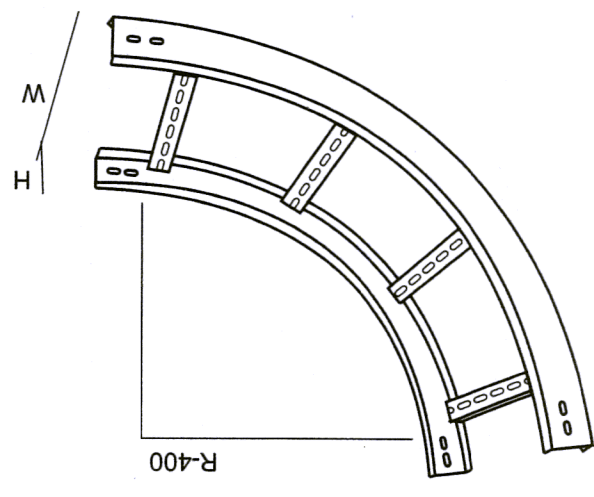
W (mm)	T (mm)	L (mm)
900	2/2.5	1800
750	2/2.5	1650
600	2/2.5	1500
400	2/2.5	1300
300	2/2.5	1200
200	2/2.5	1100
150	2/2.5	1050

Horizontal Tee



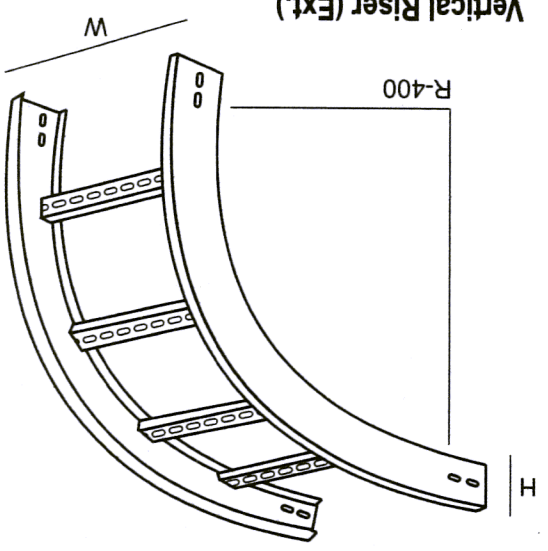
W (mm)	T (mm)
900	2.5/3
750	2/2.5
600	2/2.5
400	2/2.5
300	2/2.5
200	2/2.5
150	2/2.5

Vertical Riser (Int.)



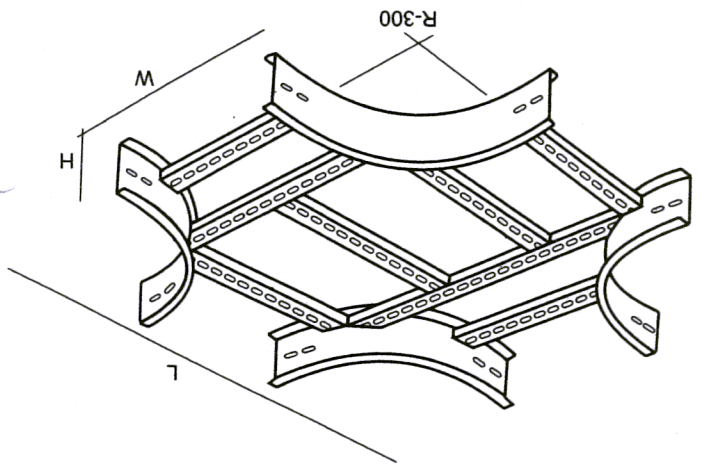
W (mm)	T (mm)
900	2.5/3
750	2/2.5
600	2/2.5
400	2/2.5
300	2/2.5
200	2/2.5
150	2/2.5

Vertical Riser (Ext.)

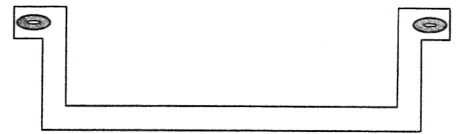


W (mm)	T (mm)	L (mm)
900	2.5/3	1800
750	2/2.5	1650
600	2/2.5	1500
400	2/2.5	1250
300	2/2.5	1200
200	2/2.5	1100
150	2/2.5	1050

Horizontal Cross

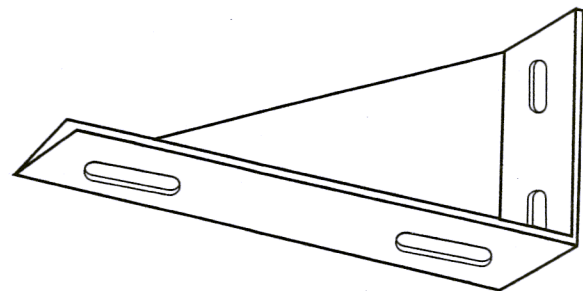


Cover Clamp

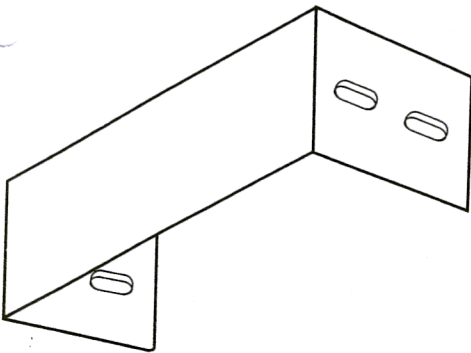


W	Width of Applicable Ladder (mm)
1000	900
850	750
700	600
550	450
100	300
300	200
250	150

Support Bracket



Blind End



L	Width of Applicable Ladder (mm)
1050	900
900	750
750	600
600	450
450	300
350	200
300	150

Cantilever Bracket

