

Transnet SOC Limited
Transnet RME

REQUEST FOR QUOTATION

BOARD LIST TFR RME
TRANSNET FREIGHT RAIL - RME
PROCUREMENT DEPARTMENT
2000

Registration Number: 1990/000900/30
Vat Number : 4720103177



Attention:

Telephone Number :
Fax Number :
Vendor Number :2004815

Quotation Deadline Date : 09.11.2015
Quotation Deadline Time : 12H00

REQUEST for QUOTATION
Transnet RME
RFQ Number / Date
6000238147 / 09.11.2015
Contact Person / Telephone
Anne Mongie / 031 361 1759
Return to FAX Number/EMAIL
031 3000 11 / TCPtendersDurban@Transnet.net

PREVIEW COPY ONLY

Item	Material	Description	RFQ Qty	UoM	Required Del date	Confirm Del date	Unit Price Excl	Total Price Excl
100010		"SUPPLY,FABRICATE AND A	1	Ac	23.11.2015			

"SUPPLY,FABRICATE, ASSEMBLE AND DELIVER SIGNAL GANTRIES STRUCTURE INCORPORATING LATTICE BRIDGE. AS PER ATTACHED SCOPE OF WORK

FOR MORE INFORMATION CALL THOBEXA ON 031 605645437

QUOTES MUST BE MAILED TO : TCPtendersDurban@transnet.net KINDLY ATTACH COPIES OF BBBEE AND TAX CLEARANCE CERTIFICATES TO QUOTES
ALL PROCUREMENT RELATED QUERIES TO BE DIRECTED TO : ANNE MONGIE : 031 361 4050 E-MAIL : anne.mongie@transnet.net FOR COPIES OF DOCUMENTS, CONTACT MDU ON 031 361 4502 OR E-MAIL: mduduzi.khoza@transnet.net

The item covers the following services:

10 1 AU SUPPLY,FABRICATE AND ASSEMBLY SIGNAL GAN



Transnet SOC Limited
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 YOUR VAT NUMBER WITH US: NOT

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RFQ Number / Date

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Anne Mongie / 031 361 1759

Return to FAX Number/EMAIL

031 3000 11 / TCPtendersDurban@Transnet.net

Delivery Address

TFR RME Durban
 100 Eel Road
 Bayhead, Durban
 4001

This RFQ is subject to the following conditions:

1. Price/s : The price/s quoted in SA currency and is excluding of V.A.
2. Delivery : The price/s quoted should include delivery cost to the delivery address stated on the RFQ
3. Returnables : A valid tax clearance certificate and BBEE certificate from a SANAS accredited verification agency attached to quotation for all quotes above R30 000.
Please note that only the official Transnet RFQ will be accepted and all other correspondence to be attached to the original
4. Safety : To confirm to Transnet Freight Rail RME Health & Safety plan and specification; HAS-std-0001, copy available on request.
5. Confirmation: To confirm your participation in this tender process please sign and return this document as immediate effect prior to the quotation deadline.
6. Negotiations: The Employer may elect to negotiate the final terms of the contract/order with the preferred tenderer in accordance with Clauses F.2.17 and F.3.13 of the CIDB Standard Conditions of Tender. A copy of which is available upon request.
7. Quotes will not be acceptable if not sending to the given fax or e-mail (please do not CC any buyer)
8. Should your company not receive any response from Transnet within 30 days of closing of a RFQ, please accept that your quotation was unsuccessful.

 Signature

 Date

<i>ITEM</i>	<i>RATE PER LINEAR METRE</i>	<i>QUANTITY</i>	<i>COST (RATE X QUANTITY)</i>
LATTICE BRIDGE AS PER CEE-TMD-27	R	32.54m	R
CATWALK ASSEMBLY AS PER CEE-TMFD-3	R	32.54m	R
<i>ITEM</i>	<i>RATE PER UNIT</i>	<i>QUANTITY</i>	<i>COST (RATE X QUANTITY)</i>
LADDER COMPLETE AS PER TMFB-2	R	2	R
SIGNAL CAGE WITH LADDER COMPLETE	R	5	R
TENDER TOTAL			R

PREVIEW COPY ONLY

TECHNICAL SPECIFICATION.
FABRICATION OF SIGNAL GANTRY LATTICE BRIDGES FOR OHTE RAIL
TRACTION.

1. PREAMBLE

Tenders are invited for the supply, fabrication and assembly of five Signal Gantry structures incorporating Lattice Bridge structure as per Drawings CEE-TMGD-1 and CEE-TMD-27 for use on the rail network in the Durban, Bayhead area.

2. COMPANY NAME

Transnet Freight Rail (RME) trading as Transnet (Pty) Ltd.

3. EXTENT OF WORK

All steel required for the fabrication is to be supplied by the contractor. This tender is for supply, fabricate, hot dip galvanize, assembly and deliver.

Completed structures to be prepared for Hot-Dip Galvanizing. Transnet RME to inspect each fabricated structure before release for Hot-Dip Galvanizing. Two days notice is required for these arrangements. Should the contractor's plant be located outside of greater Durban area, five days' notice will be required. Contractor to arrange for hot dip galvanizing as part of this tender. Hot dip galvanizing certificates to be provided on delivery of completed assemblies.

4. TECHNICAL REQUIREMENTS

All welding to be undertaken by qualified Structural Coded Welder. All welding runs to be sealed for galvanizing.

All segments of each unit to be marked with a unique welded number e.g. MS 01 P1. Numbers will be confirmed at the time of manufacture. **PLEASE NOTE:** numbers to be welded on, no alternative method of marking will be accepted.

Assembled structures to be complete with all fixings required viz. nuts, bolts, washers, U-Bolts, J-Bolts, etc. as required. All additional nuts and bolts for the assembly to be delivered together with the completed item as a package at Transnet RME situated at 130 Eel Road, Bayhead.

4.1) Structure lengths and details as per table hereunder. Lengths to be finalized on site by Project Manager instruction.

No.	Location No.	L/Brdg Length	SIG CAGE	LADDER CAGE	CAT-WALK (m)
2		14.310m	2	2	14.310m
3		18.23m	3	3	18.23m

5. QUALITY ASSURANCE

Work will be inspected on an ongoing basis during the manufacturing process. Notice to be given at least two days in advance for final inspection before release to galvanizing.

Quality control plan to be completed during each phase of the process for individual lattice bridges.

6. DURATION OF WORKS

Transnet RME requires that this work be completed within six weeks from tender award date. Release of completed structures is to be arranged in advance to speed up delivery.

7. PENALTY FOR LATE COMPLETION

Should the contractor fail to complete the works by the date stipulated in the contract, he shall pay RME a penalty of R 500.00 per day which will be levied for each day the work remain incomplete.

8. INVOICING AND PAYMENT

Invoice can be submitted per structure completed. Payment will be thirty days from invoice date as per Transnet procedure. Part payment may be entertained but only for completed fabrications.

9. DRAWINGS

The following drawings form part of this tender:

No.	Drawing No.	No. of Pages
1	CEE-TMD-27	1
2	CEE-TMGD-1	1
3	CEE-TMFD-1	15
4	CEE-TMFD-2	4
5	CEE-TMFD-3	15
6	CEE-TMFB-2	3
7	CEE-TMFB-3	5
8	CEE-TMFB-11	1
9	GANTRY DETAIL SKETCHES	4

10. PRICING

Pricing to include the following:

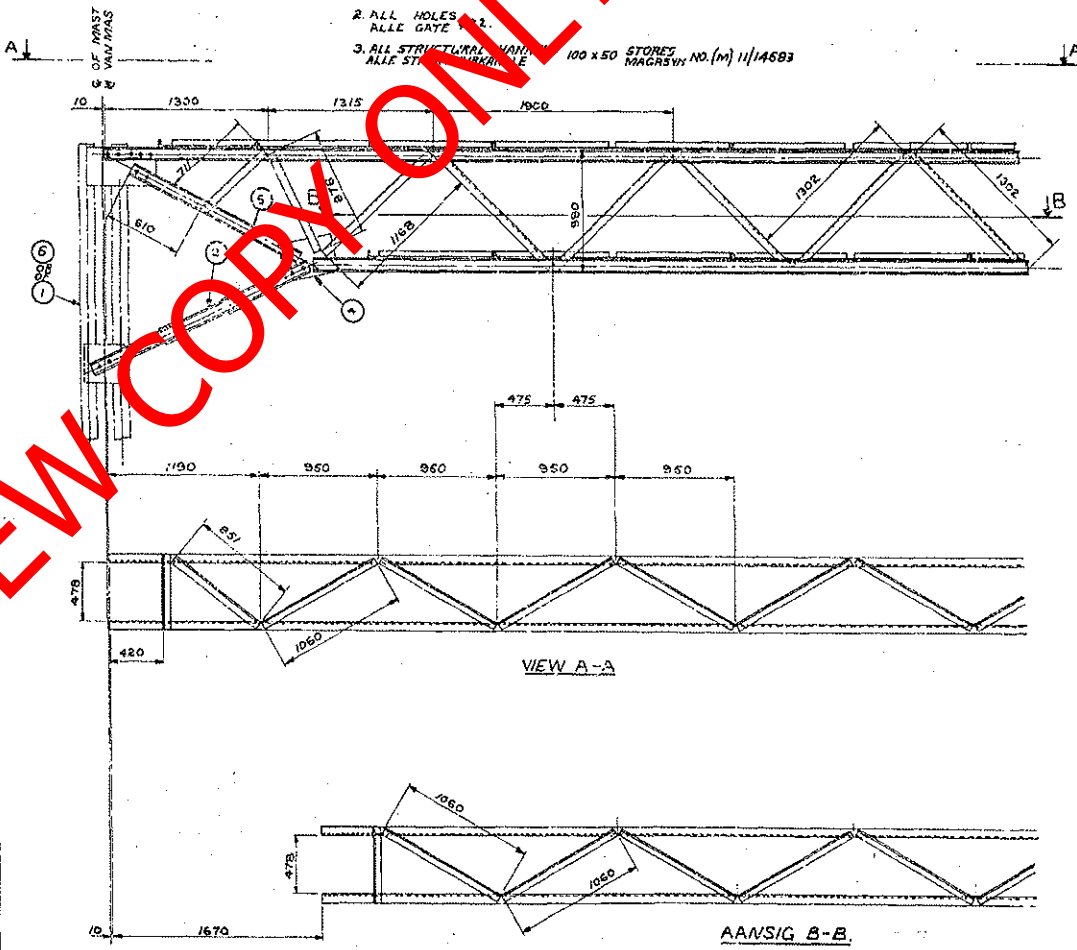
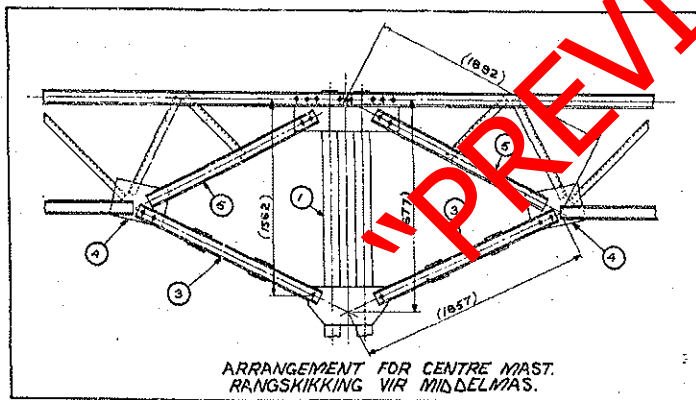
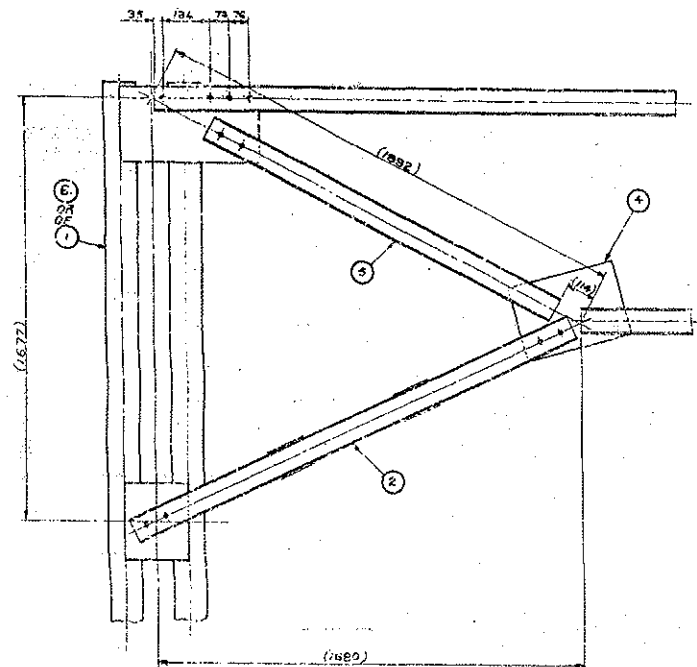
- All aspects of the welding process including labour, equipment, materials, delivery transport, etc to be included in the rate.
- Rate for gantries and catwalks to be quoted per linear metre excluding VAT.
- Rate for ladder to be quoted per unit complete excluding VAT.
- Rate for signal cages to be quoted per unit excluding VAT.
- Transnet reserves the right to reduce quantities at the time of manufacture.
- Payment will be processed for actual quantity manufactured.

CAMBER BASED ON 100mm CAMBER FOR STANDARD 28mm SIX TRACK STRUCTURE. KROMMING GEBASEER OP 100mm KROMMING VIR STANDAARD 28mm SESPOORSTUKTUUR.

Ø TO MAST & TOT MAS	CAMBER KROMMING
33,578m	156,7mm
32,000m	152,4mm
30,480m	158,0mm
28,956m	125,4mm

ITEM.	DESCRIPTION-BESKRYWING	QTY. UNITS	STORES MAGASYN NO.	DRAWING NO. CEE -		AMENDMENT'S WYSIGENOS
				CONTACT WIRE HEIGHT	SAARVORRAAD-MODULITE	
1.	RAIL MAST SPOORMAS	2		TMD-22	TMD-24	1. T. HUMAN 82-02-03.
2.	KNEE BRACE ASSEMBLY. KNEESPANSTUKSAMSTEL.	*		TMF-403	TMF-403	REDRAWN AND METRICATED. TITLE CHANGED. DRG. NO. WAS CEE-12-A1 SHT. 3.
3.	KNEE BRACE ASSEMBLY (CENTRE MAST TYPE) KNEESPANSTUKSAMSTEL (MIDDELMAS-TIPE)	*		TMF-404	TMF-404	DOORGETEKEN EN GEMETRISEER. TITEL VERANDER. TEK. NO. WAS CEE-12-B1 VEL 3.
4.	PLATE, BATTEN, PLAAI, STROOM.	*		TMHF-115	TMHF-115	D.O. REF. T1/82/60
5.	CHANNEL KANAAL	*		TMNC-81	TMNC-81	DRG. UPDATED. TEK. BYGEWERK. D.O. REF. T1/82/27
6.	ANGLE MAST. HOEKMAS	2		TMB-82	TMB-81	T.K. VERW. T1/82/27

NOTES/OPMERKINGS
 1. ALL STRUCTURAL ANGLE 60x60 THK. STORES ALLE STRUKTUURHOEKE 60x60 THK. MAGASYN NO. (M) 11/14483 * AS REQUIRED SOOS BENODIG.
 2. ALL HOLES & ALLE GATTE.
 3. ALL STRUCTURAL CHANNEL 100x50 STORES MAGASYN NO. (M) 11/14583



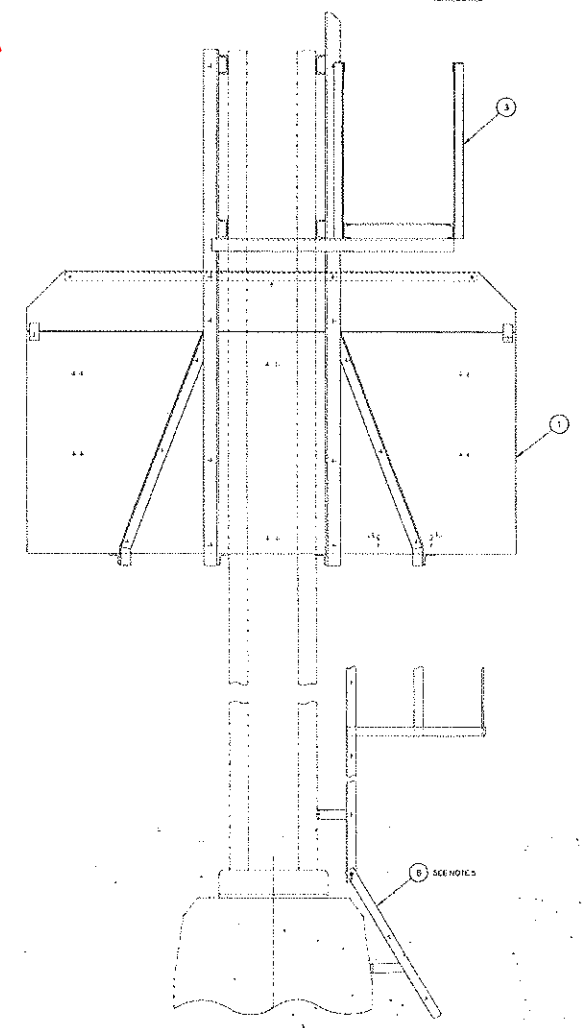
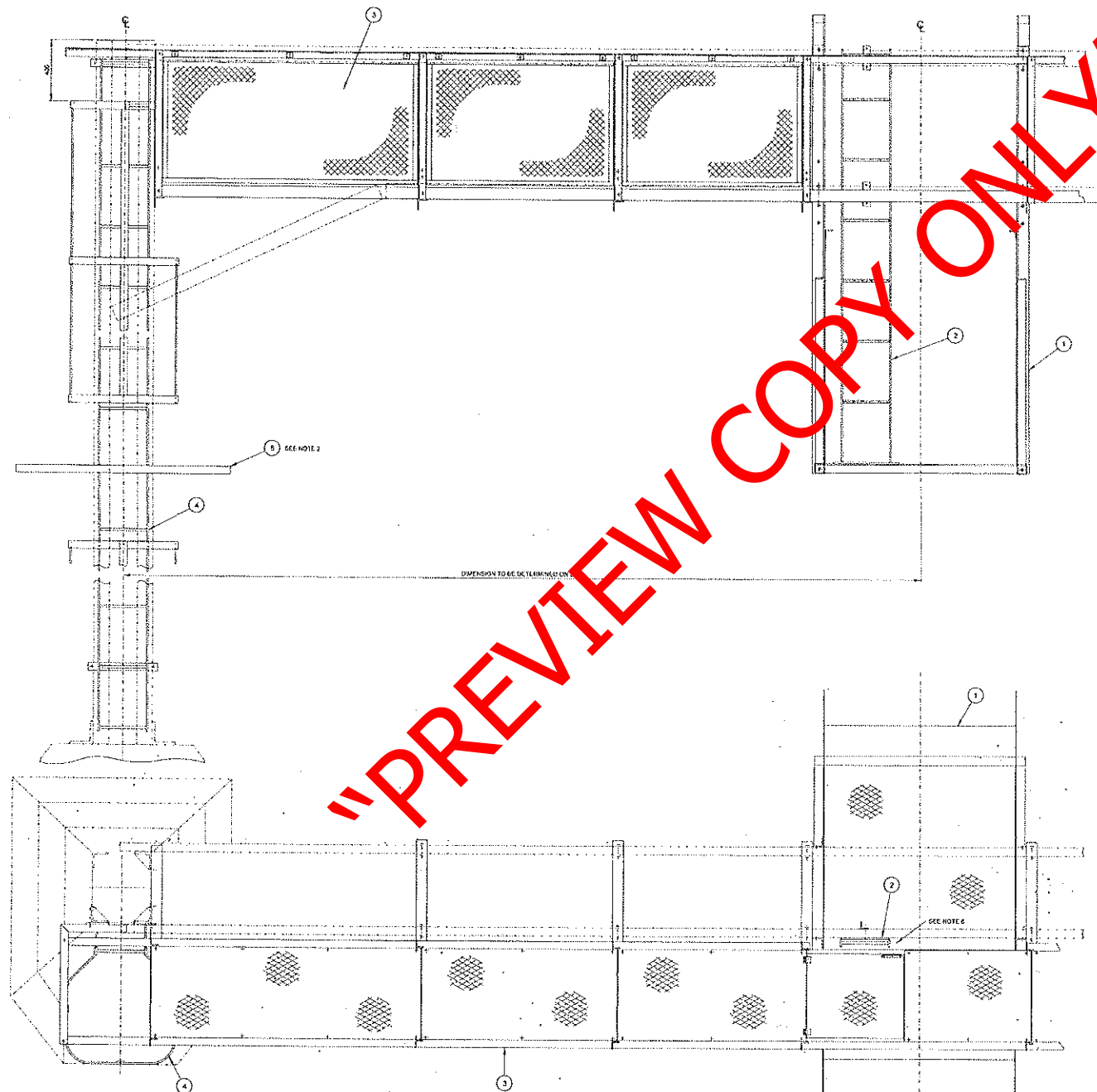
DIMENSIONS: MILLIMETRES/METRES. AFMETINGS: MILLIMETER/METER.
 SOUTH AFRICAN TRANSPORT SERVICES. SUID-AFRIKAANSE VERVOERDIENSTE.
 DRN: F.W.C. GEN. TOLERANCES: UN 1/5. ALG. TOLERANSIES: ANMOEK. 0.30"
 TRCD: M. H. VERW. D.O. REF. T1/82-24. ENG. J. H. VERW.
 CHIEF ELECTRICAL ENGINEER. ELEKTRIESE HOOFINGENIEUR. JOHANNESBURG

BOOM DETAILS: LATTICE BRIDGE RAIL AND ANGLE MAST MAX. SPAN 28m
 BALKDETAILS: TRALIEBRUG SPOOR EN HOEKMAS MAKS. SPAN 28m

CEE-TMG-122
 CEE-TMG-131
 S. A. RIG ISAMST-TEK
 MODULUS ITEM NO
 DRAWING NO. CEE-TMD-27

PREVIEW COPY ONLY

ITEM	DESCRIPTION	QTY	STORE ITEM NO	QND NO	CEE	AMENDMENTS
1	CAGE SIGNAL	*			TMFD-1 SH1 1	NO NAME DATE
2	LADDER CAGE	*			TMFD-2 SH1 1	REVISED AND REWORKED DO REF: TMS23
3	CATWALK	1			TMFD-3 SH1 1	DO REF: TMS23
4	LADDER MAST	1			TMFD-2 SH1 1	DO REF: TMS23
5	ANTI CLIMBING DEVICE	1			TMFB-3	DO REF: C001177
6	LADDER EXTENSION PIECE	1			TMFB-11	



- NOTES
1. CERTAIN ITEMS ON DIFFERENT VIEWS OMITTED FOR CLARITY.
 2. MOUNT ITEM 5 IN CENTRE OF PORTION OF LADDER WHERE RACKSTRAPS ARE OMITTED.
 3. READ THIS DRAWING IN CONJUNCTION WITH THE FOLLOWING CLEARANCES FOR SIGNAL CANTILES. QND NO. CEE-TMFB-1.
 4. THIS CATWALK SIGNAL CAGE AND LADDER MAY ONLY BE USED WITH LATTICE BRIDGES AND MUST BE MANUFACTURED ACCORDING TO TMS 23. CEE-TMFB-3 AND CEE-TMFB-4.
 5. WHEN FOUNDATION PROTRUSION EXCESSIVELY ABOVE GROUND LEVEL, ITEM 6 MUST BE USED WITH ITEM 5 TO RAISE ABOVE GROUND LEVEL.
 6. THERE IS NO SCREEN MOUNTED ON LATTICE BRIDGE SIDE OF CATWALK ABOVE CAGE.
 7. FOR MASTER RECORD INDEX SEE DOCUMENT NO. B891317.

DESIGNER	TRM22	GEN. TOOL. UNIT	APR/04
DRAWN	JUT	DATE	18/04/04
CHKD.	C.E.M.PHILLIPS	BY	CHRYL. LENS
CENTRAL DRAWING OFFICE		SPOORNET	

SIGNAL GANTRY
MOUNTED ON LATTICE BRIDGE STRUCTURE

PROJECTIONS mm	A0
SCALE 1:10	
DRAWING NO	CEE-TMFD-1
SHEET	1 OF 1



LEGEND
 X = ∅18 HOLES
 Y = ∅14 HOLES

CAGE WIDTH (NOM)	DIMENSION 'M'	DIMENSION 'K'
1 200	1 200	580
1 800	1 800	880

NOTES
 1. HOLES MARKED ON SMOOTH SIDE OF PLATE.
 2. FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

 FINISH
 ZINC COAT TO SANS 121 FOR CONDITIONS IN SITU.

AMENDMENTS		
NO	NAME	DATE
1	JP du Plessis	95-05-24

REVISED AND REDRAWN.
 DIMENSIONS 2 188 AND
 2 128 WERE 1 788 AND
 1 728.
 DO REF: T95/028

2	4/13/2003	
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REVISED AND REDRAWN.
 DO REF: CDO/1772

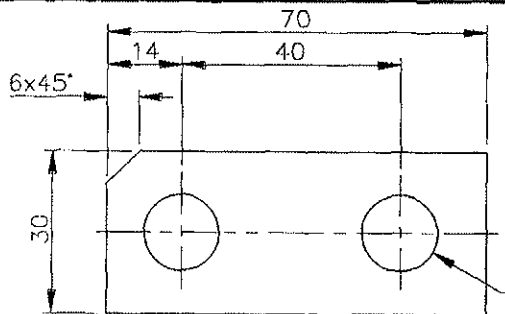
"PREVIEW COPY ONLY"

MATERIAL: ITEM NO (11/), STEEL, CHEQUER PLATE, 6 THK		
DO REF: T88/042	GEN TOL: LIN± 1	ANG± -
DRN: JVT	CKD: J SWIEGERS	DATE: 89-05-15
ENG: _____	C E D MYHILL	for CHIEF ENG
CENTRAL DRAWING OFFICE SPOORNET		

CAGE FLOOR PLATE

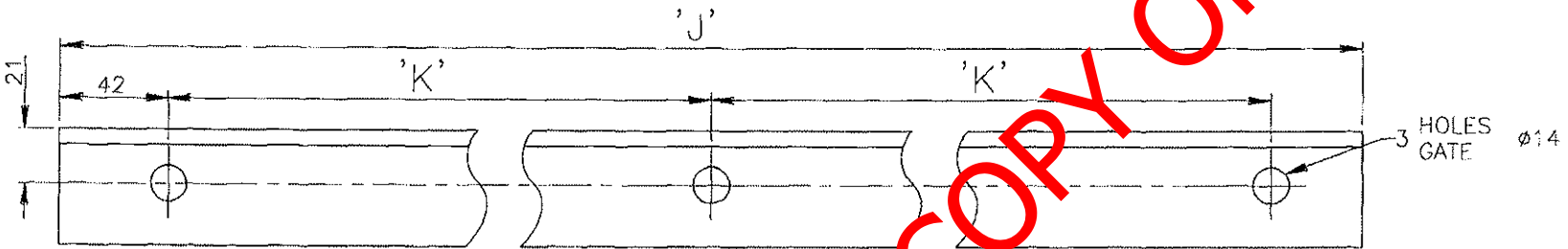
SIGNAL CAGE

DIMENSION: mm	
SCALE: 1:10	
	A3
DRAWING NO CEE-	
TMFD - 1	
SHEET 7 OF 15	



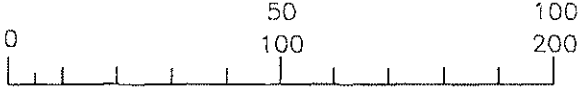
ITEM	DESCRIPTION/BESKRYWING	QTY HVLD	STORES ITEM MAGASYNITEM- NO	DRG TEK NO CEE-
1	STEEL, ANGLE STAAL, HOEK 45x45x6 THK DIK x 'J' 11/14468	1	_____	_____
2	STEEL, FLAT STAAL, PLAT 30x6 THK DIK x 70 L 11/12243	2	_____	_____

CAGE WIDTH HOKWYDTE (NOM)	DIMENSION AFMETING 'J'	DIMENSION AFMETING 'K'
1200	1244	580
1800	1844	880



FINISH/AFWERKING
ZINC COAT TO SINKETDEK VOLC.

SABS 763



DIMENSIONS: MILLIMETRES
AFMETINGS :MILLIMETER

DRN GET J.VAN TONDER	GEN TOLERANCES: LIN ± 1 ALG TOLERANSIES: ANG/HOEK ± _____	ELECTRIFICATION TYPES / ELEKTRIFIKASIE TYPES: GENERAL/ALGEMEEN
TRCD NGT CAD/JVT	DO REF TK-VERW T88/42	HANDRAIL SIGNAL CAGE HANDRELING SINJAALHOK
CKD NGS J.SWIEGERS	DATE DATUM 89-05-15	
CHIEF ELECTRICAL ENGINEER ELEKTRIESE HOOFINGENIEUR		
SOUTH AFRICAN TRANSPORT SERVICES SUID-AFRIKAANSE VERVOERDIENSTE		

C.E.D. MYHILL for
ns. JOHANNESBURG

CEE-TMFD-1 SH 1
VEL 1

ASSY DRG
SAMEST-TEK
ELECTRIFICATION TYPES
REFERENCE DRG NO
CEE-MA-26 SH 7B
ELEKTRIFIKASIE TYPES
VERWYSINGSTEK-NO
CEE-MA-369 VEL 7B

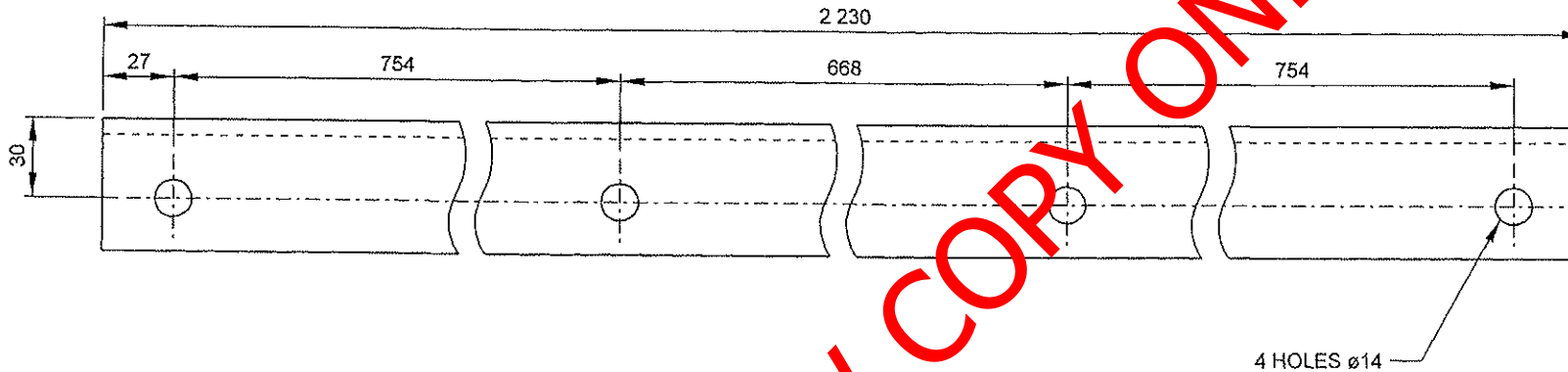
STORES ITEM
MAGASYNITEM NO

DRAWING
TEKENING NO CEE-
TMFD-1

SHEET 8 OF 15
VEL VAN

AMENDMENTS

NO	NAME	DATE
1	JP du Plessis	95-05-24
REVISED AND REDRAWN. DIMENSIONS 2 230 AND 754 WERE 1 830 AND 554. DO REF: T95/028		
2	4/8/2003	
REVISED AND REDRAWN. DO REF: CDO/1772		

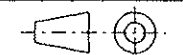


FINISH
ZINC COAT TO SANS 121 FOR CONDITIONS IN SITU.

NOTE
FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

"PREVIEW COPY ONLY"

DIMENSION: mm
SCALE: 1:2



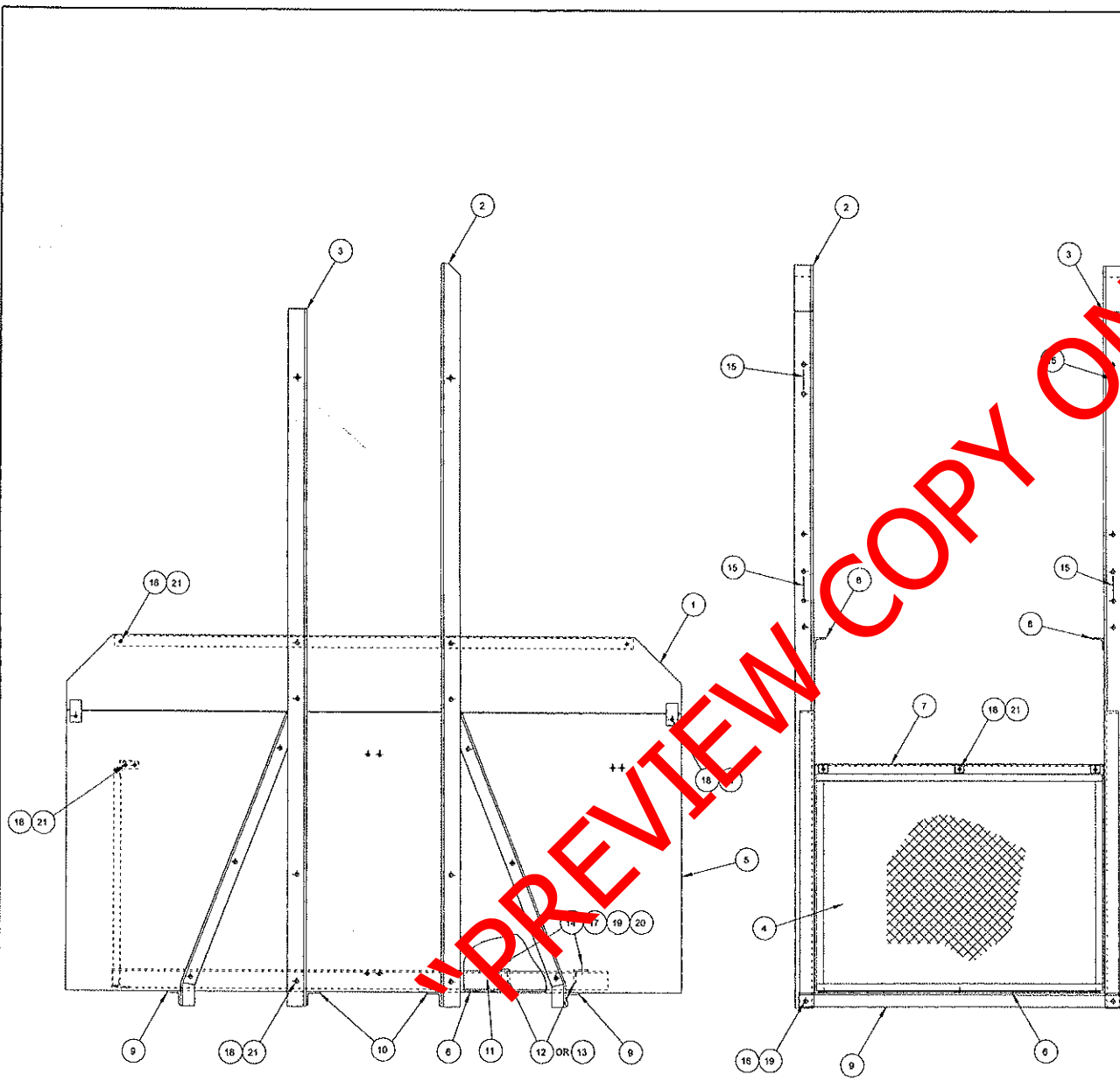
A3

DRAWING NO **CEE-
TMFD-1**

SHEET **9** OF **15**

MATERIAL: ITEM NO (11/14481), STEEL, ANGLE, 50 X 50 X 6		
DO REF: T88/042	GEN TOL: LIN± 0,5	ANG± -
DRN: JVT	CKD: J SWIEGERS	DATE: 89-05-15
ENG: _____	C E D MYHILL	for CHIEF ENG
INFRASTRUCTURE		SPOORNET

STIFFENER
SIGNAL CAGE



ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO	CEE
1	SIDE SHIELD EXTENSION	2	-----	TMFD-1 SHT 2	
2	CAGE MEMBER RH	2	-----	TMFD-1 SHT 3	
3	CAGE MEMBER LH	2	-----	TMFD-1 SHT 4	
4	SCREEN	1	-----	TMFD-1 SHT 5	
5	SIDE SHIELD	2	-----	TMFD-1 SHT 6	
6	CAGE FLOOR PLATE	1	-----	TMFD-1 SHT 7	
7	HANDRAIL	2	-----	TMFD-1 SHT 8	
8	STIFFENER	2	-----	TMFD-1 SHT 9	
9	SUPPORT, OUTER, FLOOR	2	-----	TMFD-1 SHT 10	
10	SUPPORT, INNER, FLOOR	2	-----	TMFD-1 SHT 11	
11	BRACKET, MOUNTING OF EQUIPMENT	2	-----	TMFD-1 SHT 12	
12	PLATE, MOVEABLE, EQUIPMENT 1234mm	2	-----	TMFD-1 SHT 13	
13	BRACKET, MOVEABLE, EQUIPMENT 1834mm	2	-----	TMFD-1 SHT 14	
14	BOLT, HOOK, M16 & HEX. NUT	4	54/3479	TX-14 ITEM 4	
15	U-BOLT, M20 WITH NUTS & WASHERS	8	-----	TMFD-1 SHT 15	
16	BOLT, STEEL, HEX. HD. & NUT, GALV. M20 x 45L	8	1/20278	-----	
17	BOLT, STEEL, HEX. HD. & NUT, GALV. M16 x 40L	4	1/20254	-----	
18	BOLT, STEEL, HEX. HD. & NUT, GALV. M12 x 40L	59	1/20242	-----	
19	WASHER, FLAT, STEEL, BLACK, ROUND, GALV. M20	12	1/33672	-----	
20	WASHER, FLAT, STEEL, BLACK, ROUND, GALV. M16	4	1/33650	-----	
21	WASHER, FLAT, STEEL, BLACK, ROUND, GALV. M12	53	1/33659	-----	

AMENDMENTS		
NO	NAME	DATE
1	JP du Plessis	85-05-24
REVISED AND REDRAWN ITEM 14 CHANGED. DO REF: T05 / 028		
2		
REVISED AND REDRAWN. DO REF: GDO/1772		

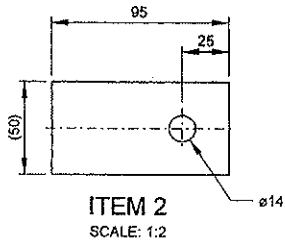
NOTE
FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

DIMENSIONS: mm
SCALE: 1:10

DO REF: T05 / 042	GEN TOL: LIN ±	ANG ±
DRN: J.V.T	CKD: J.SWIGERS	DATE: 89-05-15
ENG: -----	C.E.D. MYHILL	FOR CHIEF ENG
CENTRAL DRAWING OFFICE		SPORNET

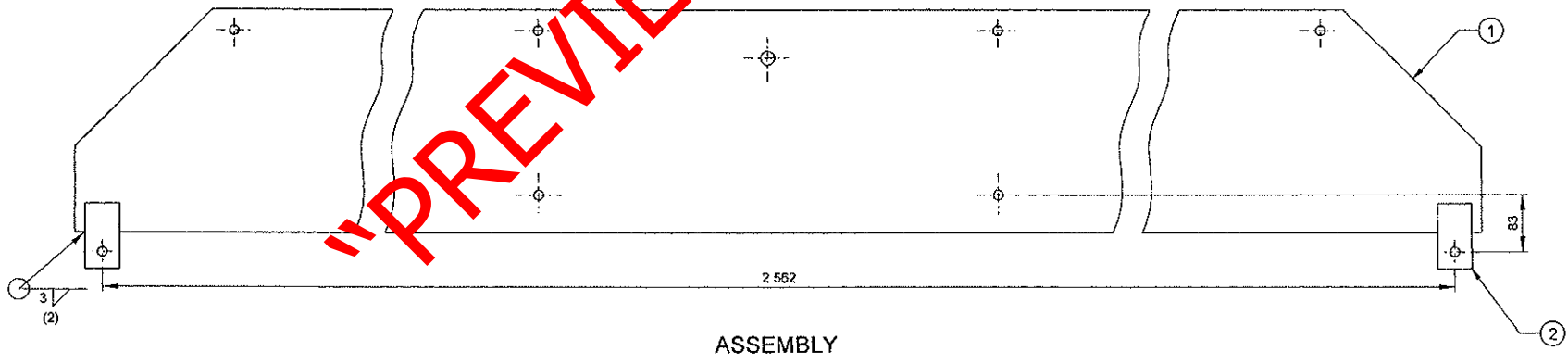
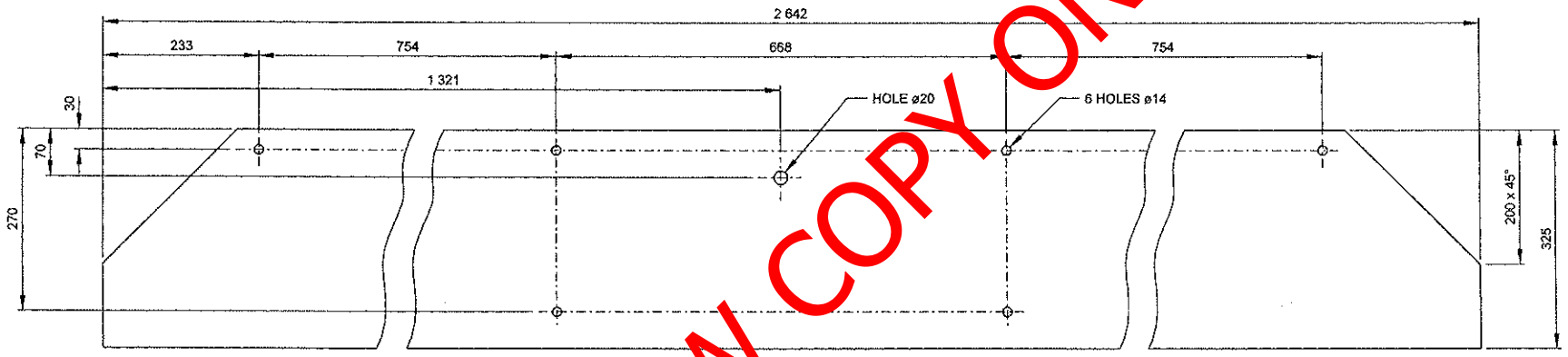
**SIGNAL CAGE
SIGNAL GANTRY STRUCTURE**

DRAWING NO: **CEE-
TMFD - 1**
SHEET 1 OF 15



ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG No. CEE-
1	STEEL, SHEET, 325 x 2 642L x 3THK ---(11/11072)---	1	---	---
2	STEEL, FLAT, 50 x 6 x 95L ---(11/12279)---	2	---	---

AMENDMENTS		
NO	NAME	DATE
1	JP du Plessis	95-05-24
REVISED AND REDRAWN. DO REF T95/028		
2	<i>[Signature]</i>	<i>[Date]</i>
REVISED AND REDRAWN. DO REF: CDO/1772		



FINISH
ZINC COAT TO SPEC SANS 121 AFTER WELDING FOR CONDITIONS IN SITU.
NOTE
FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

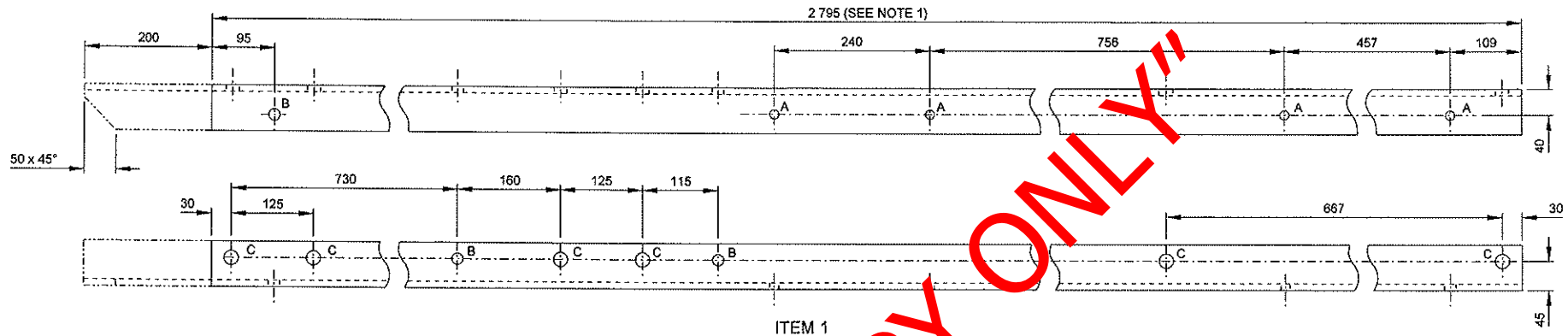
DO REF: T88/042	GEN TOL: LIN± 1	ANG± 1°
DRN: J V T	CKD: J SWIEGERS	DATE: 89-05-15
ENG: _____	C E D MYHILL	for CHIEF ENG
CENTRAL DRAWING OFFICE		

SIDE SHIELD EXTENSION
SIGNAL CAGE

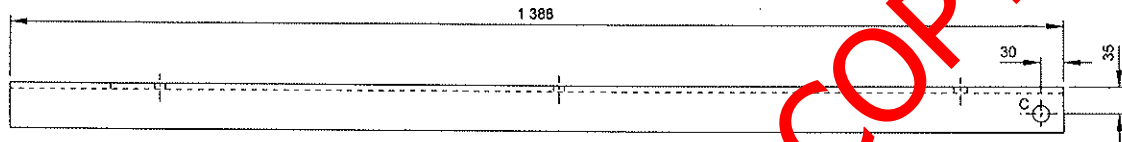
DIMENSIONS: mm	
SCALE: 1:5	
	A2
DRAWING NO	CEE-
	TMFD - 1
SHEET	2 OF 15

ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO	CEE-
1	STEEL, ANGLE 70 x 70 x 8 x 2 795L (SEE NOTE 1)	1			
2	STEEL, ANGLE 60 x 60 x 8 x 1 388L	1			

AMENDMENTS		
NO	NAME	DATE
1	JP du Plessis	95 - 06 - 24
REVISED AND REDRAWN, NOTE ADDED. DO REF: T95 / 028		
2		
REVISED AND REDRAWN. DO REF: CDO/1772		



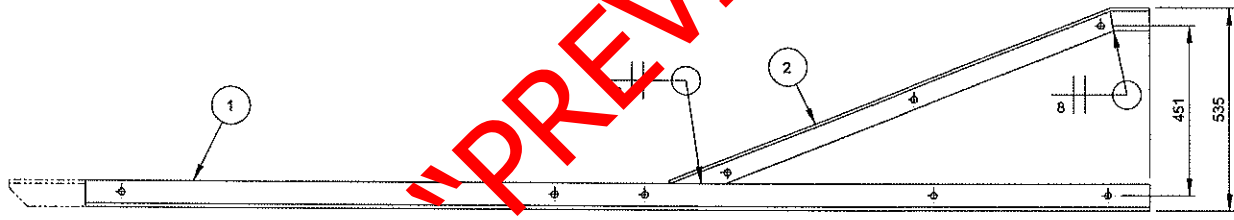
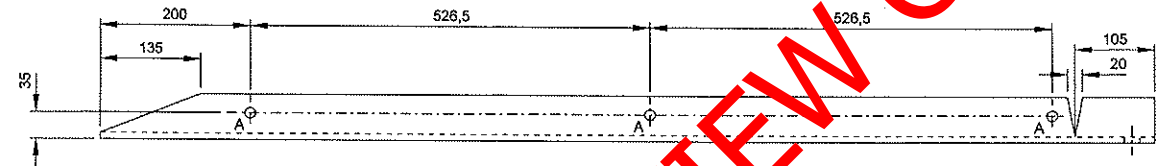
PREVIEW COPY ONLY



LEGEND
 A = $\phi 14$
 B = $\phi 18$
 C = $\phi 22$ } HOLES

FINISH
 ZINC COAT TO SANS 121 FOR CONDITIONS
 IN SITU AFTER WELDING.

NOTES
 1. ADD 200mm TO THIS DIMENSION WHEN REQUIRED FOR EASE OF ERECTING CAGE.
 2. FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.



ASSEMBLY
 SCALE: 1:10

DO REF: T88 / 042	GEN TOL: LIN \pm 1	ANG \pm 1°
DRN: J V T	CKD: J SWIEGERS	DATE: 89 - 05 - 15
ENG: -	C E D MYHILL	for CHIEF ENG

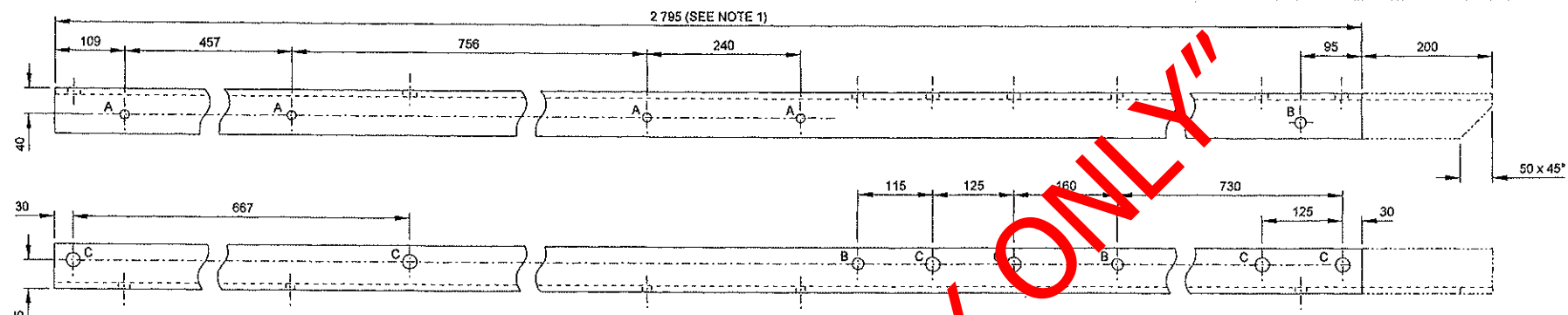
CENTRAL DRAWING OFFICE

CAGE MEMBER RH
 SIGNAL CAGE

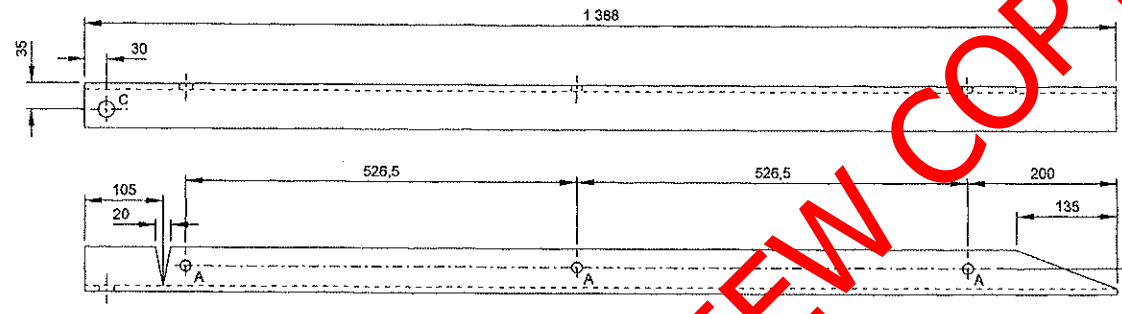
DIMENSIONS: mm SCALE: 1:5		A2
DRAWING NO	CEE- TMFD - 1	
SHEET	3	OF 15

ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO	CEE-
1	STEEL, ANGLE 70 x 70 x 8 x 2 795L (SEE NOTE 1)	1			
2	STEEL, ANGLE 60 x 60 x 8 x 1 388L	1			

AMENDMENTS		
NO	NAME	DATE
1	JP du Plessis	95-05-24
REVISED AND REDRAWN, NOTE ADDED. DO REF: T85 / 028		
2		
REVISED AND REDRAWN. DO REF: CDO/1772		



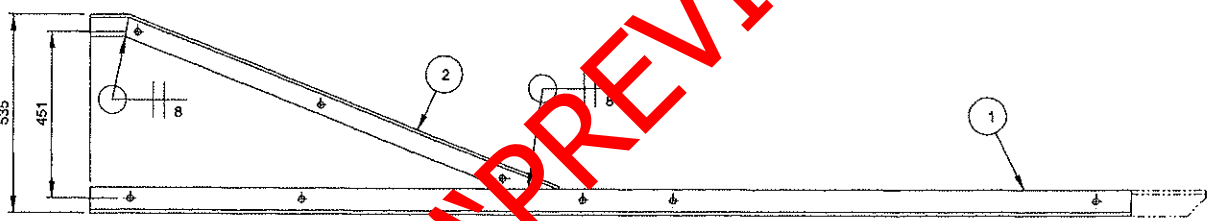
ITEM 1



ITEM 2

LEGEND
 A = $\phi 14$
 B = $\phi 18$
 C = $\phi 22$ } HOLES

FINISH
 ZINC COAT TO SANS 121 FOR CONDITIONS
 IN SITU AFTER WELDING.



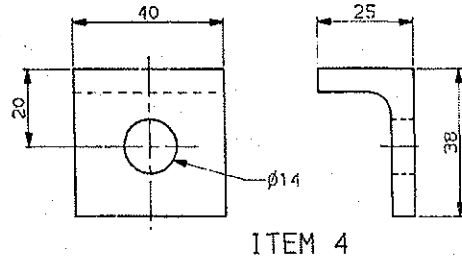
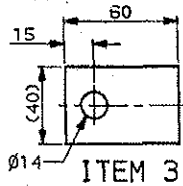
ASSEMBLY
 SCALE: 1:10

- NOTES
1. ADD 200mm TO THIS DIMENSION WHEN REQUIRED FOR EASE OF ERECTING CAGE.
 2. FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

DIMENSIONS: mm	
SCALE: 1:5	
	A2
DRAWING NO	CEE-
	TMFD - 1
SHEET	4 OF 15

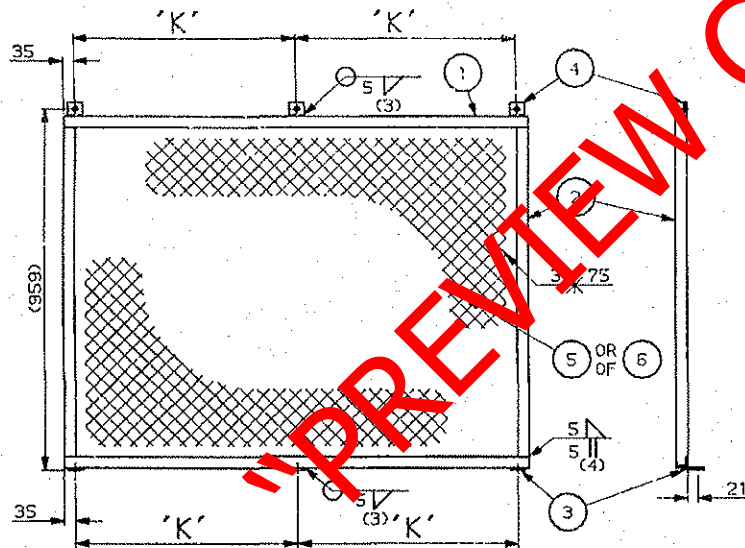
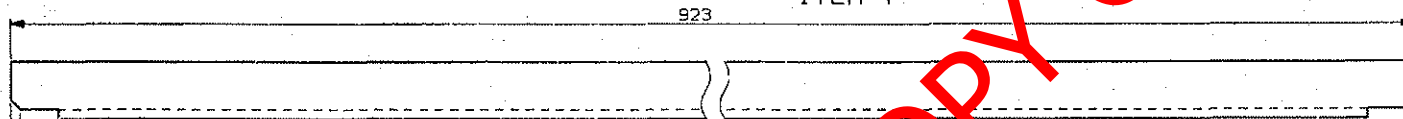
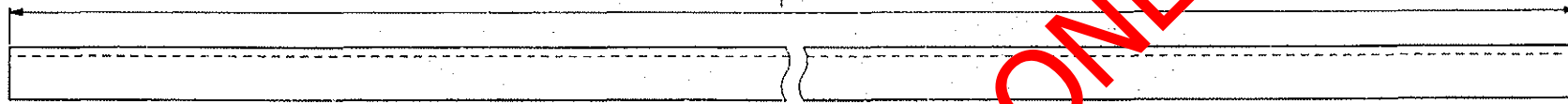
DO REF: T88 / 042	GEN TOL: LIN \pm 1	ANG \pm 1°
DRN: JVT	CKD: JSWIEGERS	DATE: 89-05-15
ENG: -	CED MYHILL	for CHIEF ENG
CENTRAL DRAWING OFFICE		

CAGE MEMBER LH
 SIGNAL CAGE



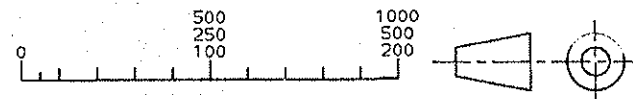
ITEM	DESCRIPTION/BESKRYWING	QTY HVLD	STORES ITEM NO MAGASYNITEM	DRG NO TEK	NO CEE
1	STEEL, ANGLE 30x30x5 THK x'P'L 11/14444 STAAL, HOEK 30x30x5 THK DIK x'P'L 11/14444	2			
2	STEEL, ANGLE 30x30x5 THK x923L 11/14444 STAAL, HOEK 30x30x5 THK DIK x923L 11/14444	2			
3	STEEL, FLAT 40x6 THK x60 L 11/12255 STAAL, PLAT 40x6 THK DIK x60 L 11/12255	3			
4	STEEL, ANGLE 45x45x6 THK x40L 11/14468 STAAL, HOEK 45x45x6 THK DIK x40L 11/14468	3			
5	EXPANDED METAL 1200x900x3 THK PLAATGAAS 1200x900x3 THK	1			
6	EXPANDED METAL 1800x900x3 THK PLAATGAAS 1800x900x3 THK	1			

AMENDMENTS WYSIGINGS		
NO	NAME NAAM	DATE DATUM



CAGE WIDTH HOKWYDTE (NOM)	DIMENSION AFMETING 'P'	DIMENSION AFMETING 'K'
1200	1230	580
1800	1830	880

FINISH/AFWERKING
ZINC COAT TO SPEC SINKBEDEK VOLGENS SPES SABS 763



ASSEMBLY/SAMESTEL

DIMENSIONS: MILLIMETRES
AFMETINGS: MILLIMETER

DRN J. VAN TONDER GET	GEN TOLERANCES: LINE 1 ALG TOLERANSIES: LANS/HOEK ± 1°	ELECTRIFICATION TYPES / ELEKTRIFIKASIE Tipes: GENERAL/ALGEMEEN
TRCD NGT CAD/JVT	DO REF T88/42 TK-VERW IR	SCREEN SIGNAL CAGE SKERM SINJAALHOK
CRD NGS J. SWIEGERS CHIEF ELECTRICAL ENGINEER ELEKTRIESE HOOFINGENIEUR	DATE 89-05-15 DATUM	
SOUTH AFRICAN TRANSPORT SERVICES SUID-AFRIKAANSE VERVOERDIENSTE		

CEE-TMFD-1 SHT 1
VEL

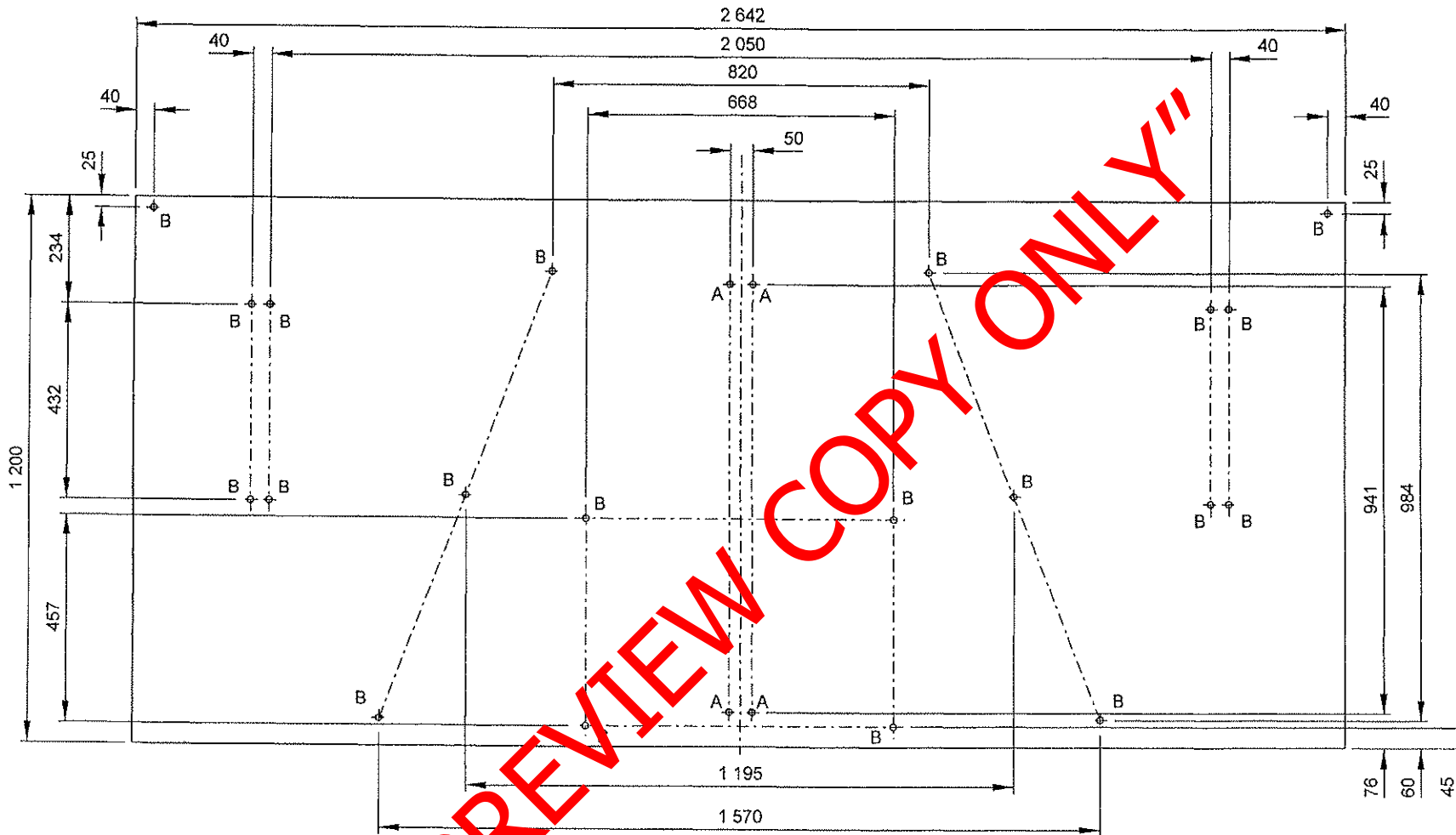
ASSY DRG
SAMEST-TEK

ELECTRIFICATION TYPES
REFERENCE DRG NO
CEE-MA-26 SH 7B
ELEKTRIFIKASIE Tipes
VERWYSINGSTEK-NO
CEE-MA-369 VEL 7B

STORES ITEM NO
MAGASYNITEM:

DRAWING NO CEE-
TEKENING TMFD-1

SHEET 5 OF 15
VEL VAN



FINISH
ZINC COAT TO SANS 121 FOR CONDITIONS IN SITU.

NOTE
FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

LEGEND

A = $\varnothing 12$ HOLES
B = $\varnothing 14$ HOLES

AMENDMENTS

NO	NAME	DATE
1	JP du Plessis	95-05-24
REVISED AND REDRAWN. DIMENSIONS 2 642 AND 2 050 WERE 2 242 AND 1 650. DO REF: T95/028		
2	4/6/2002	
REVISED AND REDRAWN. DO REF: CDO/1772		

DIMENSION: mm
SCALE: 1:10

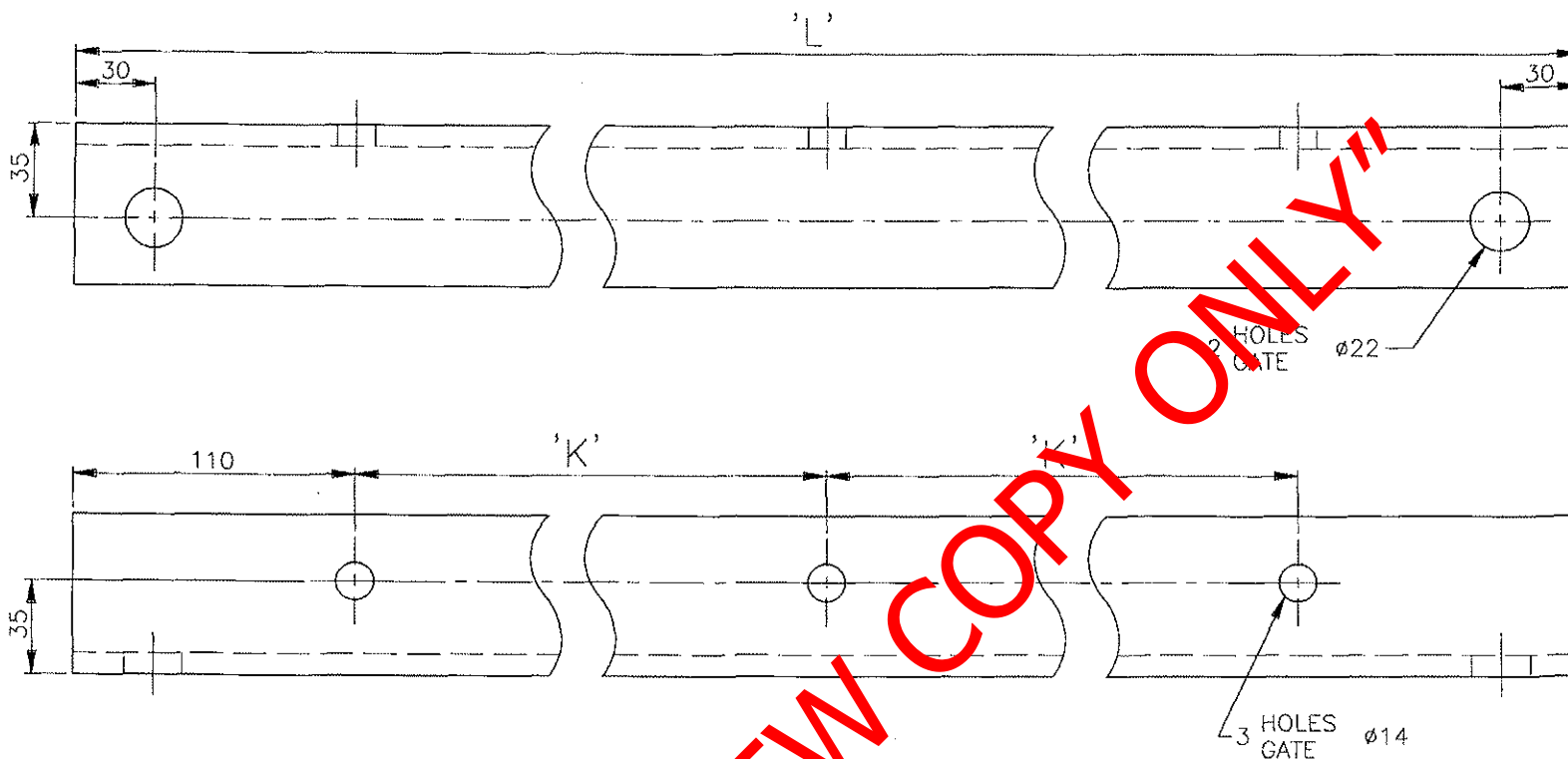


DRAWING NO **CEE-
TMFD - 1**
SHEET **6** OF **15**

MATERIAL: ITEM NO (11/11072), STEEL, SHEET, 3 THK		
DO REF: T88/042	GEN TOL: LIN \pm 1	ANG \pm -
DRN: JVT	CKD: J SWIEGERS	DATE: 89-05-15
ENG: _____	C E D MYHILL	for CHIEF ENG

CENTRAL DRAWING OFFICE SPOORNET

**SIDE SHIELD
SIGNAL CAGE**



CAGE WIDTH HOKWYDTE (NOM)	DIMENSION AFMETING 'L'	DIMENSION AFMETING 'K'
1200	1750	580
1800	1980	880

FINISH/AFWERKING

ZINC COAT TO SINKBEDEK VOLG. SABS 763

DIMENSIONS: MILLIMETRES
AFMETINGS: MILLIMETER

MATERIAL/MATERIAAL

STEEL, ANGLE 60x60x8 THK
STAAL, HOEK 60x60x8 THK
STORES ITEM NO 11/14493
MAGASYNITEM NO 11/14493
SPEC CME 9 SYM 8
SPES CME 9 SIM 8

DRN J.VAN TONDER GEN TOLERANCES: LIN ± 1
GET ALG TOLERANSIES: ANG/HOEK ±

TRCD CAD/JVT DO REF TK-VERW T88/42 ENG IR

CKD J.SWIEGERS DATE 89-05-15 C.E.D.MYHILL for ns.

CHIEF ELECTRICAL ENGINEER JOHANNESBURG
ELEKTRIESE HOOFINGENIEUR

SOUTH AFRICAN TRANSPORT SERVICES
SUID-AFRIKAANSE VERVOERDIENSTE

ELECTRIFICATION TYPES / ELEKTRIFIKASIE Tipes: GENERAL/ALGEMEEN

SUPPORT, OUTER, FLOOR
STEUN, BUIITE-, VLOER
SINJAALHOK

AMENDMENTS WYSIGINGS		
NO	NAME NAAM	DATE DATUM

CEE-TMFD-1 SHT 1
VEL

ASSY DRG
SAMEST-TEK
ELECTRIFICATION TYPES
REFERENCE DRG NO
CEE-MA-26 SH 7B
ELEKTRIFIKASIE Tipes
VERWYSINGSTEK-NO
CEE-MA-369 VEL 7B

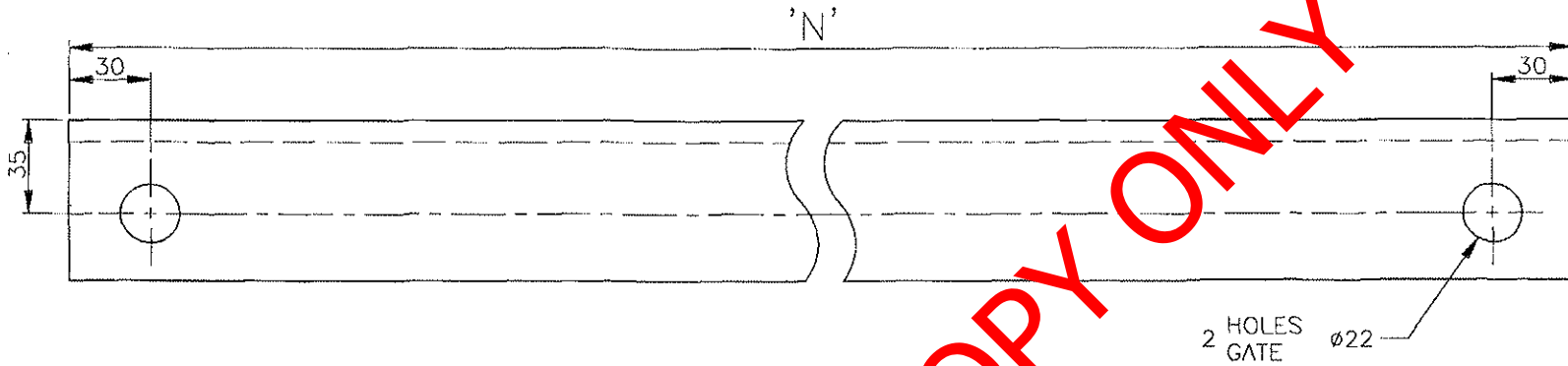
STORES ITEM NO
MAGASYNITEM NO

DRAWING NO CEE-
TEKENING TMFD-1

SHEET 10 OF 15
VEL VAN

AMENDMENTS
WYSIGINGS

NO	NAME NAAM	DATE DATUM



CAGE WIDTH HOKWYDTE (NOM)	DIMENSION AFMETING (NOM)
1200	1400
1800	2000

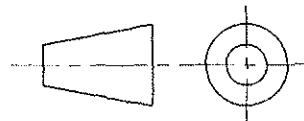
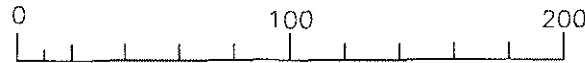
FINISH/AFWERKING

ZINC COAT TO SINKBEDEK VOLG. SABS 763

DIMENSIONS:MILLIMETRES
AFMETINGS :MILLIMETER

MATERIAL/MATERIAAL

STEEL,ANGLE 60x60x8 THK
STAAL,HOEK 60x60x8 DIK
STORES ITEM NO 11/14493
MAGASYNITEM- NO 11/14493
SPEC CME 9 SYM 8
SPES CME 9 SIM 8



CEE-TMFD-1 SH1
VEL 1

ASSY DRG
SAMEST-TEK

ELECTRIFICATION TYPES
REFERENCE DRG NO
CEE-MA-26 SH 7B
ELEKTRIFIKASIE Tipes
VERWYSINGSTEK-NO
CEE-MA-369 VEL 7B

STORES ITEM NO
MAGASYNITEM

DRAWING NO CEE-
TEKENING TMFD-1

SHEET 11 OF 15
VEL VAN

DRN GET J.VAN TONDER	GEN TOLERANCES:LIN± 1 ALG TOLERANSIES:ANG/HOEK±	
TRCD NGT CAD/JVT	DO REF TK-VERW T88/42	ENG IR
CKD NGS J.SWIEGERS	DATE DATUM 89-05-15	for C.E.D.MYHILL ns.
CHIEF ELECTRICAL ENGINEER ELEKTRIESE HOOFINGENIEUR		JOHANNESBURG
SOUTH AFRICAN TRANSPORT SERVICES SUID-AFRIKAANSE VERVOERDIENSTE		

ELECTRIFICATION TYPES / ELEKTRIFIKASIE Tipes: GENERAL/ALGEMEEN

SUPPORT, INNER, FLOOR
SIGNAL CAGE
STEUN, BINNE-, VLOER
SINJAALHOK

"PREVIEW COPY ONLY"

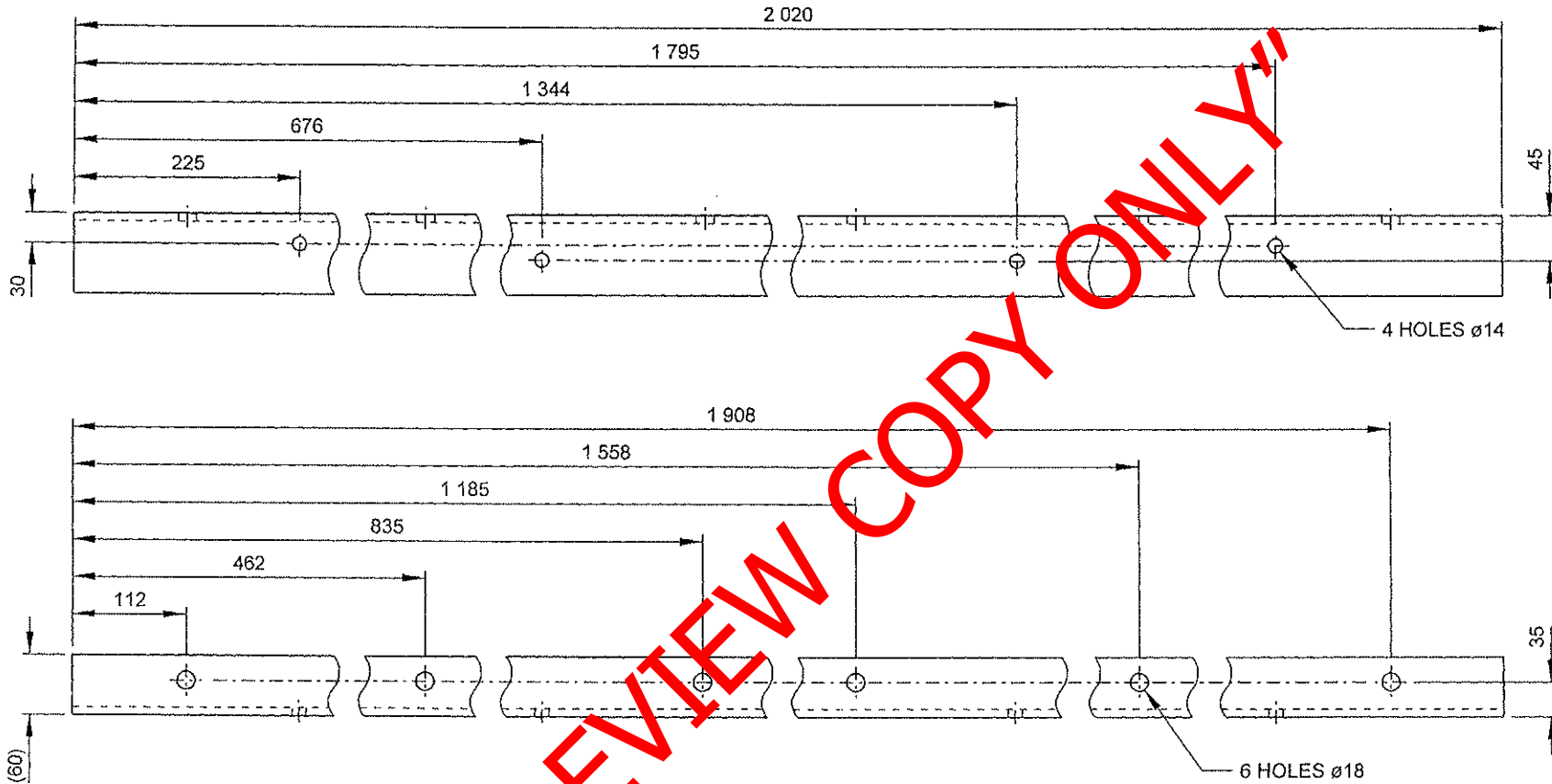
AMENDMENTS

NO	NAME	DATE
1	JP du Plessis	95-05-24

REVISED AND REDRAWN.
HOLES POSITIONS CHANGED.
DO REF: T95/028

2	4/18/2007	
---	-----------	--

REVISED AND REDRAWN.
DO REF: CDO/1772



"PREVIEW COPY ONLY"

FINISH
ZINC COAT TO SANS 121 FOR CONDITIONS IN SITU.

NOTE
FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

MATERIAL: ITEM NO (11/14609), STEEL, ANGLE, 80 X 60 X 8			
DO REF: T88/042	GEN TOL: LIN±	1	ANG± -
DRN: JVT	CKD: J SWIEGERS	DATE: 89-05-15	
ENG: _____	C E D MYHILL	for CHIEF ENG	

CENTRAL DRAWING OFFICE



BRACKET, MOUNTING OF EQUIPMENT
SIGNAL CAGE

DIMENSION: mm
SCALE: 1:5



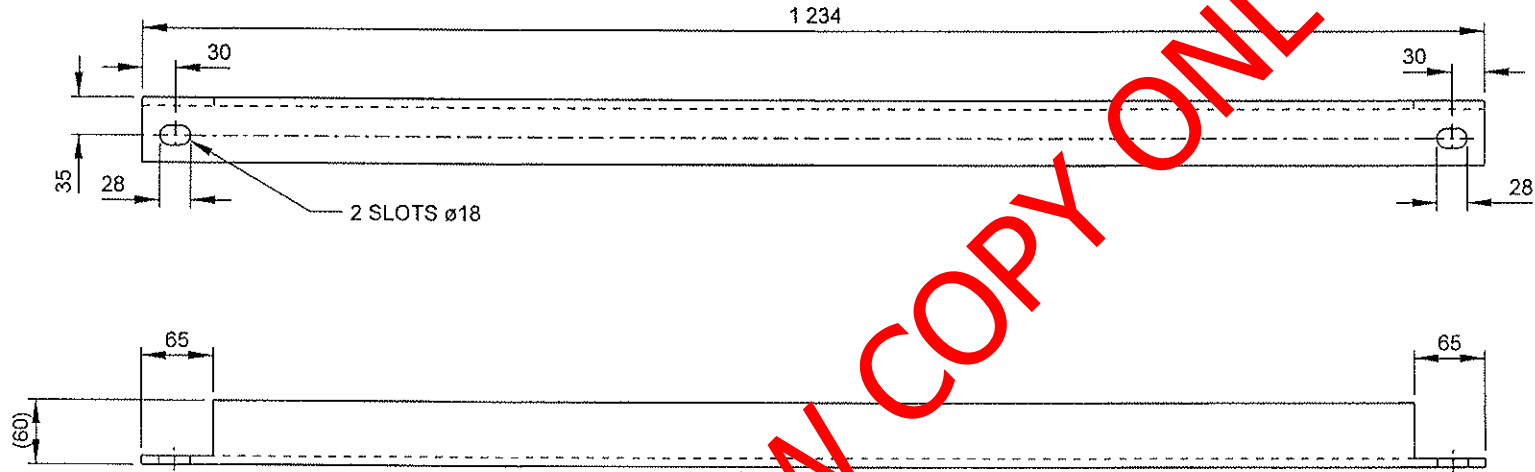
DRAWING NO **CEE-
TMFD - 1**
SHEET 12 OF 15

AMENDMENTS		
NO	NAME	DATE
1	JP du Plessis	95-05-24

REVISED, 2 HOLES OMITTED,
MATERIAL WAS 80 x 60.
DO REF: T95/028

2	4/6/2003	<i>[Signature]</i>
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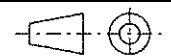
REVISED AND REDRAWN.
DO REF: CDO/1772



FINISH
ZINC COAT TO SANS 121 FOR CONDITIONS IN SITU.

NOTE
FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

DIMENSION: mm
SCALE: 1:5



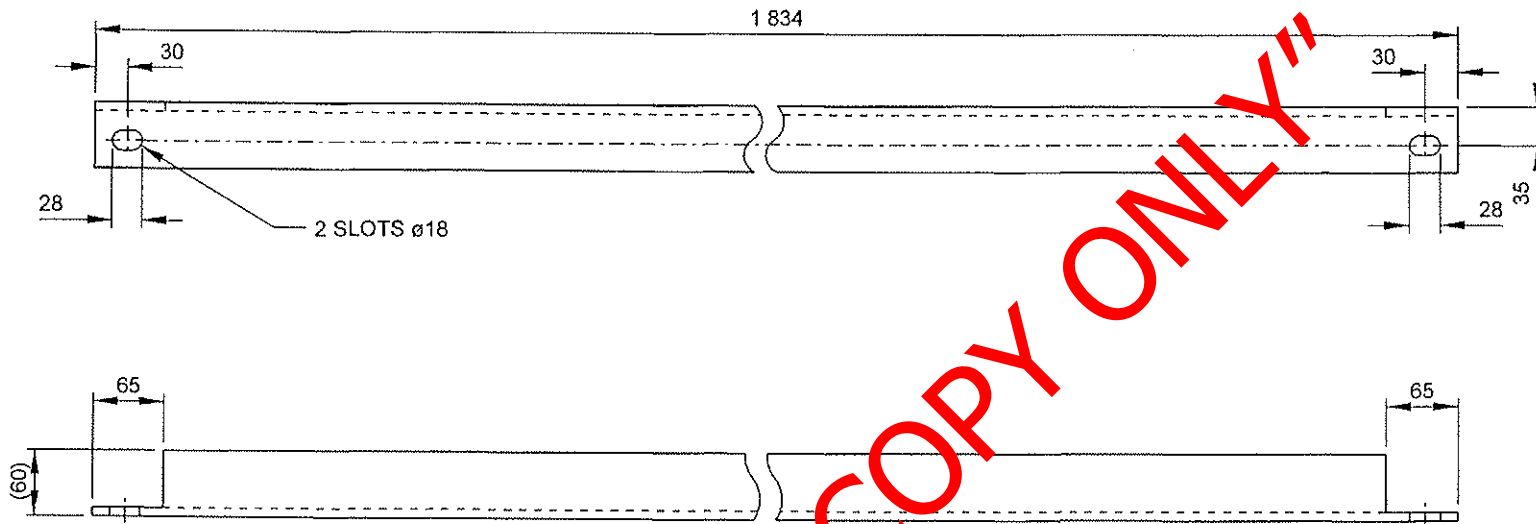
A3

MATERIAL: ITEM NO (11/14493), STEEL, ANGLE, 60 x 60 x 8		
DO REF: T88/042	GEN TOL: LIN± 1	ANG± -
DRN: JVT	CKD: J SWIEGERS	DATE: 89-05-15
ENG: _____	C E D MYHILL	for CHIEF ENG

BRACKET, MOVEABLE, EQUIPMENT
SIGNAL CAGE

CENTRAL DRAWING OFFICE SPOORNET

DRAWING NO **CEE-**
TMFD-1
SHEET **13** OF **15**



"PREVIEW COPY ONLY"

FINISH
ZINC COAT TO SANS 121 FOR CONDITIONS IN SITU.

NOTE
FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

AMENDMENTS

NO	NAME	DATE
1	JP du Plessis	95-05-24

REVISED, 5 HOLES OMITTED,
MATERIAL WAS 80 x 60.
DO REF: T95/028

2	<i>[Signature]</i>	<i>[Signature]</i>
---	--------------------	--------------------

REVISED AND REDRAWN.
DO REF: CDO/1772

DIMENSION: mm
SCALE: 1:5



MATERIAL: ITEM NO {14/14493}, STEEL, ANGLE, 60 x 60 x 8		
DO REF: T88/042	GEN TOL: LIN± 1	ANG± -
DRN: JVT	CKD: J SWIEGERS	DATE: 89-05-15
ENG: _____	C E D MYHILL	for CHIEF ENG

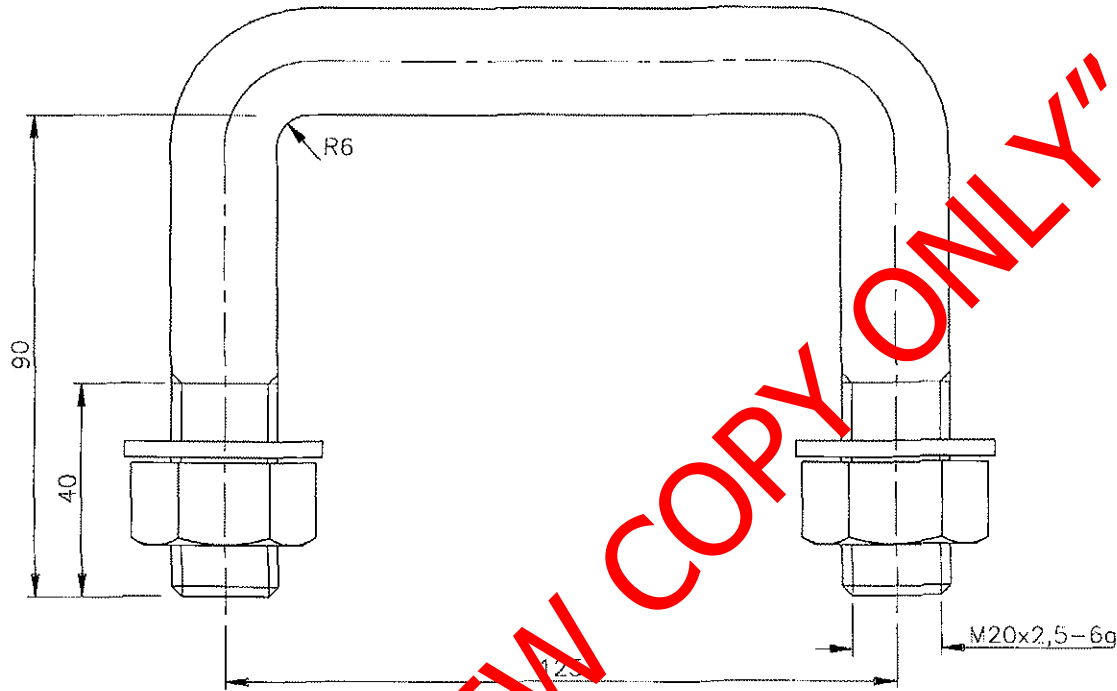
BRACKET, MOVEABLE, EQUIPMENT
SIGNAL CAGE

DRAWING NO **CEE-
TMFD - 1**

CENTRAL DRAWING OFFICE



SHEET 14 OF 15



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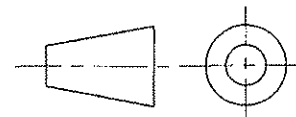
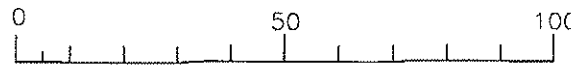
DIMENSIONS: MILLIMETRES
AFMETINGS :MILLIMETER

MATERIAL/MATERIAAL

STEEL, ROUND 20x305L
STAAL, ROND
STORES ITEM NO 11/
MAGASYNITEM
SPEC CME 9 SYM 7
SPES CME 9 SIM 7

FINISH/AFWERKING

ZINC COAT TO SABS 763
SINKEDERK VOLG.



DRN J.VAN TONDER GEN TOLERANCES: LIN ± 0,5
GET ALG TOLERANSIES: ANG/HOEK ±

TRCD CAD/JVT DO REF TK-VERW T88/42 ENG IR

CKD J.SWIEGERS DATE 89-05-15 for C.E.D.MYHILL ns.
NGS DATUM JOHANNESBURG

CHIEF ELECTRICAL ENGINEER
ELEKTRIESE HOOFINGENIEUR

SOUTH AFRICAN TRANSPORT SERVICES
SUID-AFRIKAANSE VERVOERDIENSTE

ELECTRIFICATION TYPES / ELEKTRIFIKASIE Tipes: GENERAL/ALGEMEEN

U-BOLT, M20: WITH NUTS & WASHERS
SIGNAL CAGE

U-BOUT, M20: MET MOERE & WASTERS
SINJAALHOK

AMENDMENTS
WYSIGINGS

NO	NAME NAAM	DATE DATUM

CEE-TMFD-1 SHT 1
VEL

ASSY DRG
SAMEST-TEK

ELECTRIFICATION TYPES
REFERENCE DRG NO
CEE-MA-26 SH 7B
ELEKTRIFIKASIE Tipes
VERWYSINGSTEK-NO
CEE-MA-369 VEL 7B

STORES ITEM NO
MAGASYNITEM

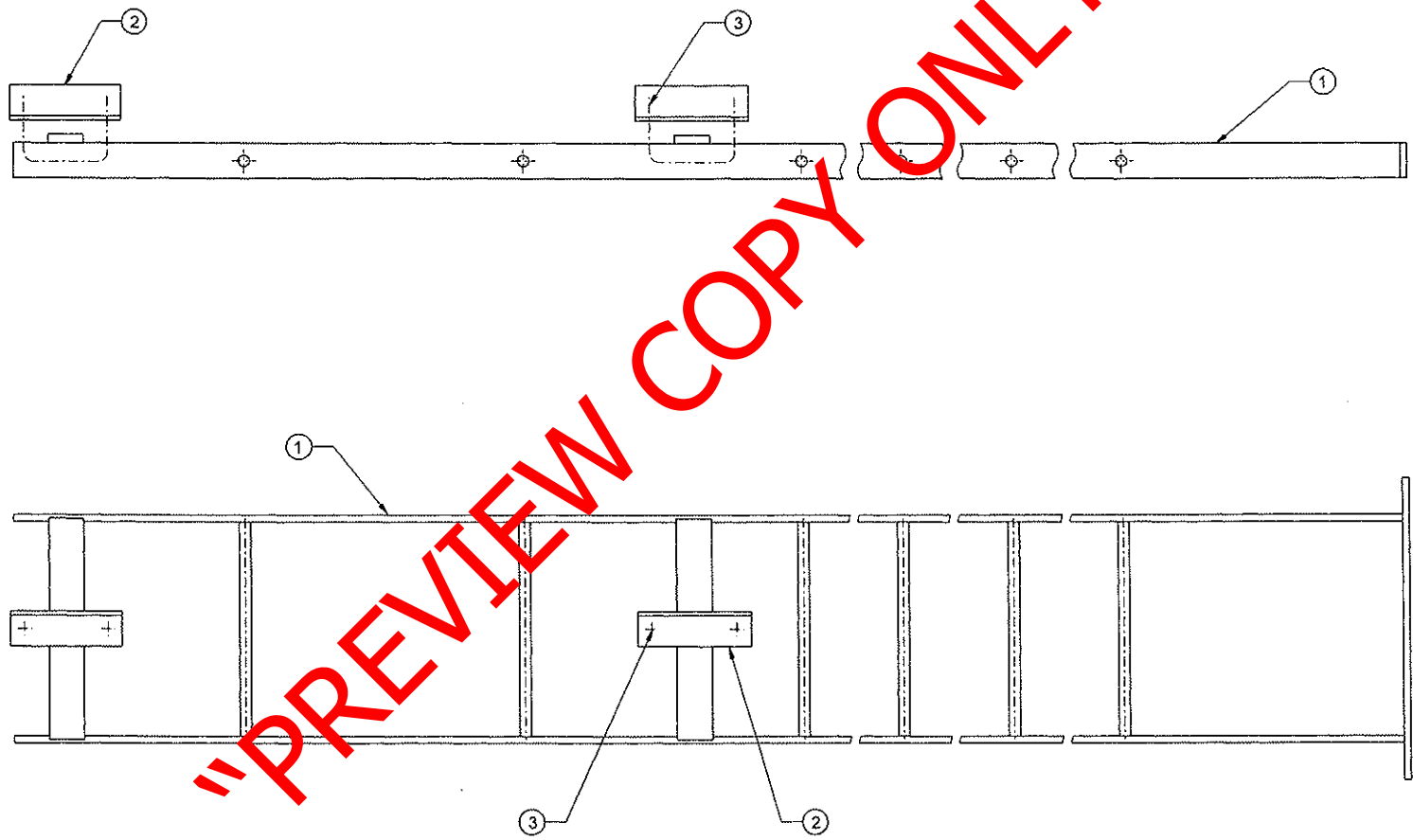
DRAWING NO CEE-
TEKENING

TMFD-1

SHEET 15 OF 15
VEL VAN

ITEM	DESCRIPTION	QTY	STORES ITEM No	DRG No	AMENDMENTS		
					NO	NAME	DATE
1	LADDER	1	_____	TMFD-2 SHT 2	1	JP du Plessis	95-05-24
2	SUPPORT, BACK	2	_____	TMFD-2 SHT 3	DRG UPDATED. QTY'S OF ITEMS 2 & 3 WERE 4. DO REF: T88/028		
3	U-BOLT, M16: WITH NUTS & WASHERS	2	_____	TMFD-2 SHT 4	2	4/6/2007	

REVISED AND REDRAWN.
DO REF: CDO/1772



"PREVIEW COPY ONLY"

NOTE
FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

DIMENSIONS: mm
SCALE: 1:5



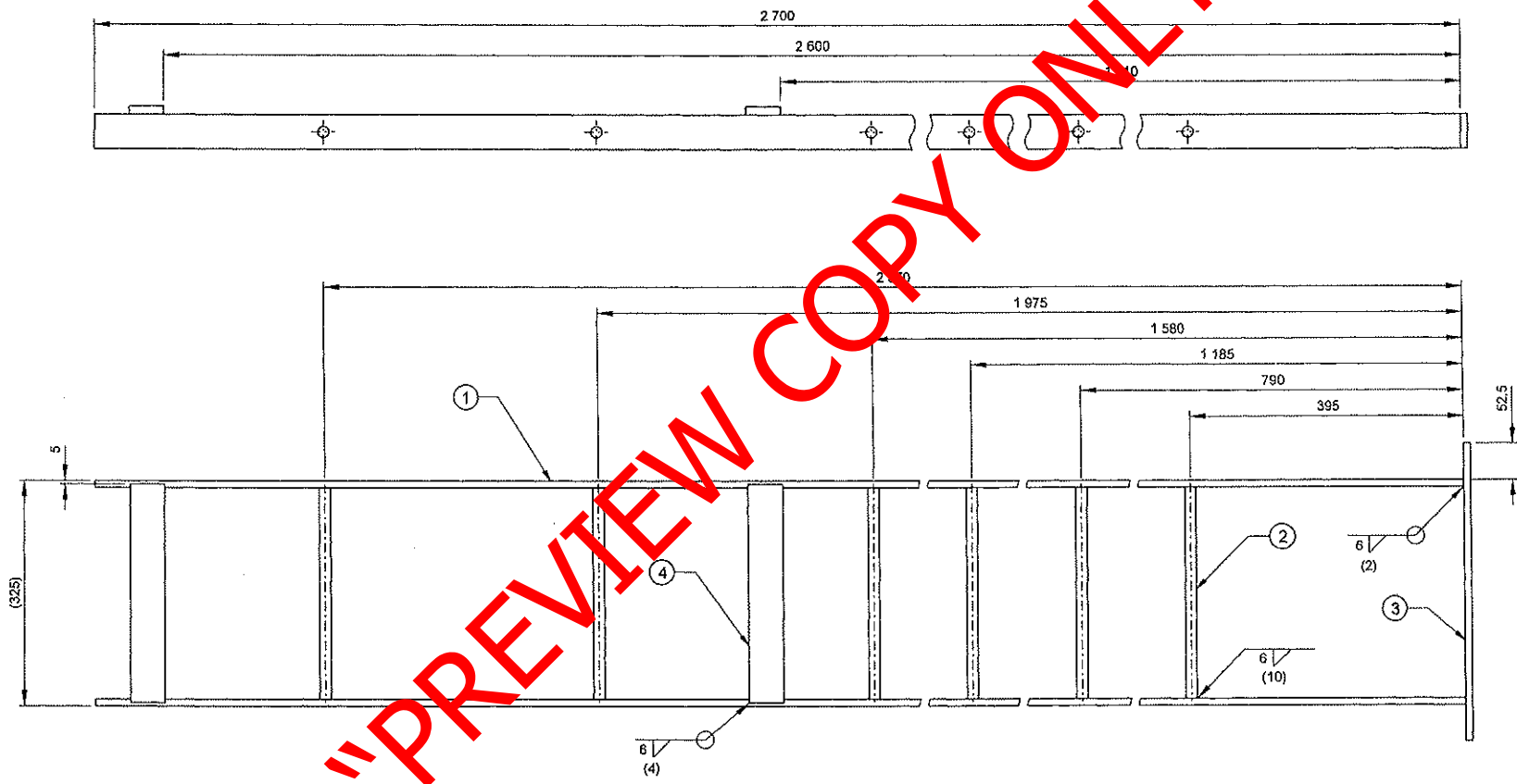
DO REF: T88/042	GEN TOL: LIN± 1	ANG± 1°
DRN: J V T	CKD: J SWIEGERS	DATE: 89-05-15
ENG: -	C E D MYHILL for CHIEF ENG	
CENTRAL DRAWING OFFICE SPOORNET		

LADDER ASSEMBLY, SIGNAL CAGE.
SIGNAL GANTRY STRUCTURE

DRAWING NO **CEE-**
TMFD-2
SHEET 1 OF 4

ITEM	DESCRIPTION	QTY	STORES ITEM No	DRG No	CEE-
1	STEEL, FLAT 50 x 10 x 2 700L	2			
2	STEEL, ROUND ϕ 16 x 305L	6			
3	STEEL, FLAT 50 x 10 x 430L	1			
4	STEEL, FLAT 50 x 12 x 315L	2			

AMENDMENTS		
NO	NAME	DATE
1	JP du Plessis	95-05-24
DRG UPDATED, QTY OF ITEM 2 WAS 5. DO REF: T95/028		
2		
REVISED AND REDRAWN. SPAN OF DIMENSION 2 700 ON SIDE VIEW CHANGED. DO REF: CDO/1772		



"PREVIEW COPY ONLY"

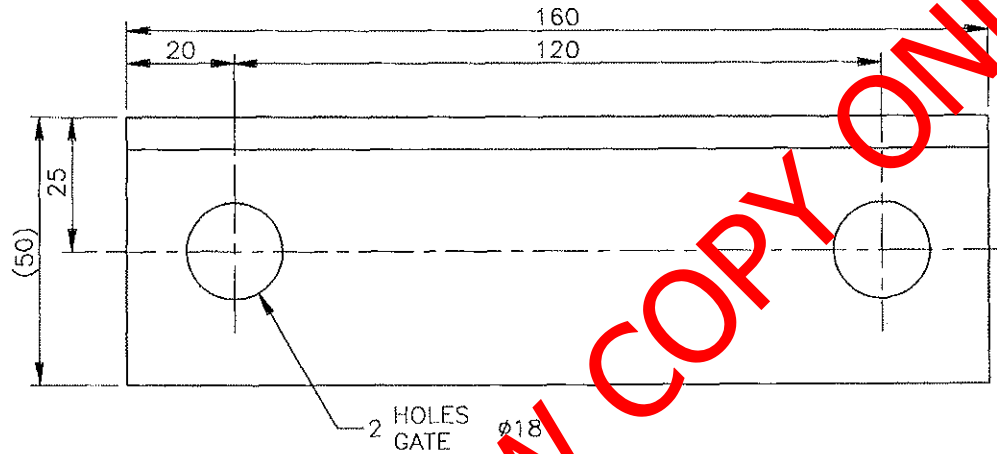
FINISH
ZINC COAT TO SPEC SANS 121 FOR CONDITIONS IN SITU.

NOTE
FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

DO REF: T88/042	GEN TOL: LIN \pm 1	ANG \pm 1°
DRN: J V T	CKD: J SWIEGERS	DATE: 89-05-15
ENG: -	C E D MYHILL	for CHIEF ENG
CENTRAL DRAWING OFFICE SPOORNET		

LADDER, SIGNAL CAGE SIGNAL GANTRY STRUCTURE

DIMENSIONS: mm	
SCALE: 1:5	
	A2
DRAWING NO	CEE-
	TMFD-2
SHEET	2 OF 4



"PREVIEW COPY ONLY"

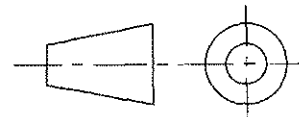
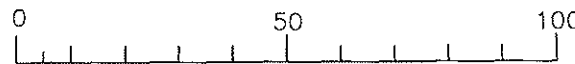
DIMENSIONS: MILLIMETRES
AFMETINGS :MILLIMETER

MATERIAL/MATERIAAL

STEEL, ANGLE 50x50x6 THK
STAAL, HOEK 50x50x6 DIK
STORES ITEM NO 11/14481
MAGASYNITEM-
SPEC CME 9 SYM 8
SPES CME 9 SIM 8

FINISH/AFTERSKIK

ZINC COAT TO SABS 763
SINKSELDEK VOLG.



AMENDMENTS
WYSIGINGS

NO	NAME NAAM	DATE DATUM

CEE-TMFD-2 SHT 1
VEL

ASSY DRG
SAMEST-TEK

ELECTRIFICATION TYPES
REFERENCE DRG NO
CEE-MA-26 SH 7B
ELEKTRIFIKASIE Tipes
VERWYSINGSTEK-NO
CEE-MA-369 VEL 7B

STORES ITEM NO
MAGASYNITEM

DRAWING NO CEE-
TEKENING
TMFD-2

SHEET 3 OF 4
VEL VAN

DRN J.VAN TONDER
GET

GEN TOLERANCES: LIN ± 1
ALG TOLERANSIES: ANG/HOEK ±

ELECTRIFICATION TYPES / ELEKTRIFIKASIE Tipes: GENERAL/ALGEMEEN

TRCD CAD/JVT
NGT

DO REF TK-VERW T88/42

ENG IR

SUPPORT, BACK
SIGNAL CAGE LADDER
STEUN, RUG-
SINJAALHOKLEER

CKD NGS J.SWIEGERS

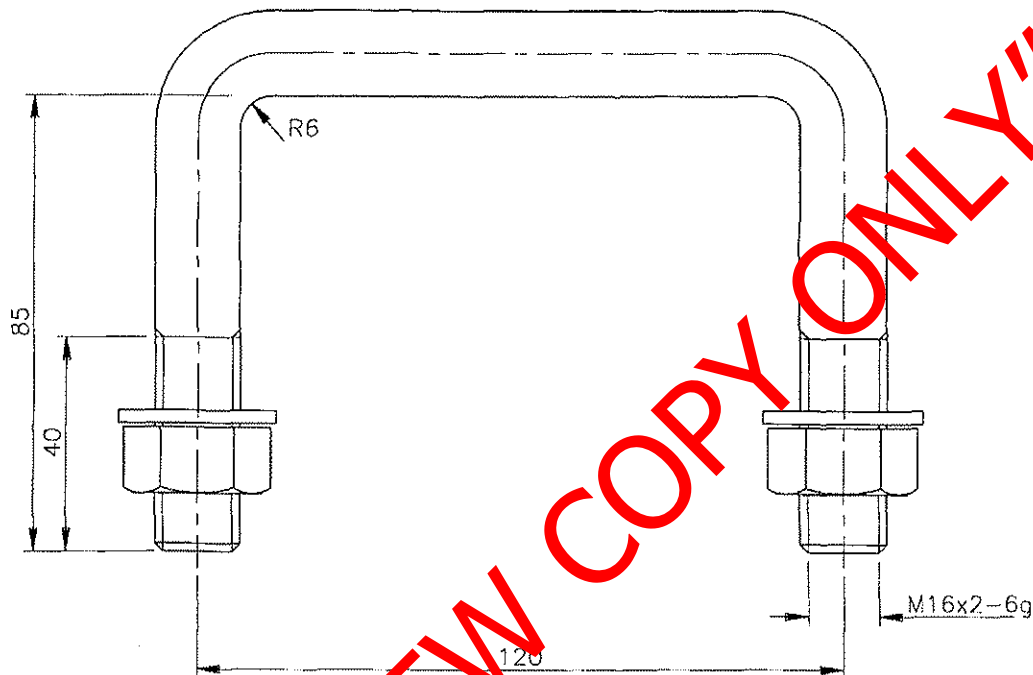
DATE DATUM 89-05-15

C.E.D.MYHILL for ns.
JOHANNESBURG

CHIEF ELECTRICAL ENGINEER
ELEKTRIESE HOOFINGENIEUR

SOUTH AFRICAN TRANSPORT SERVICES
SUID-AFRIKAANSE VERVOERDIENSTE





"PREVIEW COPY ONLY"

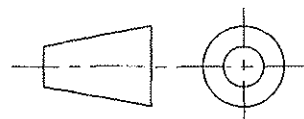
DIMENSIONS: MILLIMETRES
AFMETINGS: MILLIMETER

MATERIAL/MATERIAAL

STEEL, ROUND $\varnothing 16 \times 290L$
STAAL, ROND
STORES ITEM
MAGASYNITEM- NO 11/1771
SPEC CME 9 SYM 7
SPES SIM

FINISH/AFWERKING

ZINC COAT TO
SINBELTEK VOLG. SABS 763



DRN
GET J.VAN TONDER

GEN TOLERANCES: LIN ± 1
ALG TOLERANSIES: ANG/HOEK \pm —

ELECTRIFICATION TYPES / ELEKTRIFIKASIE TYPES: GENERAL/ALGEMEEN

TRCD
NCT CAD/JVT

DO REF
TK-VERW T88/42

ENG
IR

U-BOLT, M16: WITH NUTS & WASHERS

CKD
NGS J.SWIEGERS

DATE
DATUM 89-05-15

for
C.E.D.MYHILL ns.

SIGNAL CAGE LADDER

CHIEF ELECTRICAL ENGINEER
ELEKTRIESE HOOFINGENIEUR

JOHANNESBURG

U-BOUT, M16: MET MOERE & WASTERS

SOUTH AFRICAN TRANSPORT SERVICES
SUID-AFRIKAANSE VERVOERDIENSTE



SINJAALHOKLEER

AMENDMENTS
WYSIGINGS

NO	NAME NAAM	DATE DATUM

CEE-TMFD-2 SHT 1
VEL

ASSY DRG
SAMEST-TEK

ELECTRIFICATION TYPES
REFERENCE DRG NO
CEE-MA-26 SH 7B
ELEKTRIFIKASIE TYPES
VERWYSINGSTEK-NO
CEE-MA-369 VEL 7B

STORES ITEM NO
MAGASYNITEM

DRAWING NO CEE-
TEKENING TMFD-2

SHEET 4 OF 4
VEL VAN

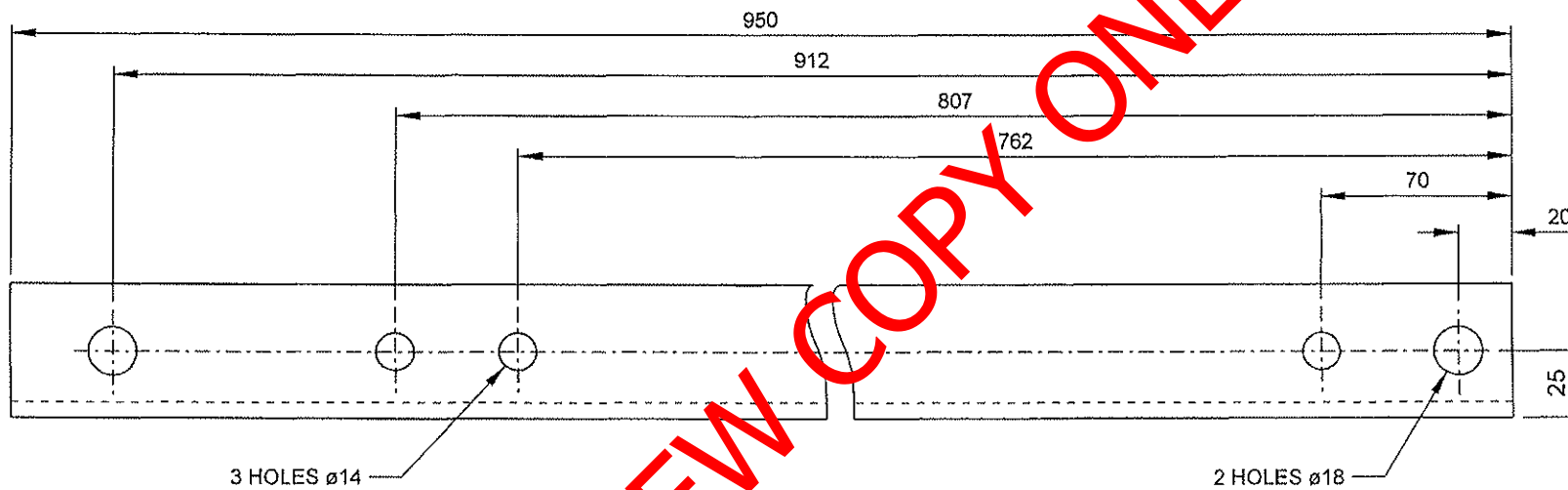
AMENDMENTS

NO	NAME	DATE
1	W.BRIGHT	92-11-04

ALL HOLES MOVED TO CENTRE LINE OF ANGLE IRON.
DO REF: T91/065

2	4/13/2003	<i>[Signature]</i>
---	-----------	--------------------

REVISED AND REDRAWN.
DO REF: CDO/1772



"PREVIEW COPY ONLY"

FINISH
ZINC COAT TO SANS 121 FOR CONDITIONS IN SITU.

NOTE
FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

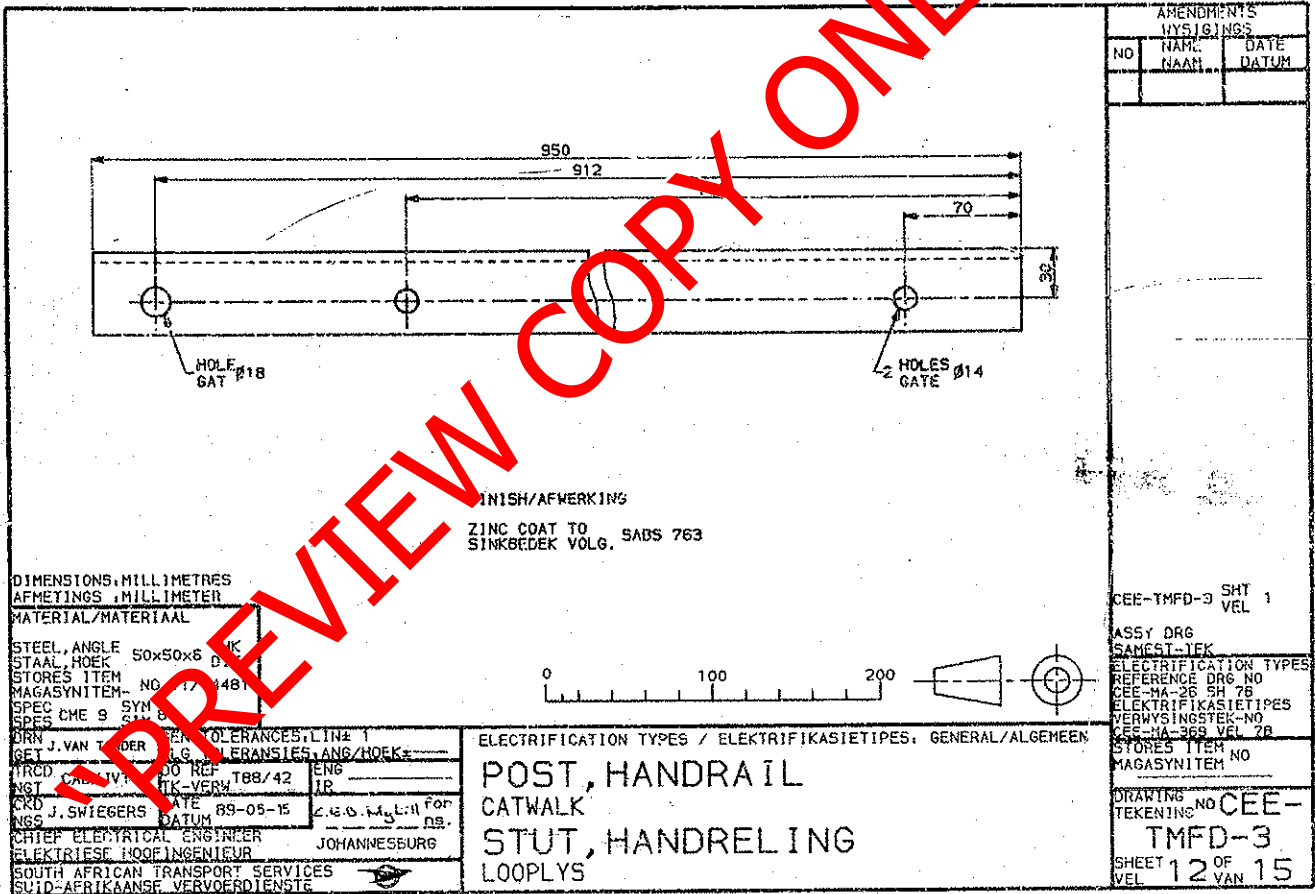
MATERIAL: ITEM NO (11/14481)- STEEL, ANGLE, 50 x 50 x 6		
DO REF T88/42	GEN TOL: LIN± 1	ANG± —
DRN J v TONDER	CKD J SWIEGERS	DATE 89-05-15
ENG ———	C.E.D. MYHILL	for CHIEF ENG
CENTRAL DRAWING OFFICE SPOORNET		

POST, HANDRAIL
CATWALK

DIMENSIONS:mm
SCALE: 1:2



DRAWING NO **CEE-**
TMFD-3
SHEET 11 OF 15



AMENDMENTS WYSIGINGS		
NO	NAME NAAM	DATE DATUM

CEE-TMFD-3 SH1
VEL 1

ASSY DRG
SAMEST-IEK

ELECTRIFICATION TYPES
REFERENSIE DRG NO
CEE-MA-26 SH 7B
ELEKTRIFIKASIE TYPES
VERWYSINGSTEK-NR
CEE-MA-368 VEL 7B

STORES ITEM NO
MAGASYNITEM

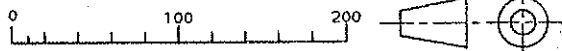
DRAWING NO CEE-
TEKENTING
TMFD-3

SHEET 12 OF 15
VEL VAN 15

FINISH/AFWERKING
ZINC COAT TO
SINKBEDEK VOLG. SABS 763

DIMENSIONS: MILLIMETRES
AFMETINGS: MILLIMETER

MATERIAL/MATERIAAL
STEEL, ANGLE 50x50x6 mm
STAAL, HOEK 50x50x6 mm
STORES ITEM NO 17-4481
MAGASYNITEM- NO 17-4481



SPEC CME 9 SYM 8

DRN J. VAN TONDER TOLERANCES: LINE 1

GET J. VAN TONDER ENG

TRCD CABLEWAY NO REF T88/42 ENG

INST CAB. V. W. K. VERM JR

CRD J. SWIEGERS DATE 89-05-15 E.N.O. M.L.L.M. for

CHIEF ELECTRICAL ENGINEER JOHANNESBURG

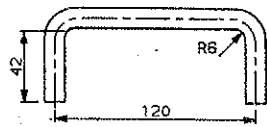
ELEKTRIESE HOOFINGENIEUR

SOUTH AFRICAN TRANSPORT SERVICES
SUID-AFRIKAANSE VERVOERDIENSTE

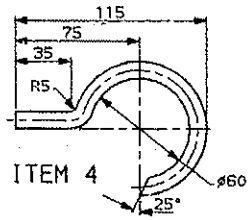
ELECTRIFICATION TYPES / ELEKTRIFIKASIE TYPES: GENERAL/ALGEMEEN

POST, HANDRAIL
CATWALK
STUT, HANDRELING
LOOPLY'S

REVIEW COPY ONLY

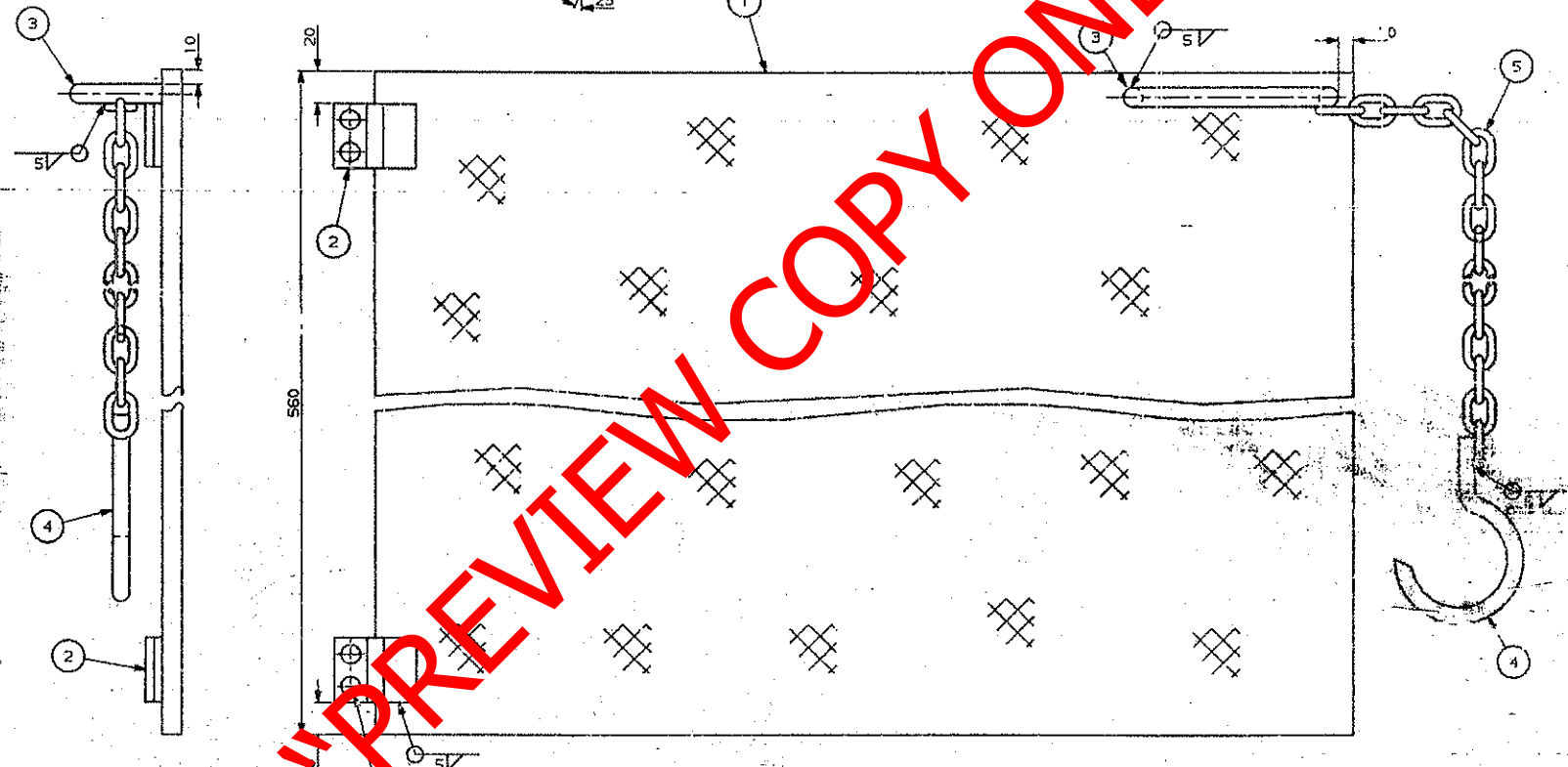


ITEM 3



ITEM 4

ITEM	DESCRIPTION/BESKRYWING	QTY	STORES	ITEM	DRG	NO	NO	NO	NO	NO
		HVL D	MAGASYN	ITEM	NO	CEE	NO	NO	NO	NO
1	STEEL, CHEQUER PLATE 500x560x6 THK STAAL GERUITE PLAAT 500x560x6 THK	1/—								
2	HINGE, HEAVY DUTY (SUITABLE SIZE) SKARNIER SWAARDIENS (GEPASTE ROUITE)	2								
3	STEEL, ROUND Ø12x210L STAAL, ROND Ø12x210L	11/2740								
4	STEEL, ROUND Ø10x200L STAAL ROND Ø10x200L	1/2739								
5	CHAIN, STEEL, LONG LINK KETTING, STAAL, LANG SAK	5x400L								



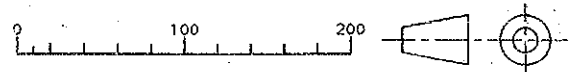
2 HOLES Ø12 TO SUIT HINGES
OM SKARNIERE TE PAS

FINISH/AFWERKING
ZINC COAT TO SPEC
SINKBEDEK VOLGENS SPES SAB5 763

DIMENSIONS, MILLIMETRES AFMETINGS, MILLIKETER		GEN TOLERANCES, LINE 1 ALG TOLERANSIES, LIG/HOEK ± 1°	
DRN J. VAN TONDER	GET	DO REF T88/42	ENG IR
TRD CAD/JVT	NGT	DATE 89-05-15	TEKENING NO.
CHK J. SWIEGERS	MS	DATE	TEKENING NO.
CHIEF ELECTRICAL ENGINEER ELEKTRIESE HOOFDINGENIEUR		JOHANNESBURG	
SOUTH AFRICAN TRANSPORT SERVICES SUID-APRIKAANSE VERVOERDIENSTE			

ELECTRIFICATION TYPES / ELEKTRIFIKASIE TYPES, GENERAL/ALGEMEEN

TRAPDOOR
CATWALK
VALDEUR
LOOPLY



CEE-TMFD-3 SHT. 1
VEL. 1

ASSY DRG
SANGEST-TEK

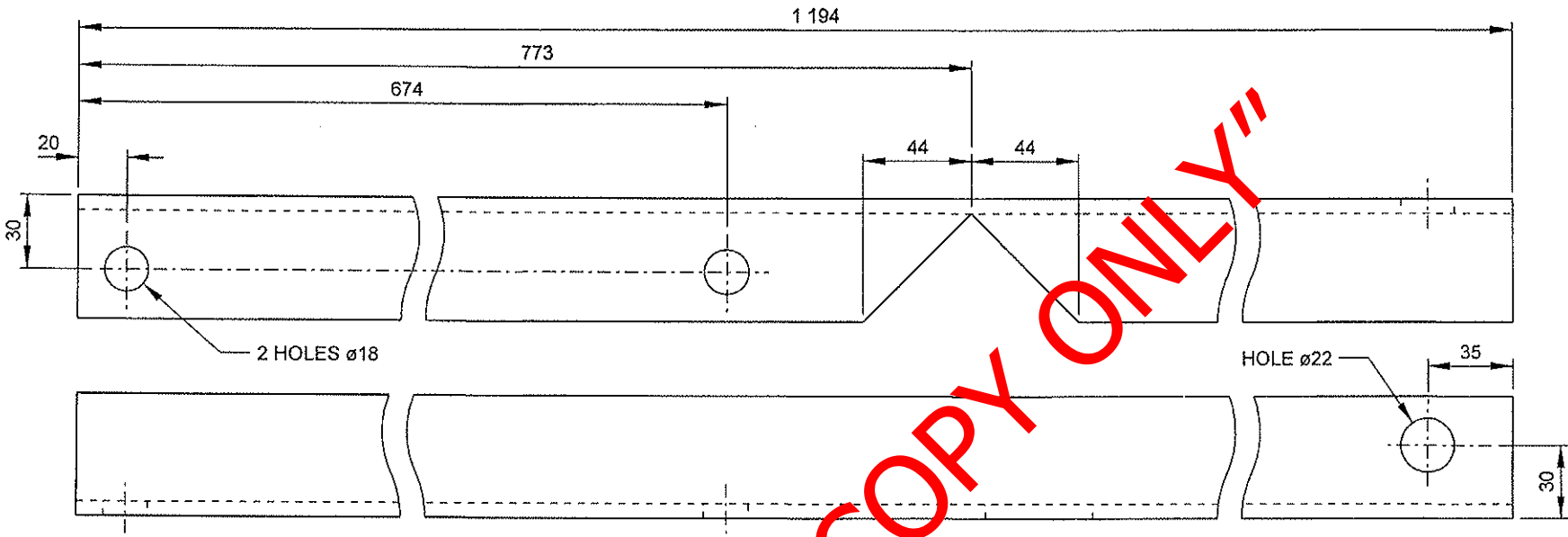
ELECTRIFICATION TYPES
REFERENCE DRG NO
CEE-MA-26 SH 7B
ELEKTRIFIKASIE TYPES
VERWYSINGSTEK-NO
CEE-MA-365 VEL 7B

STORES ITEM NO
MAGASYN ITEM

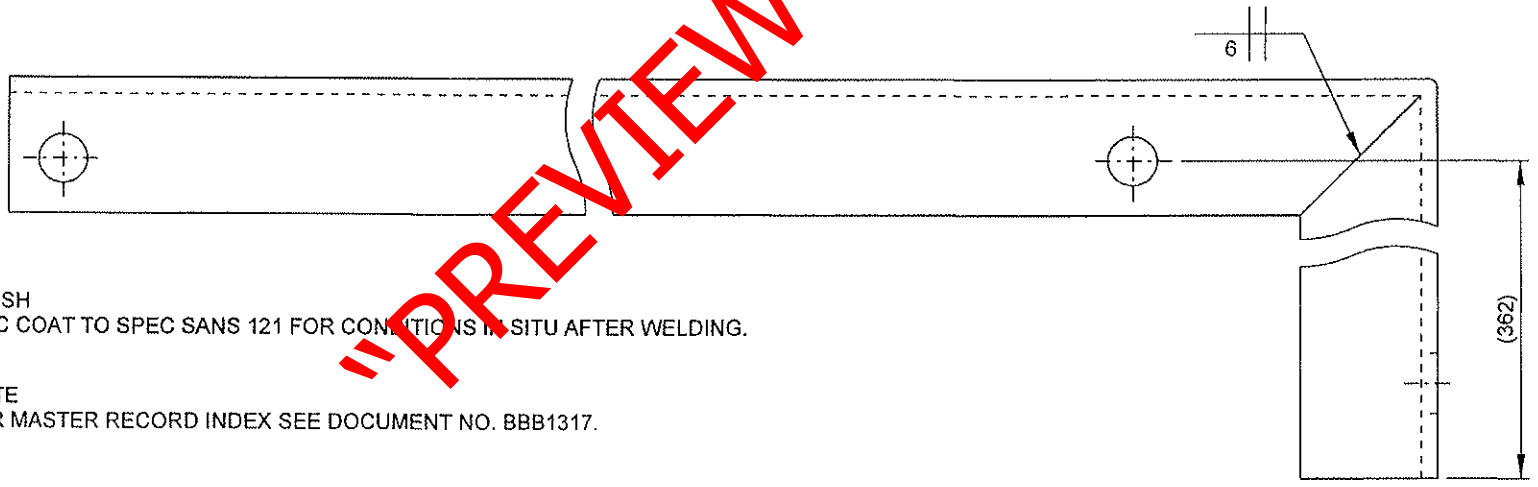
DRAWING NO CEE-
TEKENING
TMFD-3

SHEET
VEL 13 OF 15

"PREVIEW COPY ONLY"



DEVELOPED VIEW



FINISH
ZINC COAT TO SPEC SANS 121 FOR CONNECTIONS IN SITU AFTER WELDING.

NOTE
FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

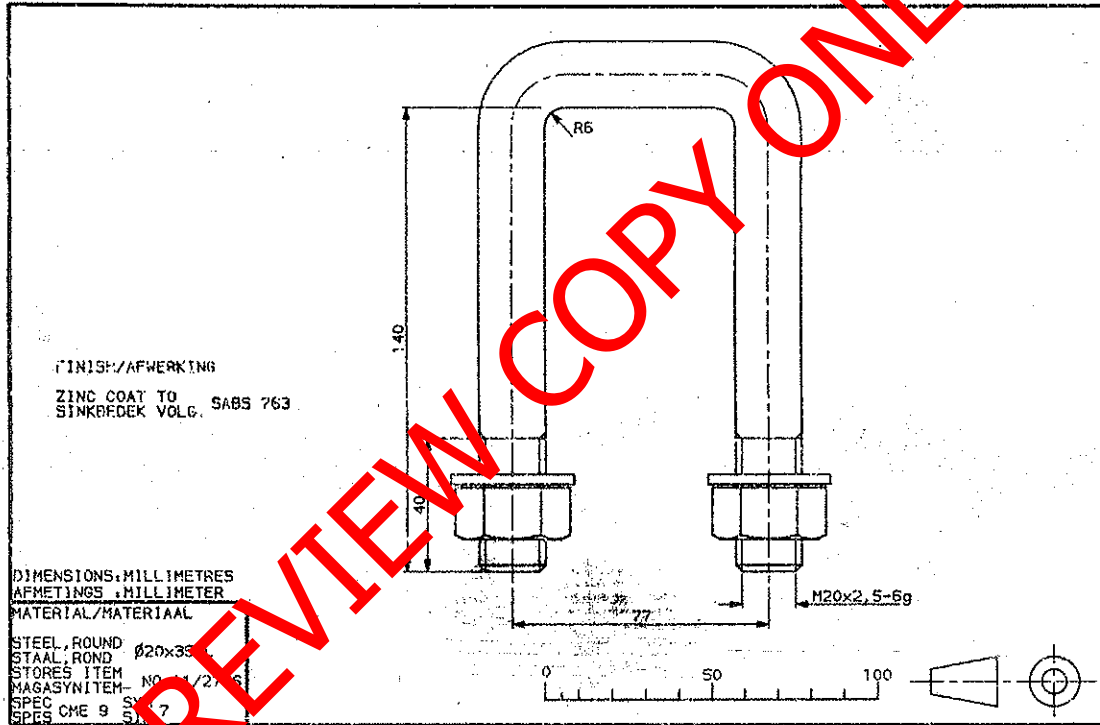
AMENDMENTS		
NO	NAME	DATE
1	JP du Plessis	95-05-24
REVISED AND REDRAWN. DO REF T95/028		
2	4/6/2003	<i>[Signature]</i>
REVISED AND REDRAWN. DO REF: CDO/1772		

MATERIAL: ITEM NO (41/4484), STEEL, ANGLE, 50 x 50 x 6			
DO REF: T88/042	GEN TOL: LIN±	1	ANG± 1°
DRN: JVT	CKD: J SWIEGERS	DATE: 89-05-15	
ENG: _____	C E D MYHILL	for CHIEF ENG	

HANDRAIL, LADDER END
CATWALK

DIMENSION: mm	
SCALE: 1:2	
	A3
DRAWING NO CEE-	
TMFD-3	
SHEET 14	OF 15

PREVIEW COPY ONLY



FINISH/AFWERKING
ZINC COAT TO SINKREDEK VOLG. SABS 763

DIMENSIONS: MILLIMETRES
AFMETINGS: MILLIMETER

MATERIAL/MATERIAAL

STEEL, ROUND
STAAL, ROND Ø20x35
STORES ITEM
MAGASYNITEM- NO 11/27/6
SPEC CME 9 S 7

DRN J. VAN SWIEGEN
TOLERANCES: LINE 1
DEF TOLERANSIES: LĠNĠ 1
TRCO CAD/VT 00 DEF T88/42 ENG
NGT OK-VERM IR
DATE 09-05-15 c.e.s. M.L.W. For
DATE 09-05-15
CHIEF ELECTRICAL ENGINEER
ELEKTRIESE INGENIEUR JOHANNESBURG
SOUTH AFRICAN TRANSPORT SERVICES
SUID-AFRIKAANSE VERVOERDIENSTE

ELECTRIFICATION TYPES / ELEKTRIFIKASIE TĠPES. GENERAL/ALGEMEEN

U-BOLT, M20: WITH NUTS & WASHERS
CATWALK
U-BOUT, M20: MET MOERE & WASTERS
LOOPLYS

AMENDMENTS WĠSGĠNGS		
NO	NAME NAAM	DATE DATUM

CEE-TMFD-3 SHT
VEL 1

ASSY DRG
SAMĠST-TEK

ELECTRIFICATION TYPES
REFERENCE DRG NO
CEE-MA-26 SH 28
ELEKTRIFIKASIE TĠPES
VERWYSINGSTĠK-NO
CEE-MA-368 VEL 78

STORES ITEM
MAGASYNITEM NO

DRAWING NO
TEKENING NO CEE-

TMFD-3

SHEET 15 OF 15
VEL VAN 15

A3

2

3

4

4

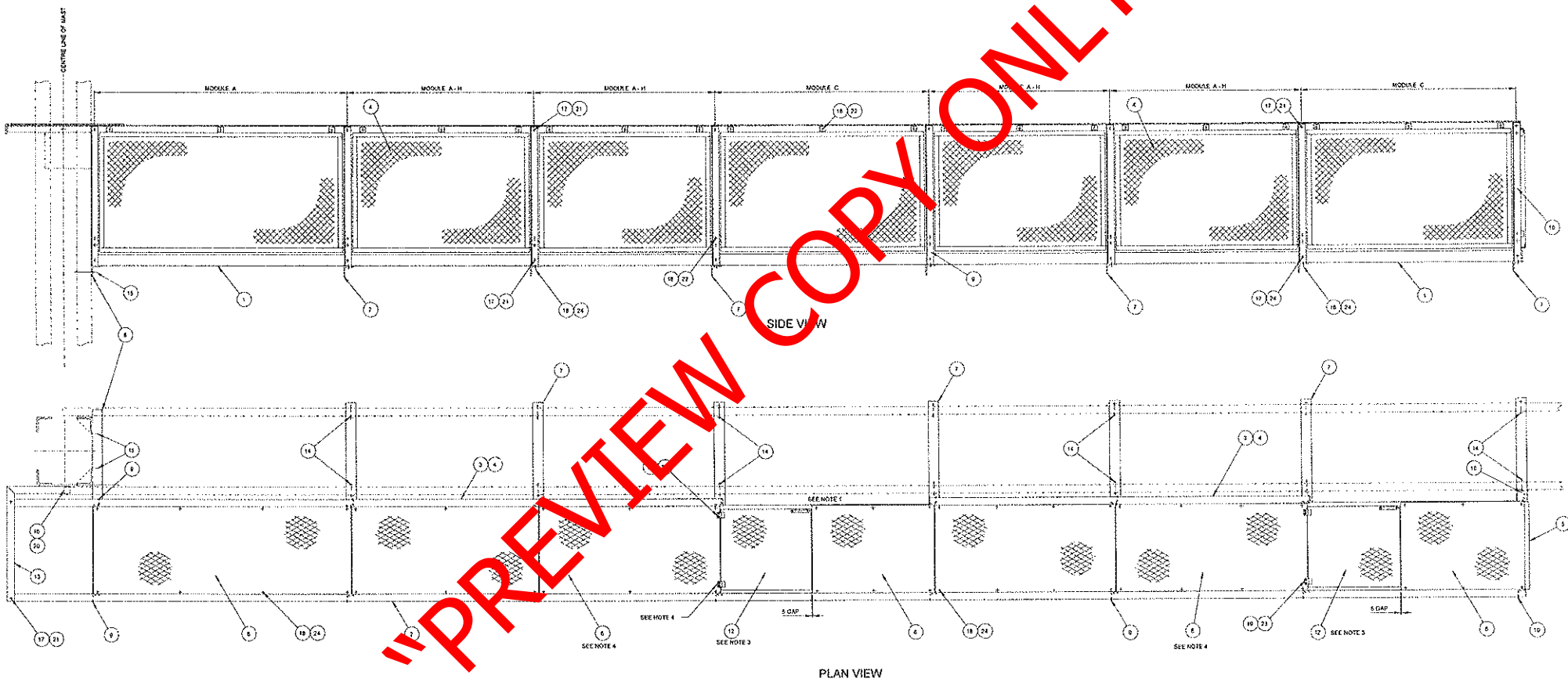
3

3

2

ITEM	DESCRIPTION	QTY	STORES ITEM NO	DWG NO. CEE	ITEM	DESCRIPTION	QTY	STORES ITEM NO	DWG NO. CEE
1	SUPPORT, DECK PLATES	2		TMFD-3 SHT 7	13	HANDRAIL, LADDEREND	1		TMFD-3 SHT 14
2	HANDRAIL, OUTER	1		TMFD-3 SHT 3	14	BOLT, M20 WITH WASHERS & WASHERS	1		TMFD-3 SHT 15
3	HANDRAILS, INNER	1		TMFD-3 SHT 4	15	CLAMPING BOLT WITH WASHERS & NUTS M16	2	343999	TMFD-3 SHT 15
4	SCREEN, SIDES OF CATWALK	1		TMFD-3 SHT 5	16	BOLT, STEEL, HEX HD & NUT, GALV. M20 X 45L	1		TMFD-3 SHT 15
5	SCREEN, END OF CATWALK	1		TMFD-3 SHT 6	17	BOLT, STEEL, HEX HD & NUT, GALV. M16 X 45L	1		TMFD-3 SHT 15
6	PLATES, DECKING (SEE NOTE 4)	1		TMFD-3 SHT 7	18	BOLT, STEEL, HEX HD & NUT, GALV. M16 X 45L	1		TMFD-3 SHT 15
7	SUPPORT, CATWALK	1		TMFD-3 SHT 8	19	BOLT, STEEL, HEX HD & NUT, GALV. M16 X 75L	1		TMFD-3 SHT 15
8	SUPPORT, CATWALK	1		TMFD-3 SHT 9	20	WASHER, FLAT, STEEL, BLACK, ROUND, GALV. M20	1		TMFD-3 SHT 15
9	SUPPORT, HANDRAIL	1		TMFD-3 SHT 10	21	WASHER, FLAT, STEEL, BLACK, ROUND, GALV. M16	1		TMFD-3 SHT 15
10	POST, HANDRAIL	2		TMFD-3 SHT 11	22	WASHER, FLAT, STEEL, BLACK, ROUND, GALV. M16	1		TMFD-3 SHT 15
11	POST, HANDRAIL	2		TMFD-3 SHT 12	23	WASHER, FLAT, STEEL, BLACK, ROUND, GALV. M12	1		TMFD-3 SHT 15
12	TRAPDOOR	1		TMFD-3 SHT 13	24	WASHER, BEVEL, STEEL, GALV. M12	1		TMFD-3 SHT 15

AMENDMENTS		
NO	NAME	DATE
1	ISSUED	12-11-01
2	REVISION	12-11-01
3	REVISION	12-11-01



"PREVIEW COPY ONLY"

- NOTES**
- THE MAST TO MAST AND TRACK TO TRACK CENTRES ON LATTICE BRIDGES VARY FOR DIFFERENT APPLICATIONS. THEREFORE THE SPACING OF CROSS BRACES IS NOT ALWAYS STANDARD TO ENSURE THAT FIGS 2 AND THE SIGNAL CABLE FIT IN THE DESIGN POSITION. A CAREFUL CONSIDERATION FROM MODULES "A" TO "H" MUST BE MADE. USE MODULE "F" ONLY WHEN ESSENTIAL.
 - ALWAYS USE CORRESPONDING MODULES FOR HANDRAILS, DECK PLATES AND SUPPORTS e.g. MODULE "A" HANDRAIL, MODULE "A" SCREEN, MODULE "A" DECK PLATE AND MODULE "A" SUPPORT MUST CORRESPOND.
 - THE HINGED SIDE OF THE TRAPDOOR MUST FACE THE CATWALK ENTRANCE AND BE SECURED IN THE OPEN POSITION BY HOOKING THE HOOK ONTO ITEM 2 OR 3, WHEN REQUIRED.
 - SUITABLE M12 MOUNTING HOLES FOR THE ATTACHMENT OF TRAPDOOR HINGE, MUST BE PROVIDED IN THE DECKING PLATE ON THE LADDER SIDE OF EACH TRAPDOOR.
 - FOR MASTER RECORD WORK SEE DOCUMENT NO. 8881317.

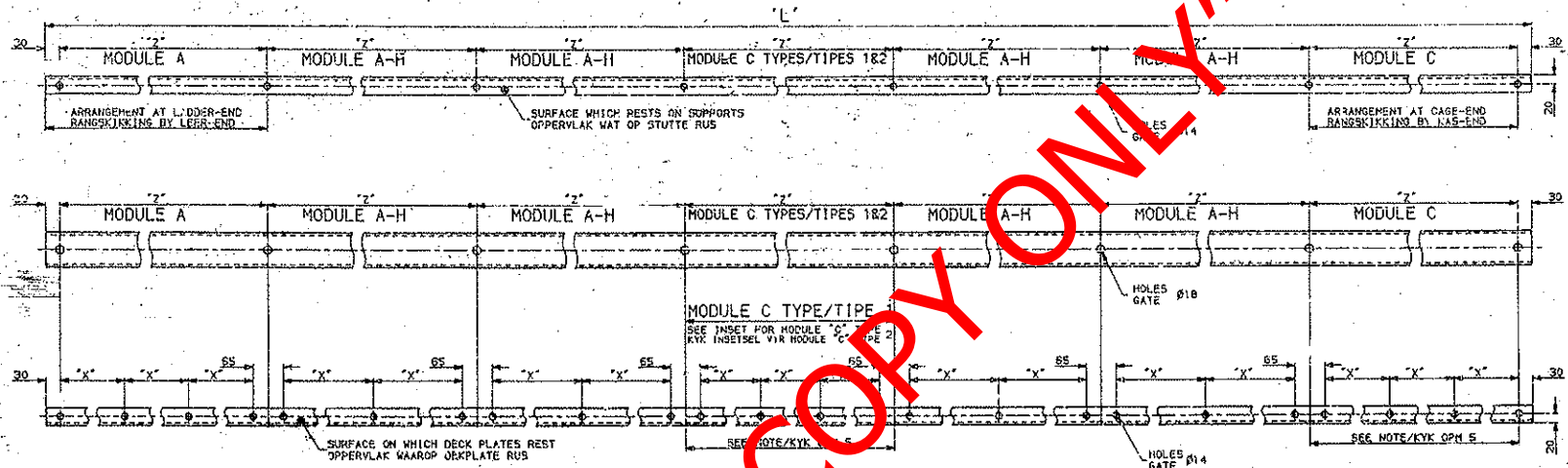
DRW REF:	TRF 042	GEN. TOL. ENV 1	ANSI
DRN:	JWT	CHK: JSV/EGERS	DATE: 02-09-15
ENG:	C.E. DAWKINS	BY: CIBER/ENP	

CATWALK
SIGNAL GENTRY STRUCTURE

CENTRAL DRAWING OFFICE **SPOORNET**

DIMENSIONS: mm	SCALE: 1:10
GRAPHIC NO:	A0
PROGRAM NO:	TMFD - 3
SHEET:	1 OF 15

NO.	NAME	DATE



ITEM 1: RIGHT HAND SIDE REVERSED OF ITEM 1
 ITEM 2: LEFT HAND SIDE REVERSED OF ITEM 1
 ITEM 2: LINKERKANT, OMGEKEERDE VAN ITEM 1

ARRANGEMENT FOR MODULE "C" (TYPE 2) ABOVE SIGNAL CAGE
 RANGSKIKKING VIR MODULE "C" (TIPE 2) BOKANT SINJAALKAS
 SEE NOTE/KYK OPM'S

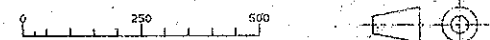
NOTES / OPMERKINGS

- DIMENSION "L" IS DETERMINED BY ADDING MODULE "A" PLUS COMBINATION OF SELECTED MODULES RANGING FROM "A" TO "H" PLUS MODULE "C". MODULE "A" WILL ALWAYS BE AT THE LADDER END AND MODULE "C" AT THE OTHER END. AFMETING "L" WORD BEPAAL DEUR MODULE "A" PLUS KOMBINASIE VAN GEGOSE MODULES VAN "A" TOT "H" PLUS MODULE "C" BYNEKAAR TE TEL. MODULE "A" SAL AAN DIE LEER-ENDE EN MODULE "C" AAN DIE ANDER-ENDE WEES.
 - ARRANGEMENT SHOWN IS WITH LADDER AGAINST LEFT END. A REVERSE OF THIS ARRANGEMENT FOR LADDER AGAINST RIGHTHAND END. RANGSKIKKING BETOON IS MET LEER TEGEN LINKERKANT. 'N OMGEKEERDE VAN DIESE RANGSKIKKING VIR LEER TEGEN REGERKANTSTE HAAS.
 - THE SUPPORT FOR DECK PLATES TO BE SUPPORTED FROM ONE CONTINUOUS LENGTH OF STEEL CHANNEL. DIE STEUN VIR DEKPLATE HOET VAN 'N ENIG AANCIENDE LENGTE KANAALSTAAL VERVAARDIG WORD.
 - ALSO REFER TO NOTES 1 & 2 ON DRG. VERWYS OOK NA OPMERKINGS 1 & 2 OP TEK. NO. CEE-TMFD-3 SHT 1
 - MODULE "C" IS USED WHEN A MODULE "C" IS REQUIRED IN A POSITION OTHER THAN ABOVE. (A SIGNAL CAGE). MODULE "C" WORD GEWENSD WANNER 'N MODULE "C" GENOEDIG WORD IN 'N POSISIE WAT NIE BOKANT 'N SINJAALKAS IS NIE.
- ARRANGEMENT TYPE 1 IS USED TOGETHER WITH A TRAPDOOR ABOVE A SIGNAL CAGE.
 RANGSKIKKING TIPE 1 WORD SAAM MET 'N VALDEUR BOKANT 'N SINJAALKAS GEBRUIK.

FINISH/OPWERKING
 ZINC COAT TO SPEC
 SINKBEDEK VOLGENS SPES SABS 763

MODULE	DIMENSION / AFMETING
	X Z
A - STANDARD AT LADDER END MAY BE USED ELSEWHERE STANDAARD BY LEER-ENDE MAG ELDERS GEBRUIK WORD	255 1730
B - INTERMEDIATE TUSSENLEGGEND	505 1580
C - STANDARD ABOVE SIGNAL CAGE MAY BE USED ELSEWHERE STANDAARD BOKANT SINJAALKAS MAG ELDERS GEBRUIK WORD	TYPE 1 450 1430 TIPE 1
D - INTERMEDIATE TUSSENLEGGEND	607,5 1280
E - INTERMEDIATE TUSSENLEGGEND	592,5 1130
F - INTERMEDIATE TUSSENLEGGEND	457,5 980
G - INTERMEDIATE TUSSENLEGGEND	382,5 830
H - VARIES ACCORDING TO SPECIFIC RE- OUTRICHMENTS BUT BETWEEN MODULES A&C VARIËR VOLGENS SPESIFIEKE VER- EITSTES MAAR TUSSEN MODULES A&C	27-63 200/93 *

TO BE DETERMINED ON SITE
 *MOET OP TERREIN BEPAAL WORD



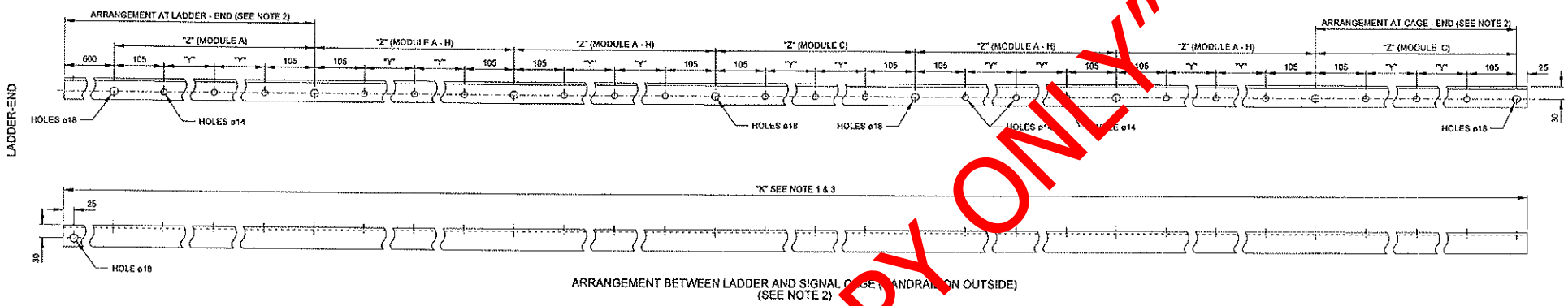
MATERIAL / MATERIAAL	DIMENSIONS / AFMETINGS (MILLIMETRES)	TOLERANCES / TOL. (MILLIMETRES)
STEEL CHANNEL 75x10x6 THK STAAL KANAAL	75x10x6	±0,25
ZINC COAT TO SPEC SINKBEDEK VOLGENS SPES SABS 763		
STORES ITEM NO 11/4144		
SPEC CHD 3 SYN 8		

ELECTRIFICATION TYPES / ELEKTRIFIKASIE Tipes. GENEERKANT/ALGEMEEN
 SUPPORT, DECK PLATES
 CATWALK
 STEUN, DEKPLATE
 LOOPLY'S

CEE-TMFD-3 SHT 1
 ASSY DRG
 SAMEST-TEK
 ELECTRIFICATION TYPES
 REFERENCE DRG NO
 TEL-NO 26 SH 26
 ELECTRIFIKASIE Tipes
 VERWYSINGSTREK-NO
 TEL-NO 26 SH 26
 STORES ITEM NO
 MAGASYNITEM NO
 SPEC CHD 3 SYN 8
 SHT 1 VAN 15

TMFD-3 SHT 2

AMENDMENTS		
NO	NAME	DATE
1	JP du Plessis	05-05-24
REVISED AND REDRAWN. DIMENSION 600 WAS 400. DO REF: T66 / 026		
2		
REVISED AND REDRAWN DO REF: CDO/1772		



MODULE		DIMENSION	
		"Y"	"Z"
A	STANDARD AT LADDER END MAY BE USED ELSEWHERE	700	1730
B	INTERMEDIATE	685	1580
C	STANDARD ABOVE SIGNAL CAGE MAY BE USED ELSEWHERE	810	1430
D	INTERMEDIATE	535	1280
E	INTERMEDIATE	480	1130
F	INTERMEDIATE	385	
G	INTERMEDIATE		
H	VARIABLES ACCORDING TO SPECIFIC REQUIREMENTS BUT BETWEEN MODULES A & G	2	*

* TO BE DETERMINED ON SITE

NOTES

- DIMENSION "K" IS DETERMINED BY ADDING 600 PLUS MODULE "A" PLUS A COMBINATION OF SELECTED MODULES RANGING FROM "A" TO "H" PLUS MODULE "C". MODULE "A" WILL ALWAYS BE AT THE LADDER-END AND MODULE "C" AT THE OTHER END.
- ARRANGEMENT SHOWN IS WITH LADDER AGAINST LEFTHAND MAST. USE A REVERSE OF THIS ARRANGEMENT FOR LADDER AGAINST RIGHTHAND MAST.
- HANDRAIL TO BE MANUFACTURED FROM ONE CONTINUOUS LENGTH OF STEEL ANGLE.
- ALSO REFER TO NOTES 1 & 2 ON DRG NO CEE-TMFD-3 SHT 1.
- FOR MASTER RECORD INDEX SEE DOCUMENT NO. 8BB1317.

FINISH
ZINC COAT TO SPEC SANS 121 FOR CONDITIONS IN SITU.

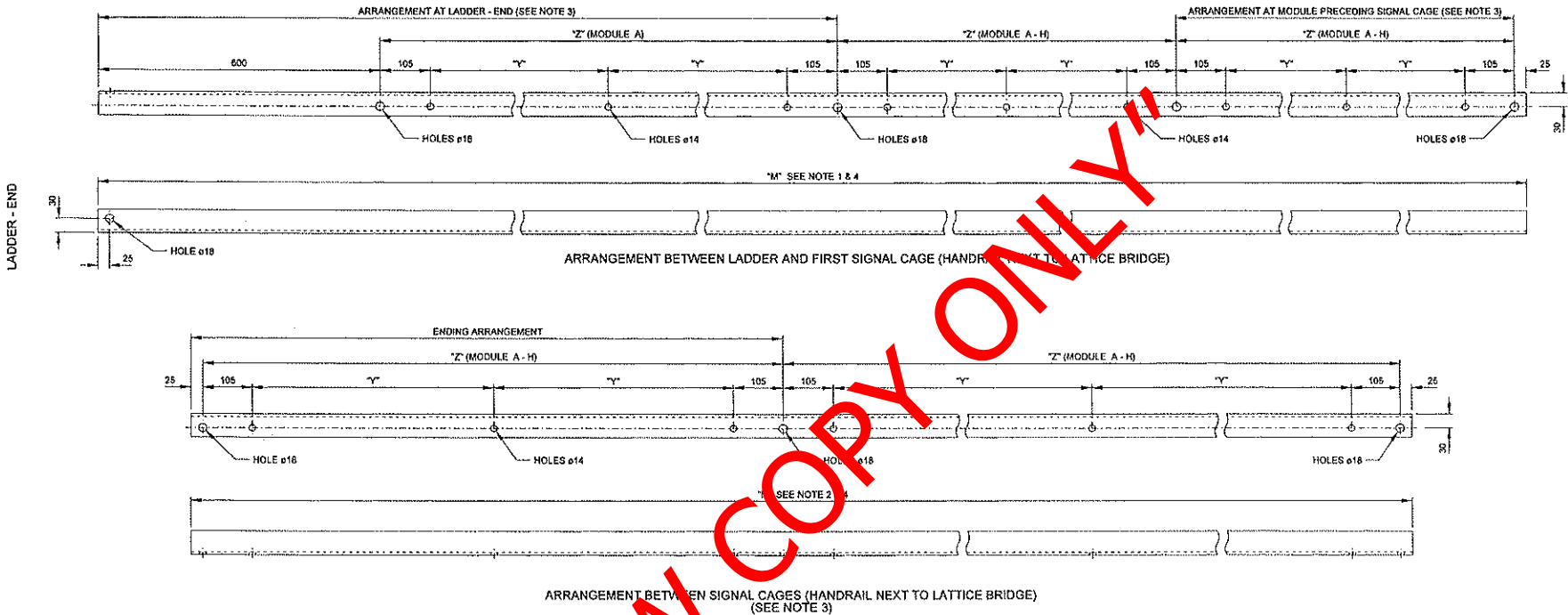
PREVIEW COPY ONLY

MATERIAL: ITEM NO	(4444448) STEEL ANGLE 50 x 50 x 6
DO REF: T66 / 042	GEN TOL: L14 ± 1 ANG ±
DRN: J.V.T	GKD: J.SWIGERS DATE: 09-05-19
ENG:	C.E.D.MYHILL for CHIEF ENG
CENTRAL DRAWING OFFICE	

HANDRAIL, OUTER
CATWALK

DIMENSIONS: mm	
SCALE: 1:5	
	A1
DRAWING NO	CEE-TMFD - 3
SHEET	3 OF 15

AMENDMENTS		
NO	NAME	DATE
1	JP Du Plessis	05-05-24
REVISED AND REDRAWN. DIMENSION 600 WAS 400. DO REF: T95 / C28		
2	g/h/ova	
REVISED AND REDRAWN. DO REF: CDD/1772		



NOTES

- DIMENSION "M" IS DETERMINED BY ADDING 600 PLUS MODULE "A" PLUS A COMBINATION OF SELECTED MODULES RANGING FROM "A" TO "H". MODULE "A" WILL ALWAYS BE AT THE LADDER-END AND THE HANDRAIL WILL END AT THE END OF THE MODULE PRECEDING THE FIRST SIGNAL CAGE.
- DIMENSION "Z" IS DETERMINED BY ADDING COMBINATIONS OF SELECTED MODULES RANGING FROM "A" TO "H". THIS HANDRAIL WILL ALWAYS BEGIN AND END IN AN ENDING ARRANGEMENT.
- ARRANGEMENT SHOWN IS WITH LADDER AGAINST LEFTHAND MAST. USE A REVERSE OF THIS ARRANGEMENT FOR LADDER AGAINST RIFTHAND MAST.
- HANDRAIL TO BE MANUFACTURED FROM ONE CONTINUOUS LENGTH OF PIPE.
- ALSO REFER TO NOTES 1 & 2 ON DRG NO CEE-TMFD-3 SHT 1
- FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

FINISH
ZINC COAT TO SPEC SANS 121 FOR CONDITIONS IN SITU.

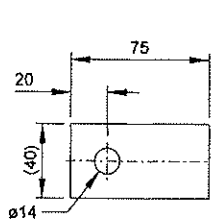
MODULE	DIMENSION	
	"Y"	"Z"
A - STANDARD AT LADDER END MAY BE USED ELSEWHERE	760	1730
B - INTERMEDIATE	685	1580
C - STANDARD ABOVE SIGNAL CAGE MAY BE USED ELSEWHERE	610	1430
D - INTERMEDIATE	535	1280
E - INTERMEDIATE	460	1130
F - INTERMEDIATE	385	980
G - INTERMEDIATE	310	830
H - VARIES ACCORDING TO SPECIFIC REQUIREMENTS BUT BETWEEN MODULES A & G	$\frac{"Z" - 210}{2}$	*

* TO BE DETERMINED ON SITE

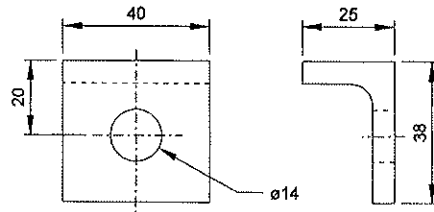
MATERIAL: ITEM NO	44M44819, STEEL, ANGLE, 50 x 50 x 6THK
DO REF: T88 / 042	GEN TOL: LIN ± 1 ANG ± 0.5
DRN: J V T	CKD: J SWIGERS DATE: 09-05-15
ENG: _____	C E DAYHILL for CHIEF ENG

HANDRAIL, INNER
CATWALK

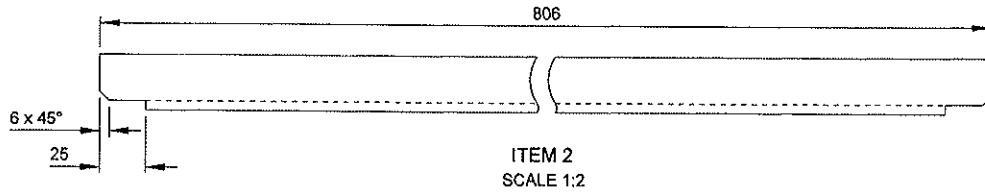
DIMENSIONS: mm SCALE: 1:5		A1
DRAWING NO	CEE-	
	TMFD - 3	
SHEET	4	OF 15



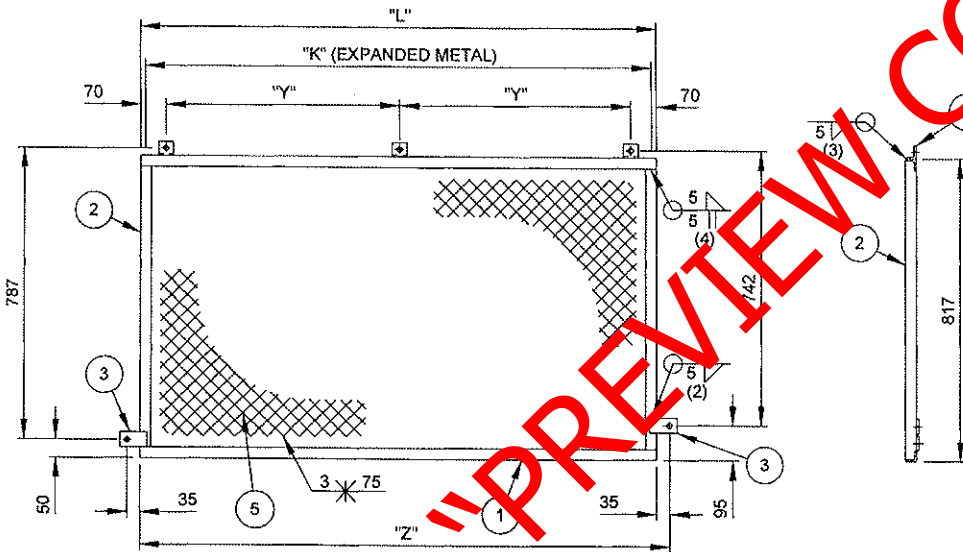
ITEM 3
SCALE 1:2



ITEM 4
SCALE 1:1



ITEM 2
SCALE 1:2



ASSEMBLY

ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO	CEE-	AMENDMENTS		
						NO	NAME	DATE
1	STEEL,ANGLE 30 x 30 x 5 x "L" -11/44444-	2				1	W.BRIGHT	92-11-04
2	STEEL,ANGLE 30 x 30 x 5 x 806L -11/44444-	2						DIMENSIONS "L" & "K" SHORTENED BY 10. ITEM 3 WAS 70 LONG. DO REF: T91/065
3	STEEL,FLAT 40 x 6 x 75L -11/12255-	2						
4	STEEL,ANGLE 45 x 45 x 6 x 40L -11/14468-	3				2	4/16/2003	
5	EXPANDED METAL "K" x 790 x 3	1						REVISED AND REDRAWN. DO REF: CDO/1772

MODULE	DIMENSIONS			
	"L"	"K"	"Y"	"Z"
A- STANDARD ABOVE SIGNAL CAGE MAY BE USED ELSEWHERE	1 660	1 635	760	1 730
B- INTERMEDIATE	1 510	1 485	685	1 580
C- STANDARD ABOVE SIGNAL CAGE MAY BE USED ELSEWHERE	1 360	1 335	610	1 430
D- INTERMEDIATE	1 210	1 185	535	1 280
E- INTERMEDIATE	1 060	1 035	460	1 130
F- INTERMEDIATE	910	885	385	980
G- INTERMEDIATE	760	735	310	830
H- VARIES ACCORDING TO SPECIFIC RE- QUIREMENTS BUT BETWEEN MODULES A&G	"Z" - 70	"Z" - 95	$\frac{"Z" - 210}{2}$	*

* TO BE DETERMINED ON SITE

FINISH
ZINC COAT TO SPEC SANS 121 FOR CONDITIONS IN SITU.

NOTES
1. ALSO REFER TO NOTES ON DRG NO CEE-TMFD-3 SHT 1.
2. FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

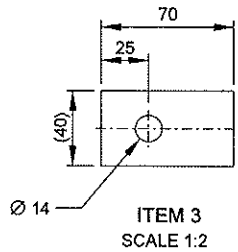
DO REF T88 / 42	GEN TOL: LIN ± 1	ANG ± 1°
DRN J v TONDER	CKD J SWIEGERS	DATE 89 - 05 - 15
ENG _____	C.E.D. MYHILL	for CHIEF ENG
CENTRAL DRAWING OFFICE		

SCREEN: SIDES OF CATWALK(VARIOUS)
CATWALK

DIMENSIONS:mm
SCALE: 1:10

A2

DRAWING NO CEE-
TMFD - 3
SHEET 5 OF 15

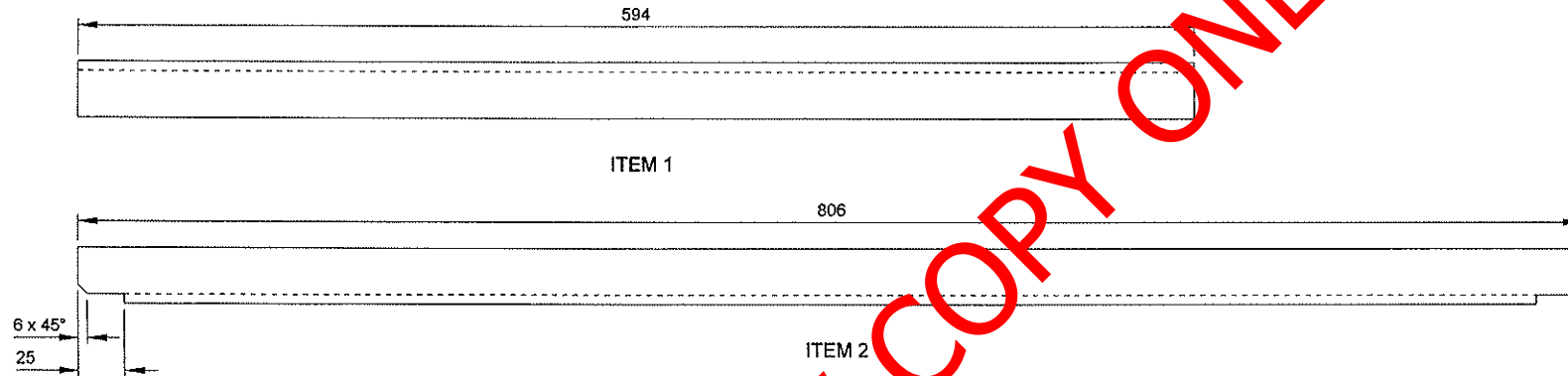


ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO	CEE-	AMENDMENTS		
						NO	NAME	DATE
1	STEEL,ANGLE 30 x 30 x 5 x 594L	-11/14444	2			1	W.BRIGHT	92-11-04
2	STEEL,ANGLE 30 x 30 x 5 x 806L	-11/14444	2					
3	STEEL,FLAT 40 x 6 x 70L	-11/12255	4					
4	EXPANDED METAL 790 x 568 x 3		1					

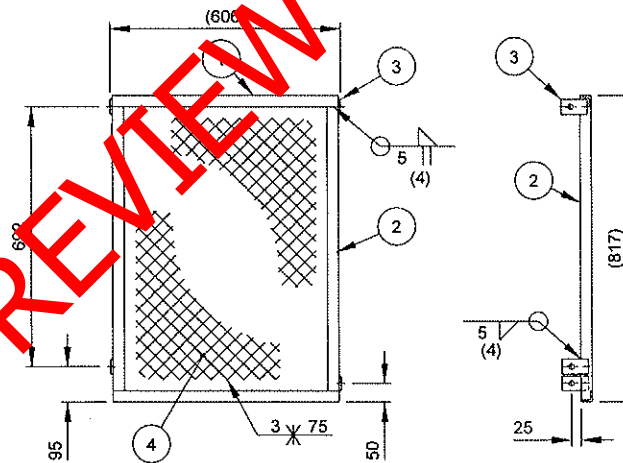
ITEM 3: 25 DIM WAS
20. ITEM 3 ON RIGHT
BOTTOM OF ASSEMBLY
MOVED DOWN TO 50.
DO REF: T91 / 065

2 4/6/002

REVISED AND REDRAWN.
DO REF: CDO/1772



"PREVIEW COPY ONLY"



ASSEMBLY
SCALE 1:10

FINISH
ZINC COAT TO SPEC SANS 121

NOTE
FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

DIMENSIONS:mm
SCALE: 1:2

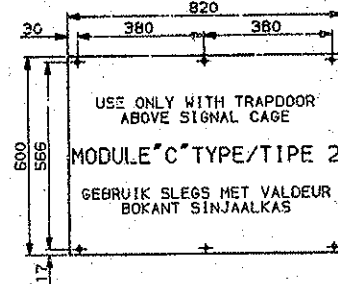
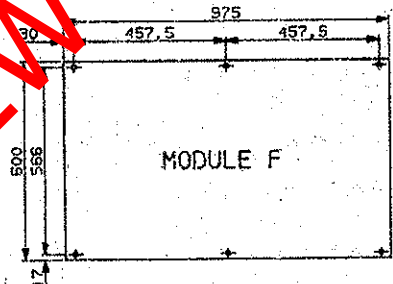
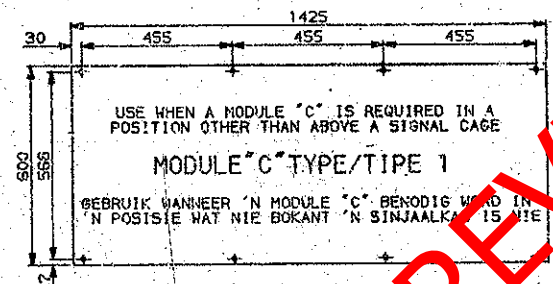
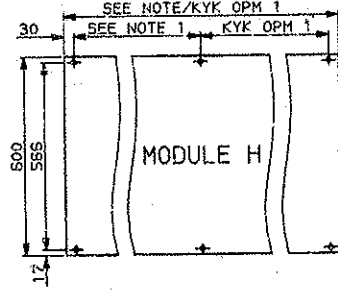
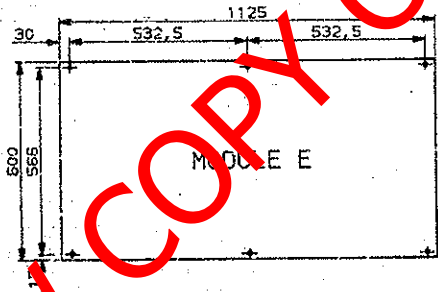
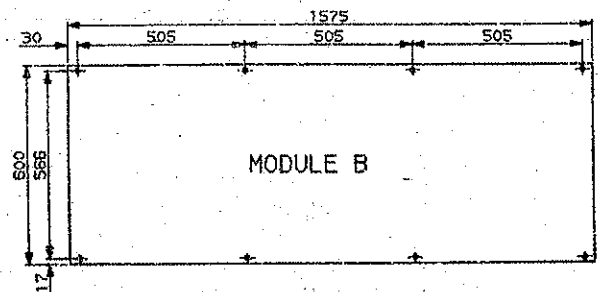
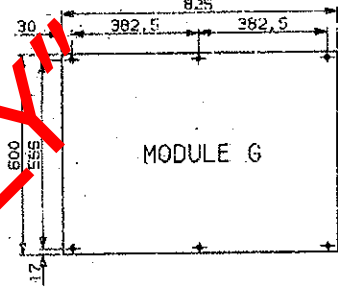
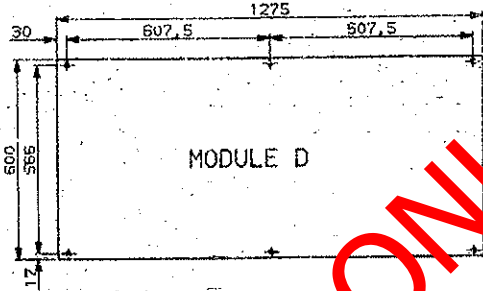
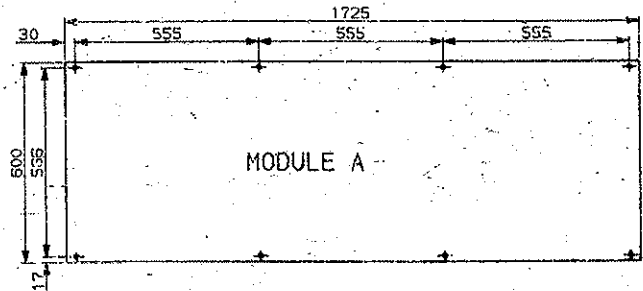
DO REF T88 / 42	GEN TOL: LIN ±	1	ANG ± 1°
DRN J v TONDER	CKD J SWIEGERS	DATE 89 - 05 - 15	
ENG	C.E.D. MYHILL	for CHIEF ENG	
CENTRAL DRAWING OFFICE SPOORNET			

SCREEN: END OF CATWALK
CATWALK

A2

DRAWING NO **CEE-**
TMFD - 3

SHEET **6** OF **15**



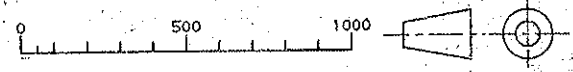
NOTES / OPMERKINGS

MODULE "H" VARIES ACCORDING TO SPECIFIC REQUIREMENTS, BUT BETWEEN MODULES "A" & "G" SPACING OF MOUNTING HOLES TO BE ADJUSTED ACCORDINGLY, TO MATCH DECK PLATE SUPPORTS.
 MODULE "H" VARIËER VOLGENS SPESIFIEKE VEREISTES, MAAR TUSSEN MODULES "A" & "G" SPASIERING VAN MONTËRGATE MOET DIËNOOREENKOMSTIG AANGEPAS WORD OM DEKPLAATSTEUNSTUKKE TE PAS.

- ALSO REFER TO NOTE 4 ON DRG CEE-TMFD-3 SHT 1
VERWYS OOK NA OPM. 4 OP TEK. CEE-TMFD-3 VEL 1
- ALL HOLES $\emptyset 14$
ALKE GATE 14

FINISH/AFWERKING

ZINC COAT TO SPEC
SINKBEDEK VOLGENS SPES SAB5 763



DIMENSIONS: MILLIMETRES
AFMETINGS: MILLIMETER
MATERIAL / MATERIAAL
STEEL, CHEQUER PLATE THK 3
STAAL, GERUITE PLAAT B DIK 3
STORES ITEM NO 11/
MASASYNITEM NO 11
SPEC SABS 518
SPEC CME 3 518

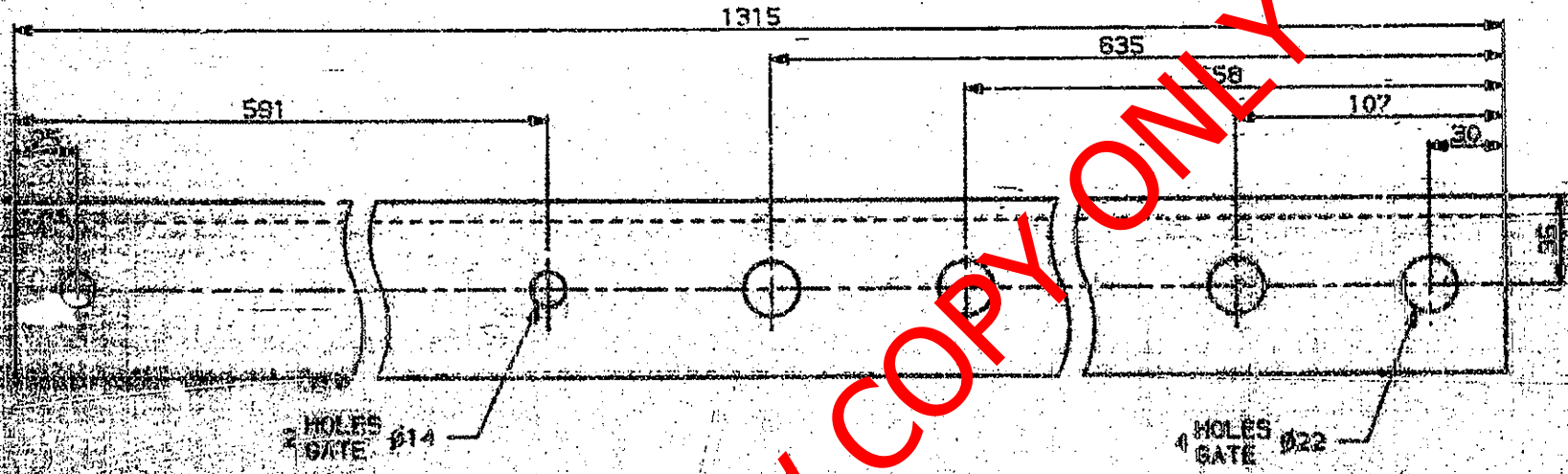
DRN: J. VAN TONDER	GEN TOLERANCES: LINE 1
TRCD: CAD/JVT	ALG TOLERANSIES: ANO/HOEK: 1°
WBT: JK-VERM	DO REF: T98/42
ENG: IR	DATE: 89-09-15
CKD: J. SWIGERS	DATUM: 89-09-15
CHKD: J. SWIGERS	DATE: 89-09-15
CHEF ELECTRICAL ENGINEER	JOHANNESBURG
ELEKTRIESE HOOFINGENIEUR	JOHANNESBURG
SOUTH AFRICAN TRANSPORT SERVICES	
SUID-AFRIKAANSE VERVOERDIENSTE	

ELECTRIFICATION TYPES / ELEKTRIFIKASIE TYPES, GENERAL / ALGEMEEN
PLATES, DECKING
CATWALK
PLATE, DEK-
LOOPLYNS

APPENDIX WYSIËTINGS		
NO	NAME NAAM	DATE DATUM

CEE-TMFD-3 SHT 1 VEL 1
ASSY DRG SAMEST-TEK
ELECTRIFICATION TYPES REFERENCE DRG NO CEE-MA-26 SH 7B ELEKTRIFIKASIE TYPES VERWYSINGSTEK-NO CEE-MA-369 VEL 7B
STORES ITEM NO MASASYNITEM NO
DRAWING NO TEKENING NO CEE- TMFD-3
SHEET 7 OF 15 VEL 7 VAN 15

AMENDMENTS WYSIGINGS		
NO	NAME NAAM	DATE DATUM



"PREVIEW COPY ONLY"

DIMENSIONS: MILLIMETRES
AFMETINGS: MILLIMETER
MATERIAL/MATERIAAL

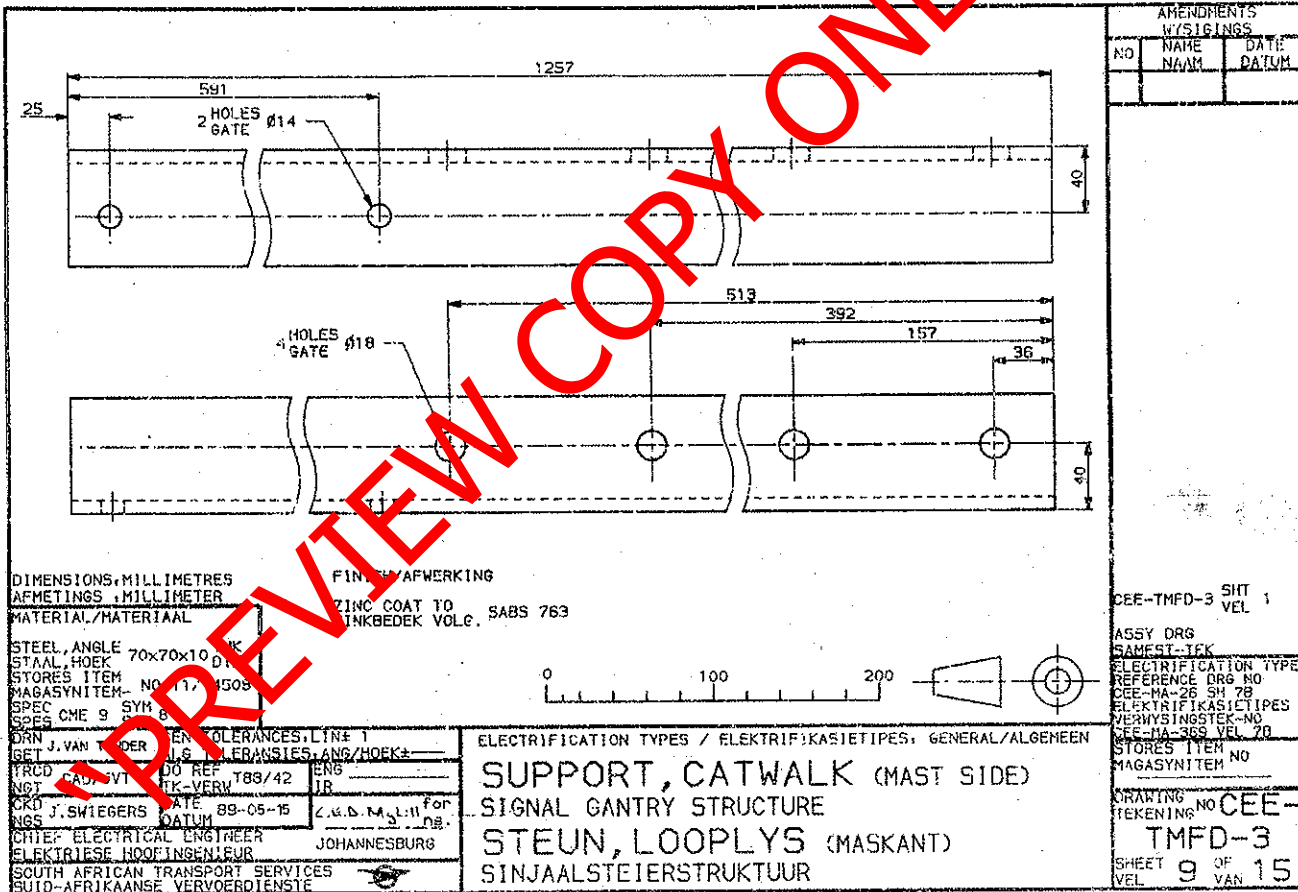
FINISH/AFMERKINGS
ZINC COAT TO
SINKBEDDING VOLG. SABS 763

STEEL, ANGLE 70x70x10 THK
STAAL, HOEK 70x70x10 DIK
STORES ITEM NO 11/14508
MAGASYNITEM- NO 11/14508
SPEC CME 9 SYM 8
SPES CME 9 SIM 8

DRN GET J. VAN TONDER	GEN TOLERANCES, LINE 1 ALG TOLERANSIES, ANG/HOEK
TRCD NGT CAD/JYT	DO REF T98/42 TK-VERW IR
CKD NGS J. SWIEGERS	DATE 89-05-15 DATUM
CHIEF ELECTRICAL ENGINEER ELEKTRIESE HOOFINGENIEUR	
JOHANNESBURG	
SOUTH AFRICAN TRANSPORT SERVICES SUID-AFRIKAANSE VERVOERDIENSTE	

ELECTRIFICATION TYPES / ELEKTRIFIKASIE TYPES: GENERAL/ALGEMEEN
SUPPORT, CATWALK (LATTICE BRIDGE)
SINJAALSTEIERSTRUKTUUR
STEUN, LOOPLY (TRALIEBRUG)
SINJAALSTEIERSTRUKTUUR

CEE-TMFD-3 SHY 1 VEL
ASSY DRG SAMEST-TEK
ELECTRIFICATION TYPES REFERENCE DRG NO CEE-MA-28 SH 7B ELEKTRIFIKASIE TYPES VERWYSINGSTEK-NO CEE-MA-369 VEL 7B
STORES ITEM NO MAGASYNITEM
DRAWING NO CEE- TEKENING TMFD-3
SHEET 8 OF 15 VEL VAN



DIMENSIONS: MILLIMETRES
AFMETINGS: MILLIMETER

FINISH: AFWERKING
ZINC COAT TO
INKBEDER VOLG. SABS 763

MATERIAL/MATERIAAL
STEEL, ANGLE 70x70x10 D1K
STAAL, HOEK 70x70x10 D1K
STORES ITEM NO 117 1508
MAGASYNITEM- NO 117 1508
SPEC CME 9 SYM B

DRN J. VAN DER BEEK
GET J. VAN DER BEEK
PROJ. NO REF 789/42
NGT CAD/VTI
CRD J. SWIEGERS
NGS J. SWIEGERS
CHIEF ELECTRICAL ENGINEER
ELEKTRIESE HOOFINGENIEUR
SOUTH AFRICAN TRANSPORT SERVICES
SUID-AFRIKAANSE Vervoerdiens

TOLERANCES: LINE ±
DIMENSIONS: ANG/HOEK ±

Z.A.D.M.S.L.II
JOHANNESBURG

ELECTRIFICATION TYPES / ELEKTRIFIKASIE TYPES: GENERAL/ALGEMEEN

SUPPORT, CATWALK (MAST SIDE)
SIGNAL GANTRY STRUCTURE
STEUN, LOOPLYD (MASKANT)
SINJAALSTEIERSTRUKTUUR

AMENDMENTS WYSIGINGS		
NO	NAME NAAM	DATE DATUM

CEE-TMFD-3 SIIT 1
VEL 1

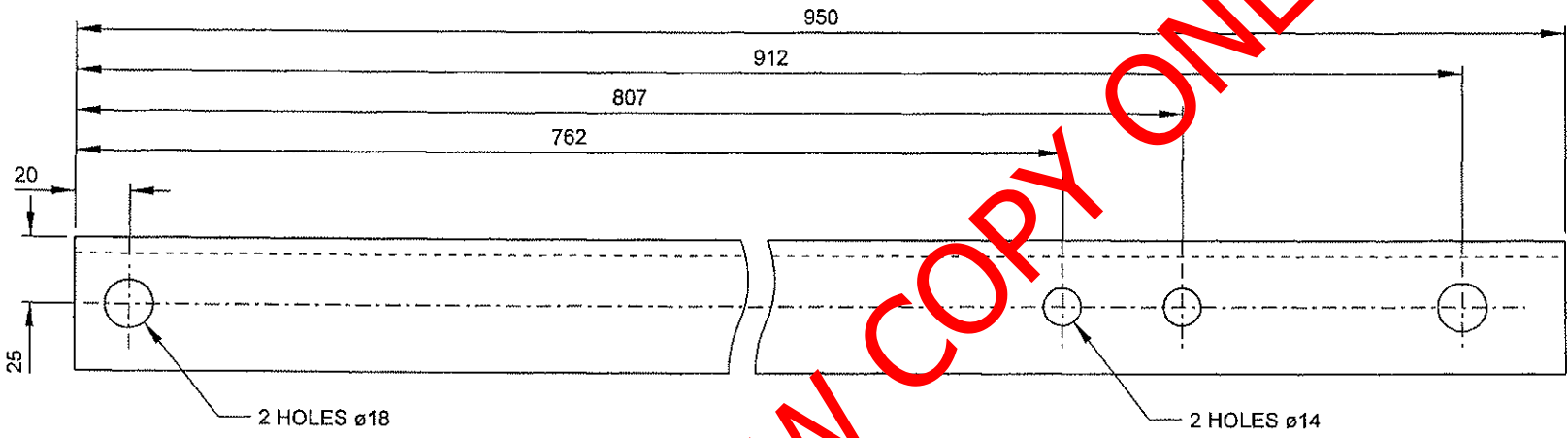
ASSY DRG
SAMEST-TEK

ELECTRIFICATION TYPES
REFERENCE DRG NO
CEE-MA-26 SH 78
ELEKTRIFIKASIE TYPES
VERWYSINGS-NO
CEE-MA-369 VEL 70

STORES ITEM NO
MAGASYNITEM

DRAWING NO CEE-
TEKENING TMFD-3

SHEET 9 OF 15
VEL 9 VAN 15



"PREVIEW COPY ONLY"

FINISH
ZINC COAT TO SANS 121 FOR CONDITIONS IN SITU.

NOTE
FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

AMENDMENTS		
NO	NAME	DATE
1	W.BRIGHT	92-11-04
2 x ø18 HOLES MOVED TO CENTRE LINE OF ANGLE IRON. RIGHT AND LEFT SIDE HANDRAIL COMBINED. DO REF: T91/065		
2	4/6/2003	
REVISED AND REDRAWN. DO REF: CDO/1772		

DIMENSIONS: mm
SCALE: 1:2

	A3
DRAWING NO CEE-TMFD-3	
SHEET 10 OF 15	

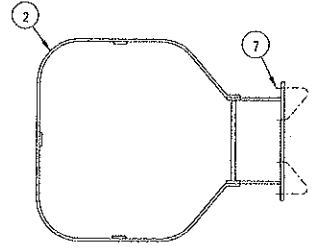
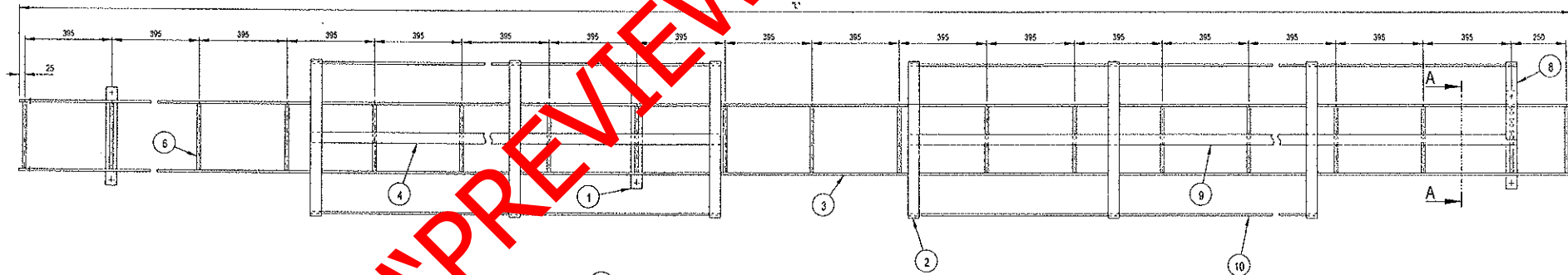
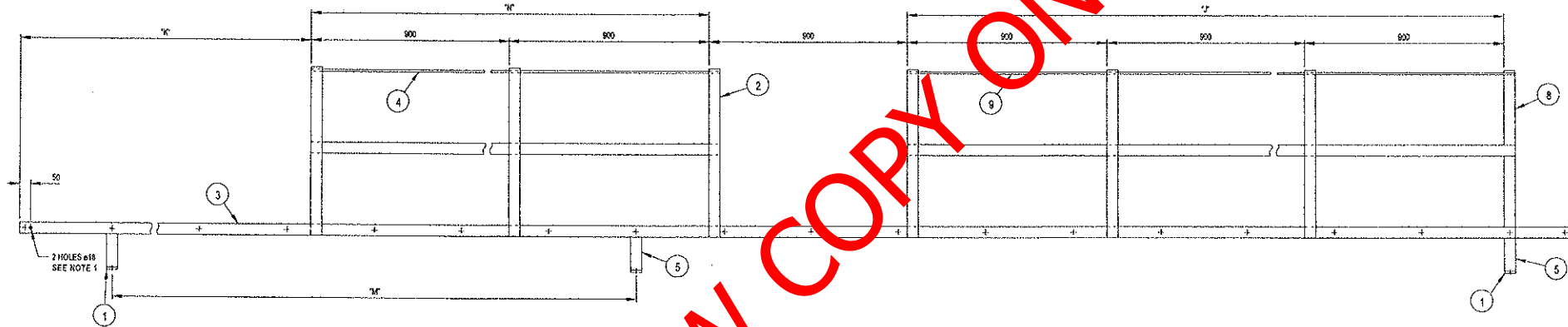
MATERIAL: ITEM NO (44/14481), STEEL, ANGLE, 50 x 50 x 6		
DO REF T88/42	GEN TOL: LIN± 1	ANG± —
DRN J v TONDER	CKD J SWIEGERS	DATE 89-05-15
ENG ———	C.E.D. MYHILL	for CHIEF ENG
CENTRAL DRAWING OFFICE SPOORNET		

SUPPORT, HANDRAIL CATWALK

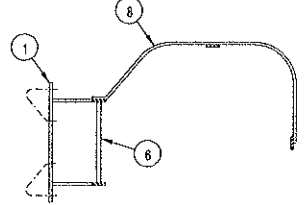
ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRAWING NO CEE-	AMENDMENTS	
NO	NAME	DATE				
1	BRACKET, MOUNTING	3	-	TMFB-2 SHT 2	NO	
2	HOOP	6/8	-	TMFB-2 SHT 3	1	JP du PLESSIS 95-05-24
3	STEEL FLAT 50 x 10 x 1' LONG	2	-	-	DRG UPDATED & ITEM 2 REVISED.	
4	STEEL FLAT 50 x 10 x 1' x 50mm LONG	3	-	-	DO REF: T851028	
5	STEEL FLAT 50 x 10 x 150 LONG	6	-	-	2	
6	STEEL ROUND ϕ 16 x 305 LONG	22/25	-	-	REVISED AND REDRAWN.	
7	CLAMPING BOLT WITH WASHERS AND NUTS M16	6	54/396	TA-82 TYPE 1	DO REF: CDO11712	
8	HOOP, HALF (SEE DRG NO CEE-TMFB-2 SHT 3)	2	-	-		
9	STEEL FLAT 50 x 10 x 1' LONG	2	-	-		
10	STEEL FLAT 100 x 10 x 600mm LONG	1	-	-		

TABLE

CONTACT WIRE HEIGHT (REFERENCE)	MAST LENGTH	DIMENSIONS				
		"N"	"M"	"L"	"K"	"J"
5m	8 623	1 800	3 855	8 200	2 800	2 700
6m	8 688	2 700	4 345	8 355	1 855	3 800



PLAN VIEW



SECTION A-A

"PREVIEW COPY ONLY"

WELDING
WELD THUS OR WHERE APPLICABLE (BEFORE FINISH)

FINISH
ZINC COAT TO SPEC SANS 121 FOR CONDITIONS IN SITU.

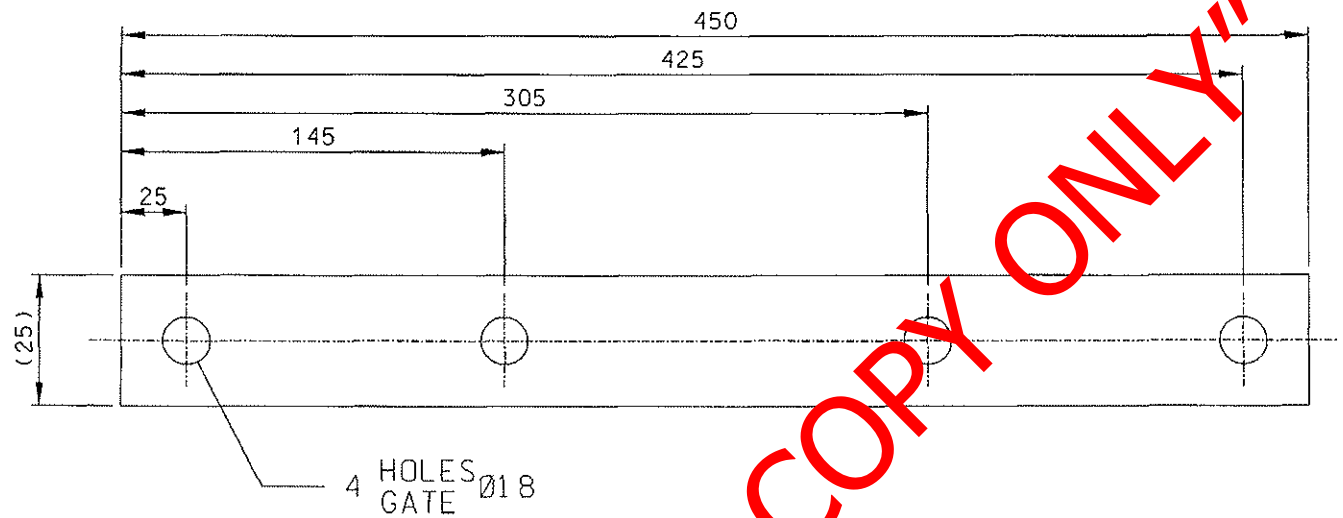
NOTES
1. THESE HOLES ARE FOR ATTACHMENT OF EXTENSION PIECE LADDER. SEE DRG NO CEE-TMFB-11.
2. FOR MASTER RECORD-INDEX SEE DOCUMENT NO. B8B1317.

DIMENSIONS mm
SCALE: 1:10

A1
DRAWING NO CEE -
TMFB-2
SHEET 1 OF 3

DD REF: T88042 GEN TOL: LIN 1 1 ANG 1 1'
DRN: CR MADDISON CKD: J SWIEGERS DATE: 89-05-15
ENG: . CED MYHILL for CHIEF ENG
CENTRAL DRAWING OFFICE SPOURNET

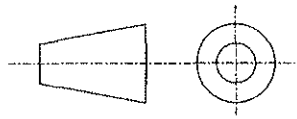
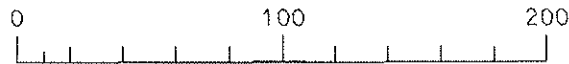
LADDER
SIGNAL GANTRY STRUCTURE



"PREVIEW COPY ONLY"

DIMENSIONS: MILLIMETRES
 AFMETINGS: MILLIMETER

MATERIAL / MATERIAAL	
STEEL, FLAT	50 X 12 THK
STAAL, PLAT	DIK
STORES ITEM	NO 11/12509
MAGASYNITEM-	
SPEC CME-9	SYM 7
SPES	SIM



DRN GET C.R. MADDISON	GEN TOLERANCES: LIN ± 1 ALG TOLERANSIES: ANG/HOEK ±
TRCD NGT CAD	DO REF TK-VERW T88/42
CKD NGS J. SWIEGERS	DATE 89-05-15 for C.E.D. MYHILL ns.
CHIEF ELECTRICAL ENGINEER ELEKTRIESE HOOFINGENIEUR	JOHANNESBURG
SOUTH AFRICAN TRANSPORT SERVICES SUID-AFRIKAANSE VERVOERDIENSTE	

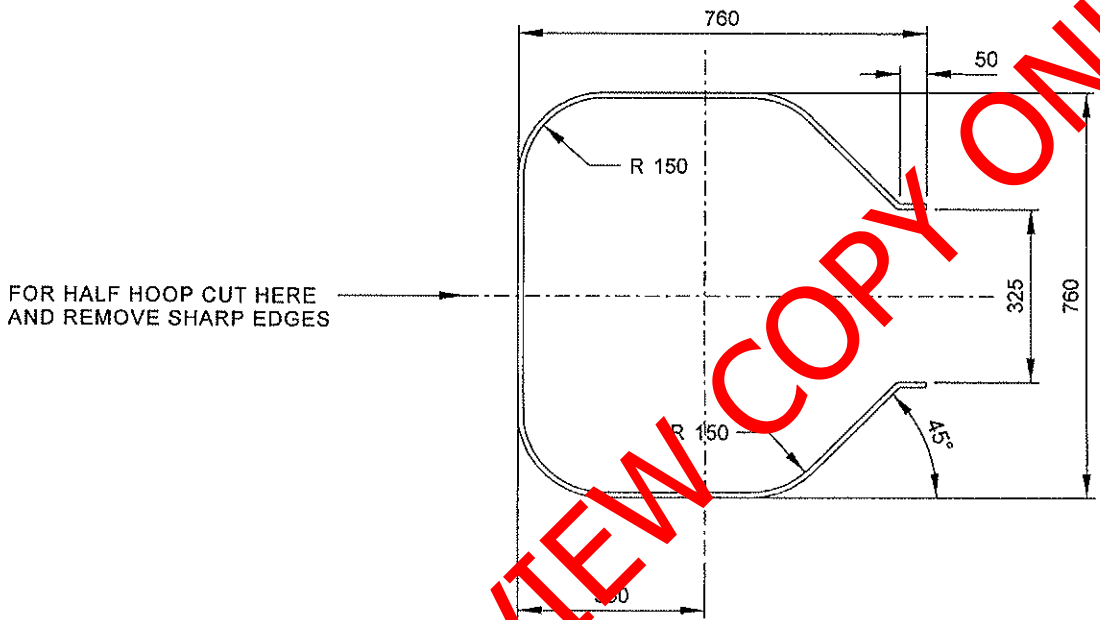
ELECTRIFICATION TYPE / ELEKTRIFIKASIE TIPE : GENERAL / ALGEMEEN

BRACKET, MOUNTING, LADDER
 SIGNAL GANTRY STRUCTURE
 PASSTUK, MONTERING, LEER
 SINJAALSTEIERSTRUKTUUR

AMENDMENTS WYSIGINGS		
NO	NAME NAAM	DATE DATUM
CEE-TMFB-2 SH/VEL 1 CLASS/ASSY DRG KLAS/SAMEST-TEK ELECTRIFICATION TYPES REF DRG NO CEE-MA-26 SHT 7 B ELEKTRIFIKASIE Tipes VERW TEK NO CEE-MA-369 VEL 7 B STORES ITEM MAGASYNITEM- NO DRAWING TEKENING NO CEE- TMFB-2 SHEET 2 OF 3 VEL VAN		

A3

AMENDMENTS		
NO	NAME	DATE
1	JP du Plessis	95-05-24
DRG UPDATED, PROFILE REVISED. DO REF: T95/028		
2	<i>[Signature]</i>	<i>[Signature]</i>
REVISED AND REDRAWN. DO REF: CDP/1772		



"PREVIEW COPY ONLY"

NOTE
FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

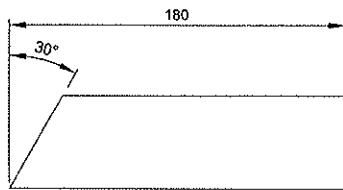
DIMENSIONS: mm SCALE: 1:10	
	A3
DRAWING NO CEE-	
TMFB - 2	
SHEET 3 OF 3	

MATERIAL: STEEL, FLAT, 50 x 10, ITEM NO (11/12384)		
DO REF: T88/042	GEN TOL: LIN± 2	ANG± 0,5°
DRN: CR MADDISON	CKD: J SWIEGERS	DATE: 89-05-15
ENG: -	CED MYHILL for CHIEF ENG	
CENTRAL DRAWING OFFICE		

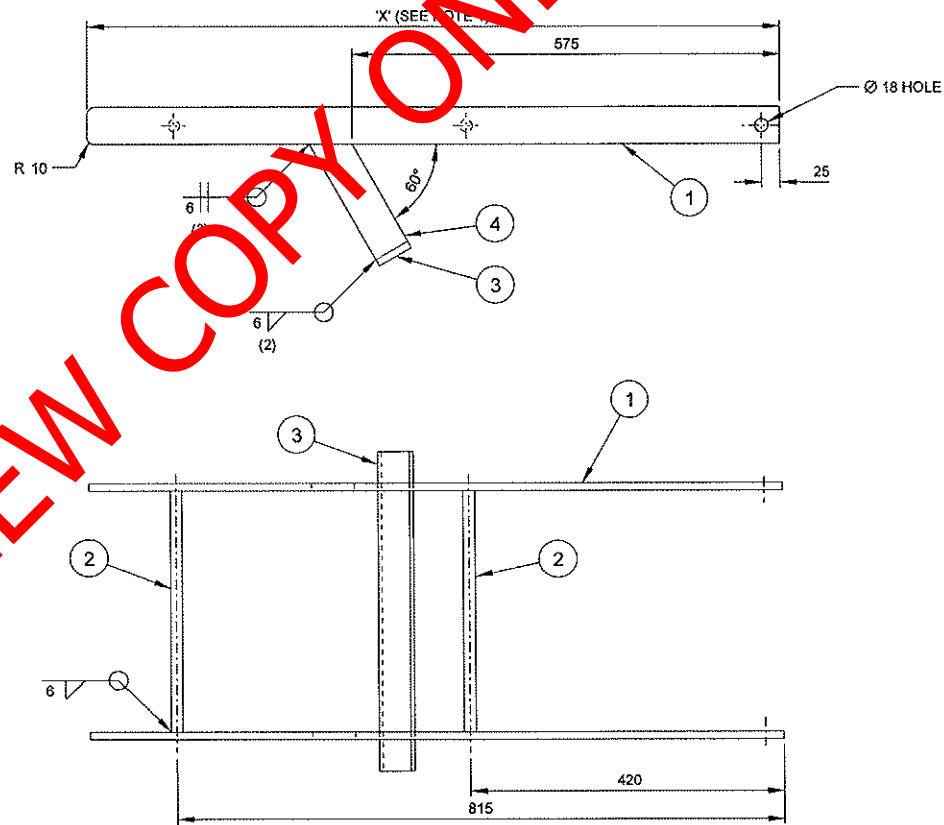
HOOP, LADDER SIGNAL GANTRY STRUCTURE

ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO CEE-	AMENDMENTS		
1	STEEL, FLAT 50 x 10 x 'X' L (NOTE 1)	2			NO	NAME	DATE
2	STEEL, ROUND $\phi 16$ x 325 L	2			1	JP du Plessis	95-05-24
3	STEEL, FLAT 50 x 10 x 430 L	1			REVISED AND REDRAWN DO REF T95/028		
4	STEEL, FLAT 50 x 10 x 180 L	2			REVISED AND REDRAWN DO REF T95/028		

2	4/9/2008	
REVISED AND REDRAWN DO REF: CDO/1772		



ITEM 4
SCALE 1:2



NOTES
 1. DIMENSION TO BE DETERMINED ON SITE.
 2. FOR MASTER RECORD INDEX SEE DOCUMENT NUMBER B1317.

FINISH
 ZINC COAT TO SPEC SANS 121 AFTER WELDING FOR CONDITION IN SITU.

DIMENSIONS: mm
 SCALE: 1:5

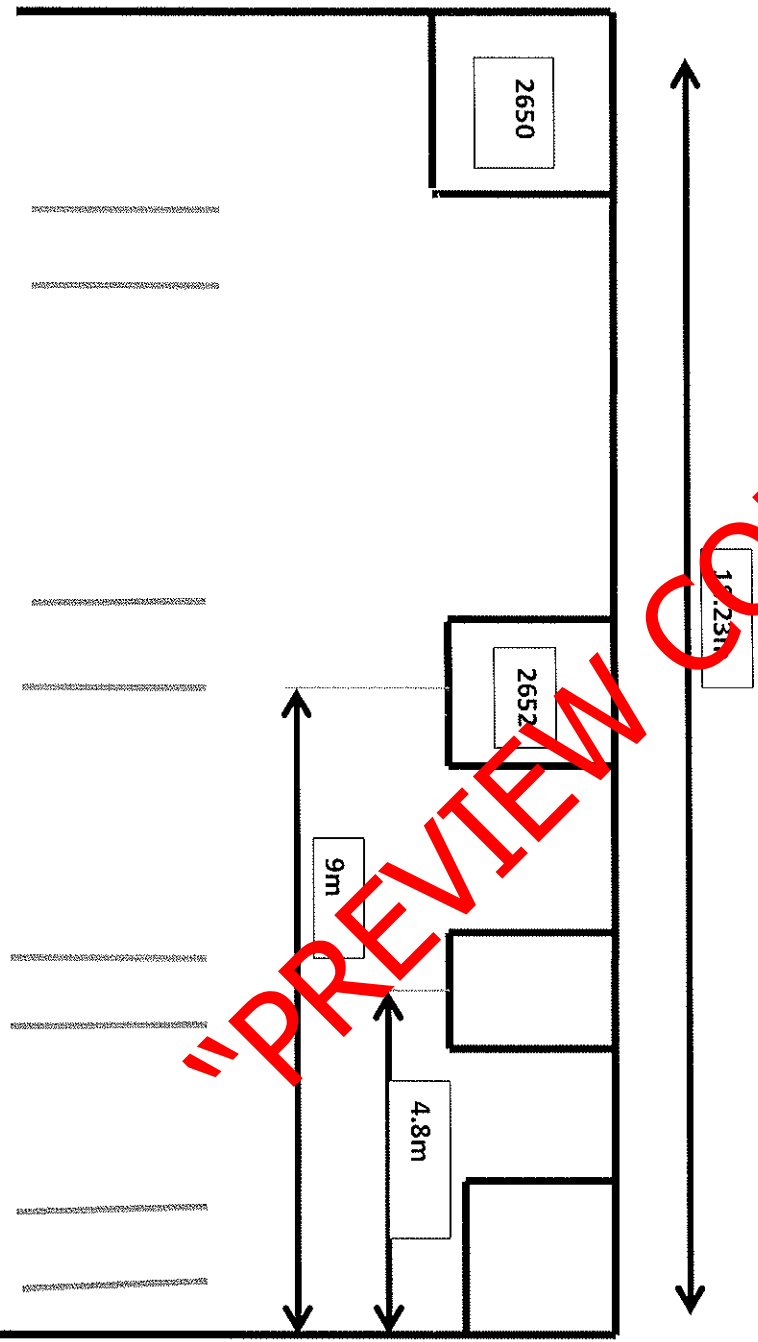
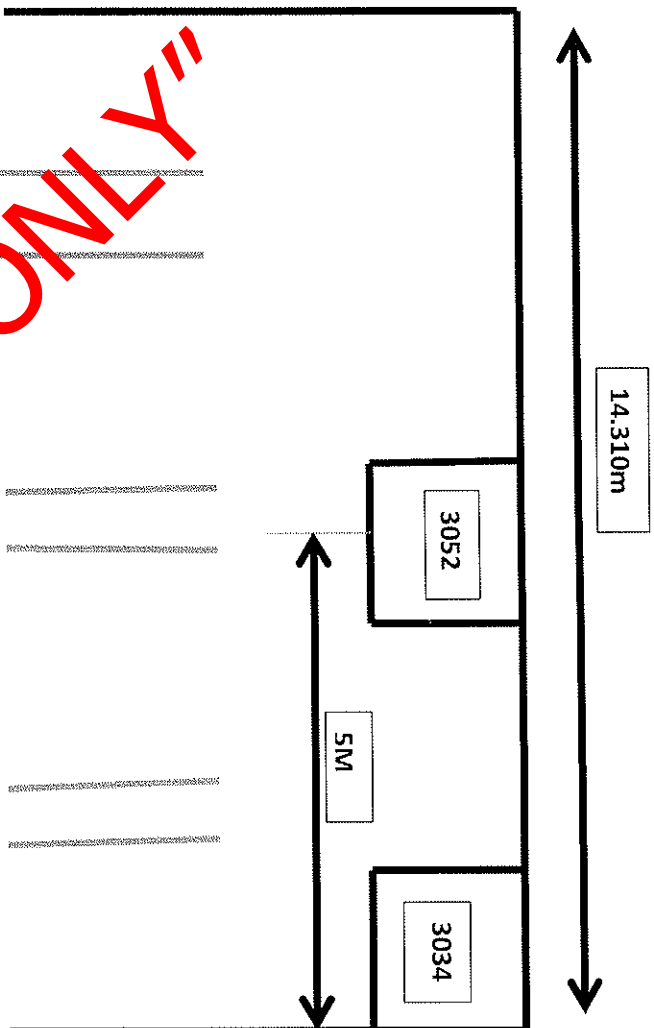


DO REF: T88/042	GEN TOL: LIN \pm 1	ANG \pm 1°
DRN: J v TONDER	CKD: J SWIEGERS	DATE: 89-05-15
ENG: _____	CED MYHILL	for CHIEF ENG
CENTRAL DRAWING OFFICE		

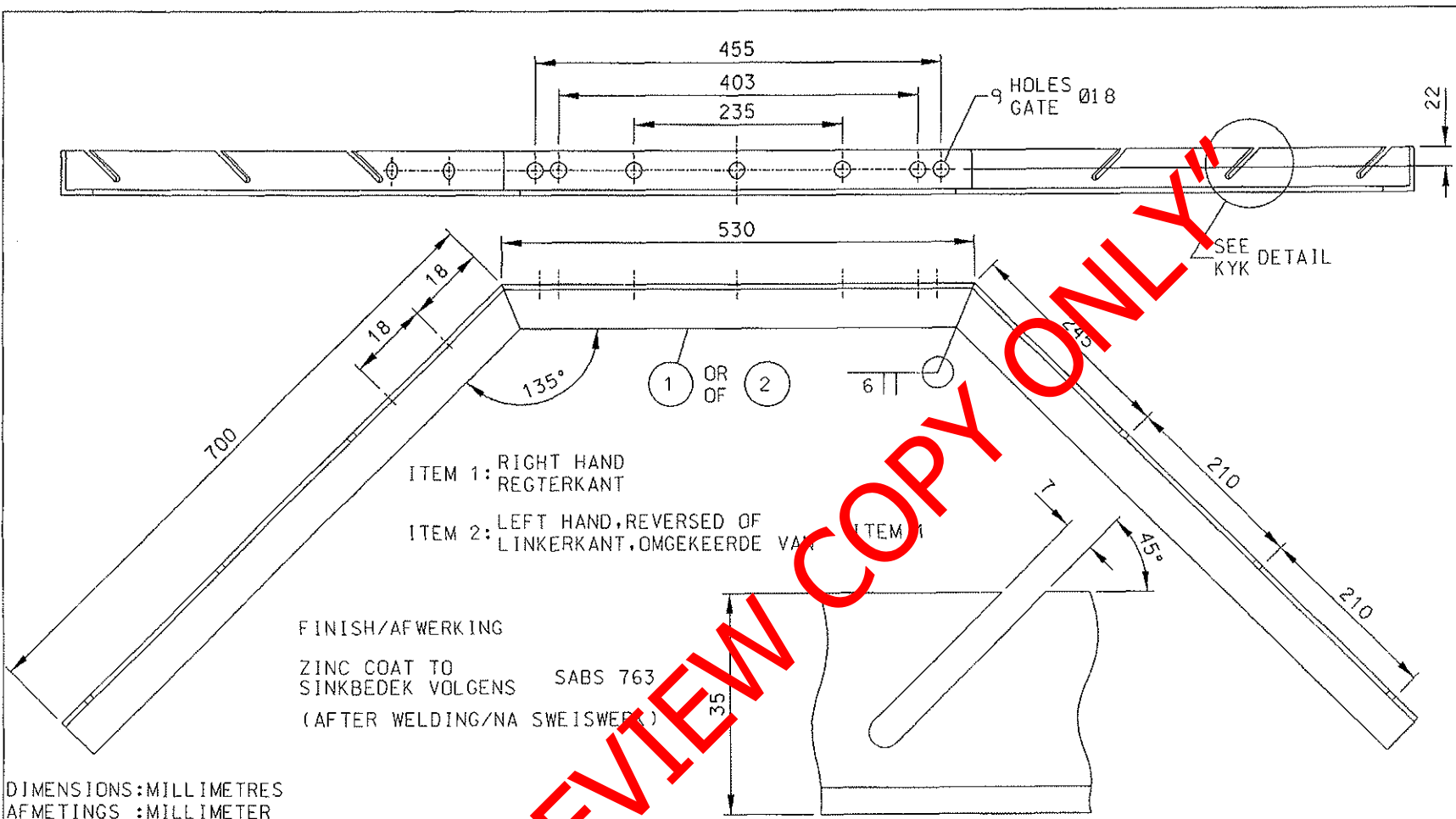
LADDER, EXTENSION PIECE
 SIGNAL GANTRY STRUCTURE

DRAWING NO **CEE-**
TMFB - 11
 SHEET . OF .

GANTRY DETAIL STRUCTURE (FRONT VIEW) CAT WORK IS ON THE BACK



"PREVIEW COPY ONLY"



AMENDMENTS WYSIGINGS		
NO	NAME NAAM	DATE DATUM

DIMENSIONS: MILLIMETRES
AFMETINGS: MILLIMETER

MATERIAL/MATERIAAL
STEEL, ANGLE 50x50x6 THK x1930L
STAAL, HOEK DIK
STORES ITEM NO 11/14481
MAGASYNITEM-
SPEC CME 9 SYM 8
SPES SIM

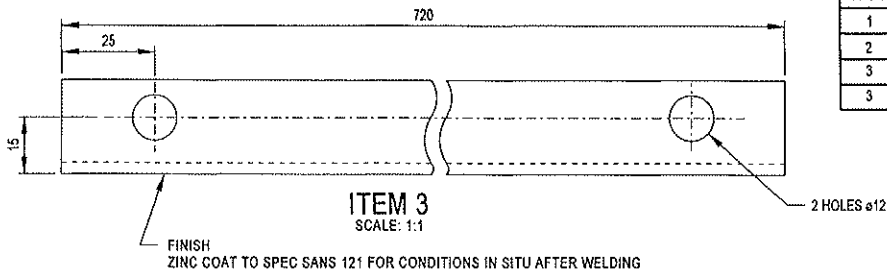
FINISH/AFWERKING
ZINC COAT TO SINKBEDEK VOLGENS SABS 763
(AFTER WELDING/NA SWEISWEP)

"PREVIEW COPY ONLY"

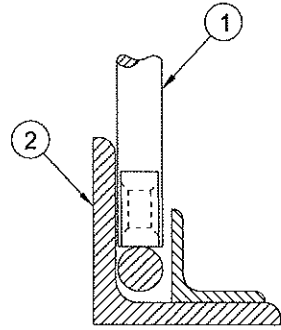
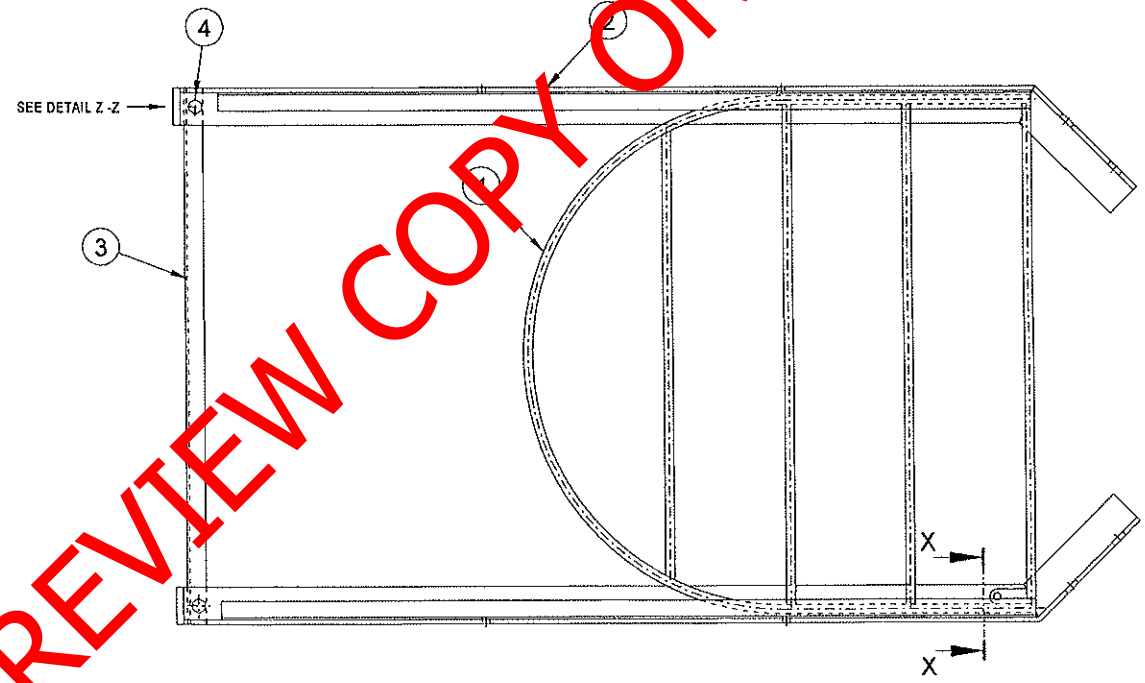
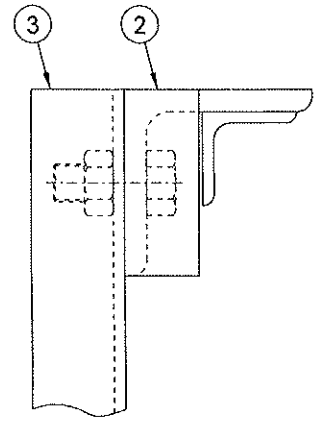
DRN GET J. VAN TONDER	GEN TOLERANCES: LIN ± 1 ALG TOLERANSIES: ANG/HOEK ± 1
TRCD NGT CAD/JVT	DO REF TK-VERW T1/83/78
CKD NGS J. SWIEGERS	DATE DATUM 89-05-15
CHIEF ELECTRICAL ENGINEER ELEKTRIESE HOOFINGENIEUR	for C.E.D. MYHILL ns. JOHANNESBURG
SOUTH AFRICAN TRANSPORT SERVICES SUID-AFRIKAANSE VERVOERDIENSTE	

ELECTRIFICATION TYPES / ELEKTRIFIKASIE Tipes: GENERAL/ALGEMEEN
ARM, SUPPORT
LOCKABLE ANTI-CLIMBING DEVICE, SIGNAL GANT
ARM, STEUN
SLUITBARE KLIMVERSERRING, SINJAALSTEIER

CEE-TMFB-3	SHT VEL 1
ASSY DRG SAMEST-TEK	
ELECTRIFICATION TYPES REFERENCE DRG NO CEE-MA-26 SH 7B ELEKTRIFIKASIE Tipes VERWYSINGSTEK-NO CEE-MA-369 VEL 7B	
STORES ITEM NO MAGASYNITEM	
DRAWING NO CEE- TEKENING TMFB-3	
SHEET VEL 2	OF VAN 5



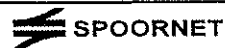
ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRAWING NO CEE-	AMENDMENTS		
1	GATE, SLIDING	1	-	TMFB-3 SHT 4	NO	NAME	DATE
2	GUIDE, SLIDING GATE (LH & RH)	2	-	TMFB-3 SHT 5	1	JP du Plessis	95-05-24
3	STEEL, ANGLE 25 x 25 x 3 x 720 44H4432-	1	-	-	REVISED AND REDRAWN. ITEM 1 PROFILE REVISED. DO REF: T95/028		
3	BOLT AND NUT, STEEL, GALV. M10 x 25L	2	-11/43618-	-	REVISED AND REDRAWN. DO REF: CDD1772		



"PREVIEW COPY ONLY"

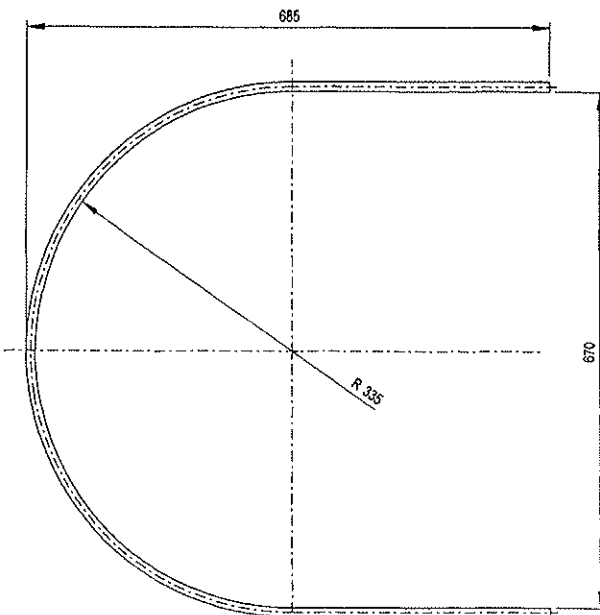
DIMENSIONS: mm		A2
SCALE: 1:5		
DRAWING NO	CEE -	
	TMFB - 3	
SHEET 3 OF 6		

DO REF: T88/042	GEN TOL: LIN ± 1 ANG ± 1'	
DRN: C MADDISON	CKD: J SWEGERS	DATE: 89-05-15
ENG: -	GED MYHILL	for CHIEF ENG
CENTRAL DRAWING OFFICE		

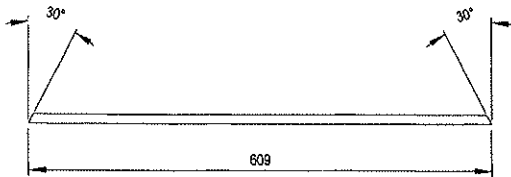


GATE, SLIDING ASSEMBLY
LOCKABLE ANTI-CLIMBING DEVICE, SIGNAL GANTRY

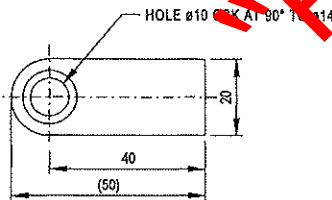
ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRAWING NO CEE-	AMENDMENTS		
1	STEEL, ROUND $\phi 10 \times 1750L$	1	-	-	NO	NAME	DATE
2	STEEL, ROUND $\phi 10 \times 670L$	3	-	-	1	JP du Plessis	95-05-24
3	STEEL, ROUND $\phi 10 \times 609L$	1	-	-	REVISED AND REDRAWN. ITEM 1, 2 & 3 WERE $\phi 12$. DO REF: T95/028		
4	STEEL, FLAT $50 \times 10 \times 20L$	1	-	-			



ITEM 1

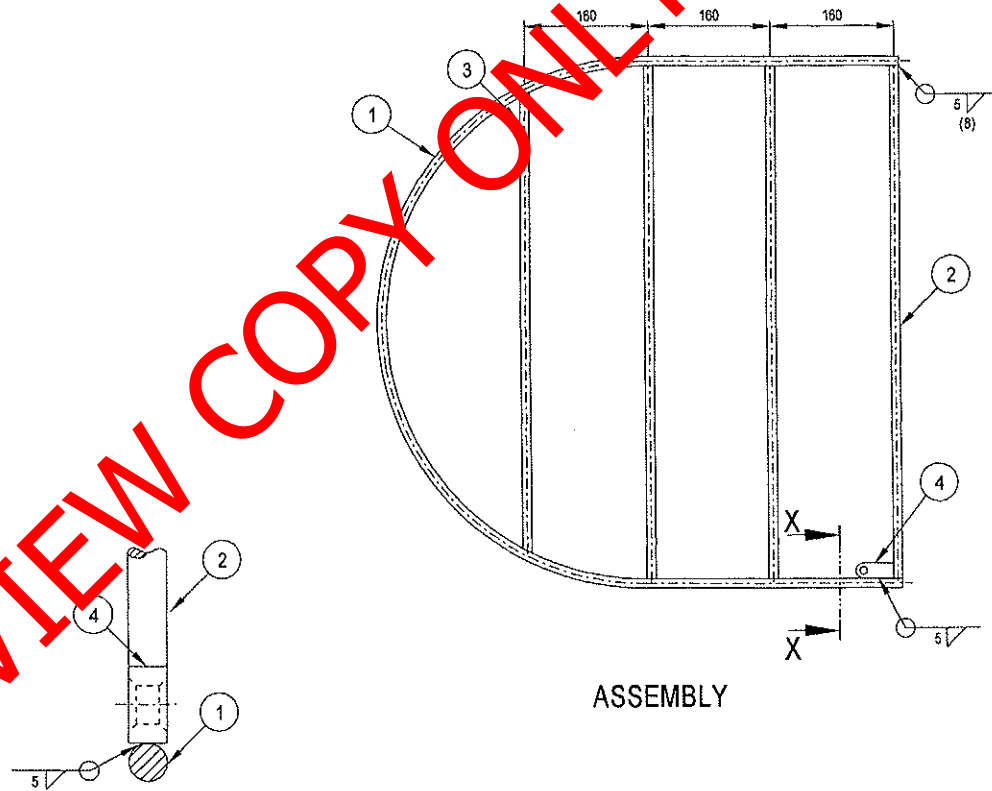


ITEM 3



ITEM 4

SCALE: 1:1



ASSEMBLY

SECTION X - X

SCALE: 1:1

FINISH
ZINC COAT TO SPEC SANS 121 FOR CONDITIONS IN SITU AFTER WELDING

NOTE
FOR MASTER RECORD INDEX SEE DOCUMENT NO. BBB1317.

2 2/3/2005
REVISED AND REDRAWN.
DO REF: CDO/1772

"PREVIEW COPY ONLY"

DIMENSIONS: mm
SCALE: 1:5

A2

DRAWING NO CEE -

TMFB - 3

SHEET 4 OF 5

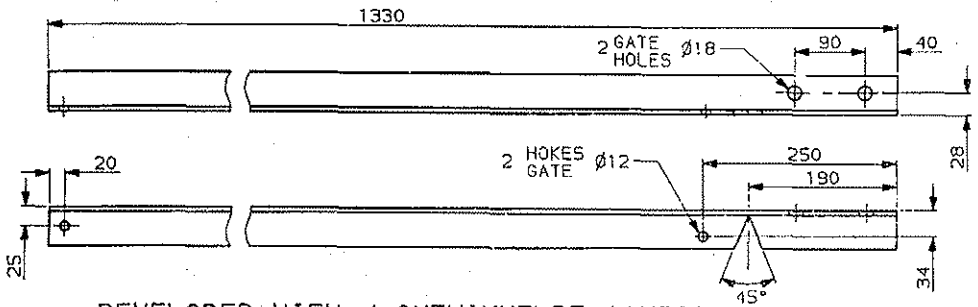
DO REF: T88/042	GEN TOL: LIN \pm 1	ANG \pm 1'
DRN: C HADDISON	CKD: J SWIEGERS	DATE: 89-05-15
ENG: -	CED MYHILL for CHIEF ENG	

CENTRAL DRAWING OFFICE

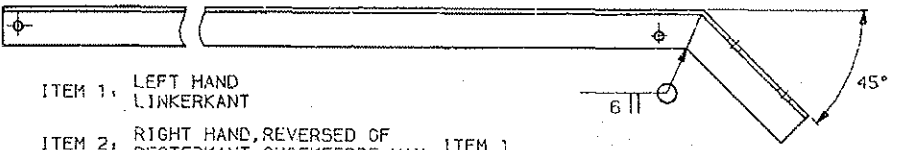


GATE, SLIDING
LOCKABLE ANTI-CLIMBING DEVICE

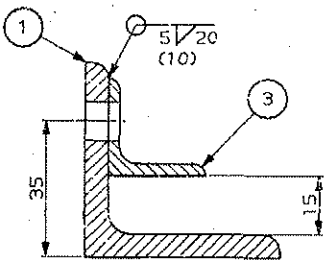
ITEM	DESCRIPTION/BESKRYWING	QTY HVLD	STORES ITEM MAGASYNITEM-NO	DRG TEK	NO CEE-	AMENDMENTS WYSIGINGS
						NO NAME DATE
1	STEEL, ANGLE 50x50x6 THK x1330L 11/14481 STAAL HOEK 50x50x6 THK x1330L 11/14481	1				
2	STEEL, ANGLE 50x50x6 THK x1330L 11/14481 STAAL HOEK 50x50x6 THK x1330L 11/14481	1				
3	STEEL, ANGLE 25x25x3 THK x1085L 11/14432 STAAL HOEK 25x25x3 THK x1085L 11/14432	1				
4	STEEL, FLAT 50x10 THK x20L 11/12381 STAAL PLAT 50x10 THK x20L 11/12381	1				



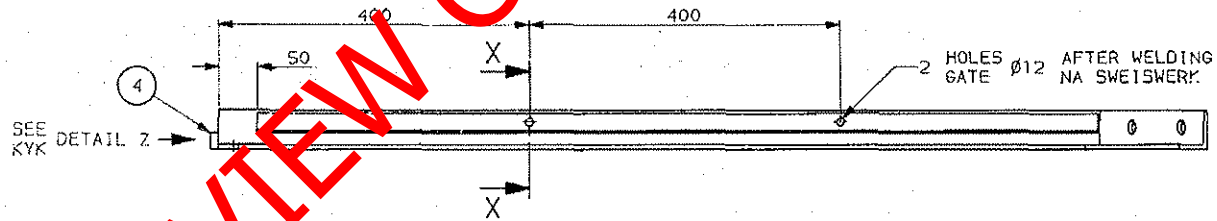
DEVELOPED VIEW / ONTWIKKELDE AANSIG



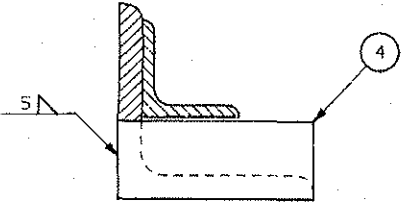
- ITEM 1: LEFT HAND / LINKERKANT
- ITEM 2: RIGHT HAND, REVERSED OF REGTERKANT, OMGEKEERDE VAN ITEM 1



SECTION DEURSNEE X-X



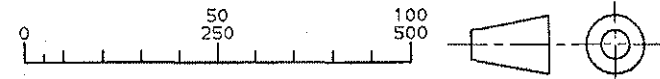
ASSEMBLY / SAMESTEL



DETAIL Z

"PREVIEW COPY ONLY"

FINISHWERKING
ZINC COAT TO SABS 763 AFTER WELDING
SILIKONBEDEK VOLGENS SABS 763 NA SWEISWERK



DIMENSIONS: MILLIMETRES
AFMETINGS: MILLIMETER

DRN GET C. MADDISON	GEN TOLERANCES: LINE 1 ALG TOLERANSIES: LIG/1	ELECTRIFICATION TYPES / ELEKTRIFIKASIE TYPES: GENERAL/ALGEMEEN
TRCD NGT CAD	DO REF TK-VERW T88/42	ENG IR
CKD NGS J. SWIEGERS	DATE DATUM 89-05-15	C.E.D.M. L.L. for NS.
CHIEF ELECTRICAL ENGINEER ELEKTRIESE HOOFINGENIEUR		JOHANNESBURG
SOUTH AFRICAN TRANSPORT SERVICES SUID-AFRIKAANSE VERVOERDIENSTE		

GUIDE, SLIDING GATE
LOCKABLE ANTI-CLIMBING DEVICE
GIDS, SKUIFHEK-
SLUITBARE KLIMVERSERRING

CEE-TMFB-3 SHT 1
VEL

ASSY DRG
SAMEST-TEK

ELECTRIFICATION TYPES
REFERENCE DRG NO
CEE-MA-26 SH 7B
ELEKTRIFIKASIE TYPES
VERWYSINGSTEK-NO
CEE-MA-369 VEL 7B

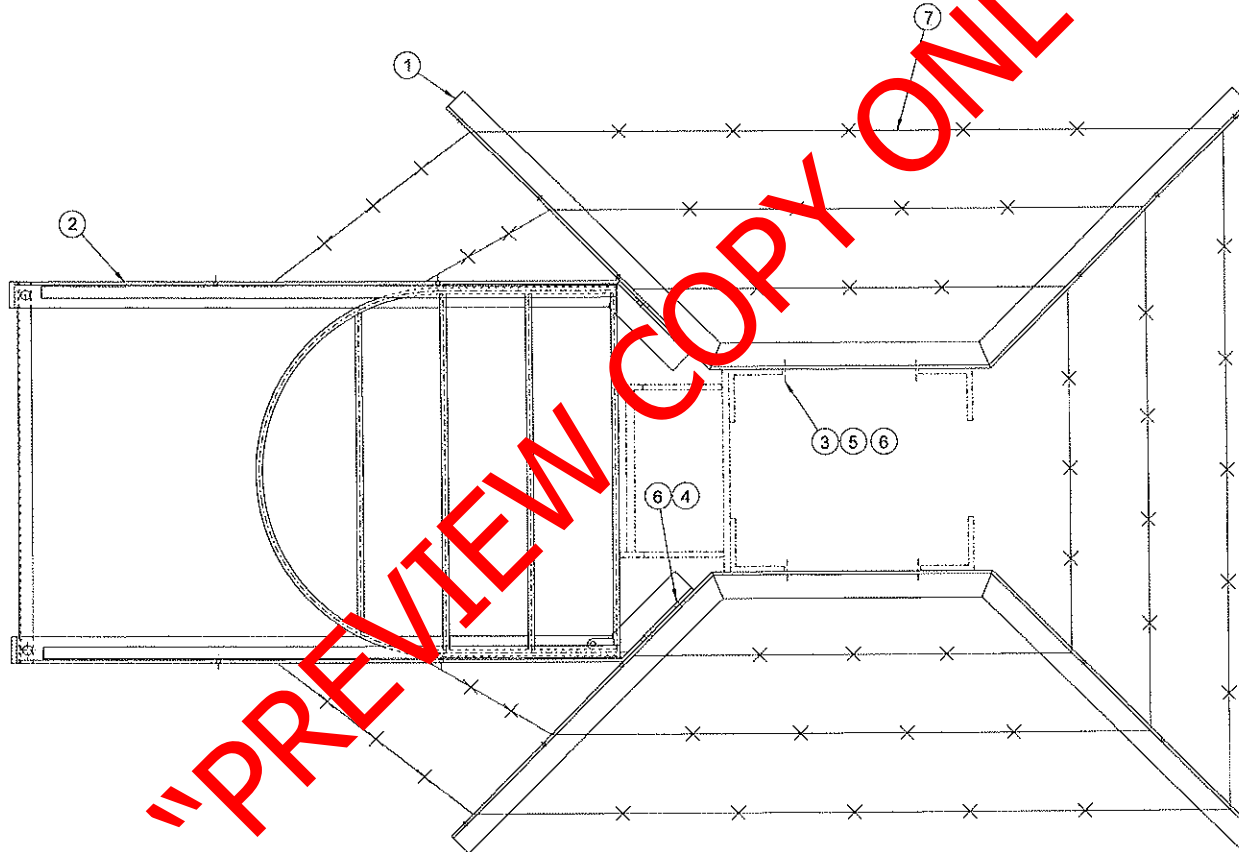
STORES ITEM
MAGASYNITEM NO

DRAWING NO
TEKENING NO CEE-
TMFB-3

SHEET 5 OF 5
VEL VAN 5

ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRAWING NO. CEE-	AMENDMENTS	
1	ARM, SUPPORT	2	-	TMFB-3 SHT 2	NO	NAME DATE
2	GATE SLIDING ASSEMBLY	1	-	TMFB-3 SHT 3	1	JP du Preez 93-05-24
3	BOLT ADAPTOR 'LINDAPTOR' TYPE A, M16 LONG TAIL, OR EQUAL (GALV)	4	-	-		REVISED AND REDRAWN, ITEM 2
4	BOLT AND NUT, STEEL, GALV, M16 x 20L	4	-	-		VIEW CHANGED, DO REF: T95028
5	BOLT AND NUT, STEEL, GALV, M16 x 40L	4	-122024-	-		DO REF: T95028
6	WASHER, STEEL, FLAT, GALV, M16	8	-113669-	-		2 4/2001
7	BARBED WIRE, GALVANISED	*	-	-		REVISED AND REDRAWN, DO REF: C001772

* AS REQUIRED



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NOTES
 1. WHEN ERECTING ITEM 2 MAKE SURE GATE CAN SLIDE FREELY BEFORE TIGHTENING BOLTS.
 2. FOR MASTER RECORD INDEX SEE DOCUMENT NO. B051317.

DIMENSIONS: mm
 SCALE: 1:5

A1

DO REF: T88042	GEN TOL: L/R ± 1 ANG ± 5°
DRN: CR MADDISON	CKD: J SWIEGERS DATE: 88-05-15
ENG: CED MYHILL	for CHIEF ENG
CENTRAL DRAWING OFFICE	

ANTI-CLIMBING DEVICE, LOCKABLE
 SIGNAL GANTRY STRUCTURE

DRAWING NO **CEE -**
TMFB - 3
 SHEET 1 OF 5