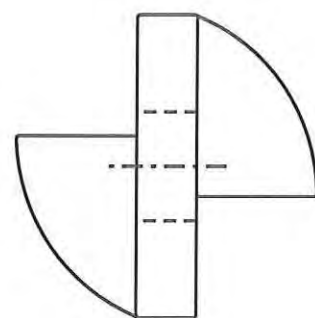


1 2 3 4
H 5 0 0 1 1 0 - 3 - 1 3 3 - E - D - E - 0 1 0 7 - 0 1 - 0 - JV
DRAWING NUMBER

DO NOT SCALE - IF IN DOUBT, ASK

NOTES

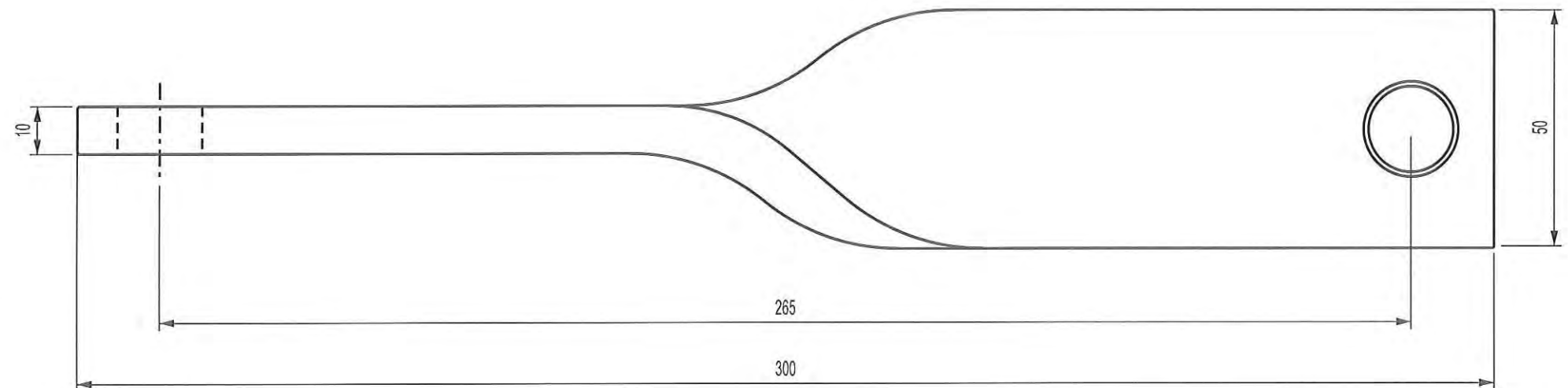
1) ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED.



VIEW ON A-A

A

A



MATERIAL	10mm THICK FLAT (GRADE 43)
SPEC	BS EN 10025:S275
FINISH	GALVANISED
SPEC	SANS121

NOTES:

0	FOR CONSTRUCTION	R.L.	D.W.	A.D.W.	21/08/09
B	FOR REVIEW	R.L.	D.W.	A.D.W.	05/01/09
A	FOR REVIEW	R.L.	D.W.	A.D.W.	17/07/08

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
-----	-------------	----	-------	-------	------

REVISIONS / ISSUE AUTHORIZATION

This Document including all design and information therein is Confidential Intellectual Property of Transnet and/or HMG JV. Copyright and all other rights are reserved by Transnet and/or HMG JV. This Document may only be used for its intended purpose.

EPCH CONSULTANT: HMGJV

TITLE	NAME	SIGNATURE	DATE
LEAD DES. ENG.	J. STRYDOM		21 08 09
ENG. COORD.	N. WELCH		21 08 09
ENG. MANAGER	T. SOUTHWOOD		21 08 09
AREA MANAGER			
PROJECT MGR.			

CLIENT APPROVAL: TRANSNET FREIGHT RAIL

TITLE	NAME	SIGNATURE	DATE
SEN. ENG. (ELEC & SIG)	T. EMERAN		21 08 09
SEN. TECHNOLOGIST (ELEC)	M. MLONZI		21 08 09

ORIGINATOR: TP DESIGN

TITLE	NAME	SIGNATURE	DATE
DRAWN	R. LEATHER		21 08 09
CHECKED	D. WILLCOCK		21 08 09
ENG. COORD.			
DISCIP. ENG.			
ENG. MANAGER			
AREA MANAGER			
SIGNAL ENG.			

PR. ENG. / PR. TECH.

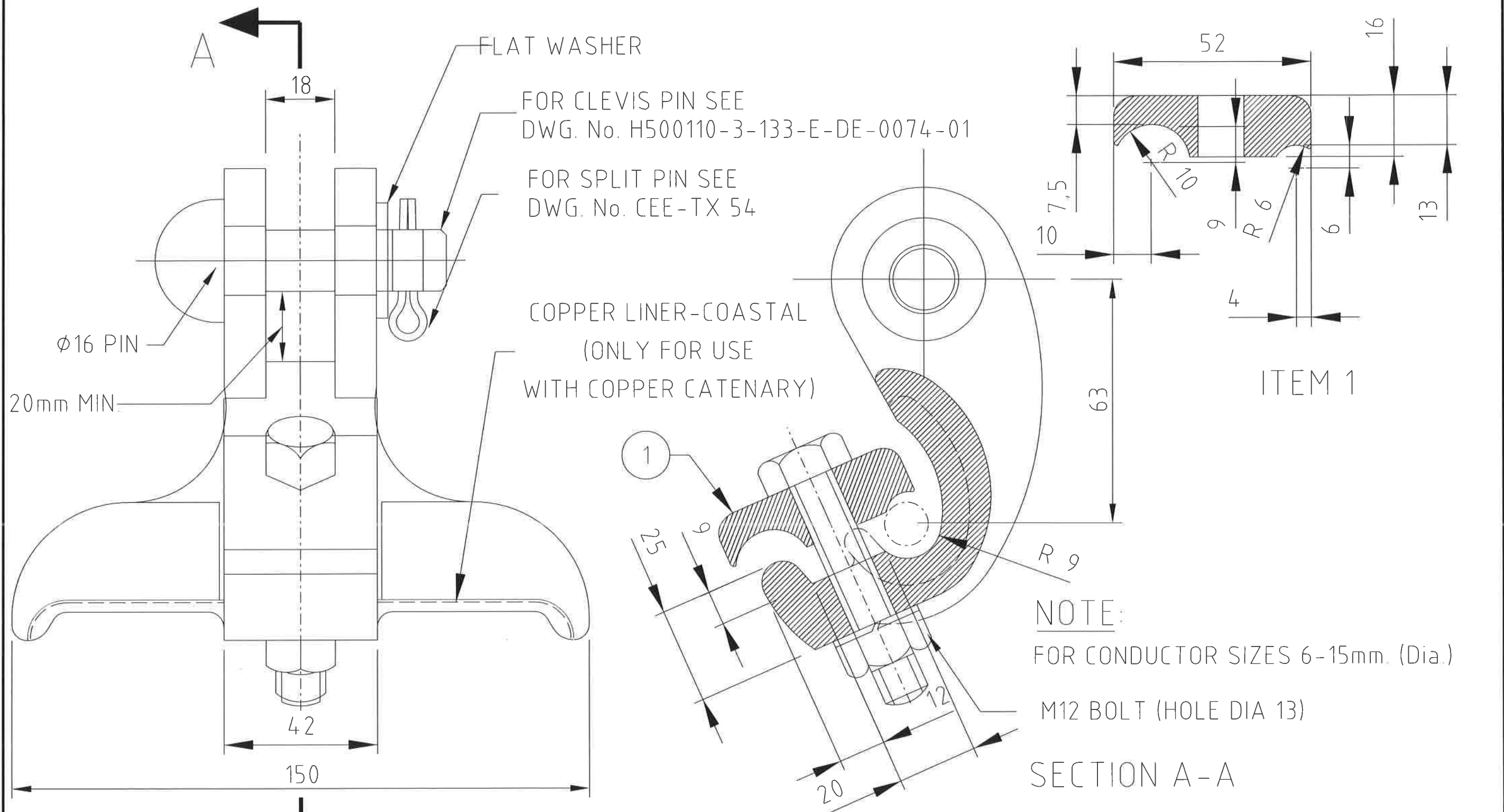
NAME	ANDRIES DE WET	DATE
SIGNATURE		21 08 09
REG. NUMBER	9070204	
SCALE	NTS	

OR AS NOTED

PROJECT NUMBER	DV	FBS	DIS	TYPE	DRG. NO.	SHT.	REV.	ID
H 5 0 0 1 1 0 - 3 - 1 3 3 - E - D - E - 0 1 0 7 - 0 1 - 0 - JV								

SIZE: A3 DATE: 2006/12/05

FILES
DATES
SUSSENAES



19/64 COPYRIGHT PROTECTED. PREPARED BY CENTRAL DRAWING OFFICE

DIMENSIONS : mm
TOLERANCE : LIN³⁵/₆₄
MATERIAL : XXX
VERSION INFO:XXX

SCALE : 1:1
XX ITEM NO: ANG³⁵/₆₄

DO REF BLE0021
CP REF : JJJJ/XXX
DRAWN : A. KLOPPER
DESIGNED : A. KLOPPER
CHECKED : T. GOVENDER

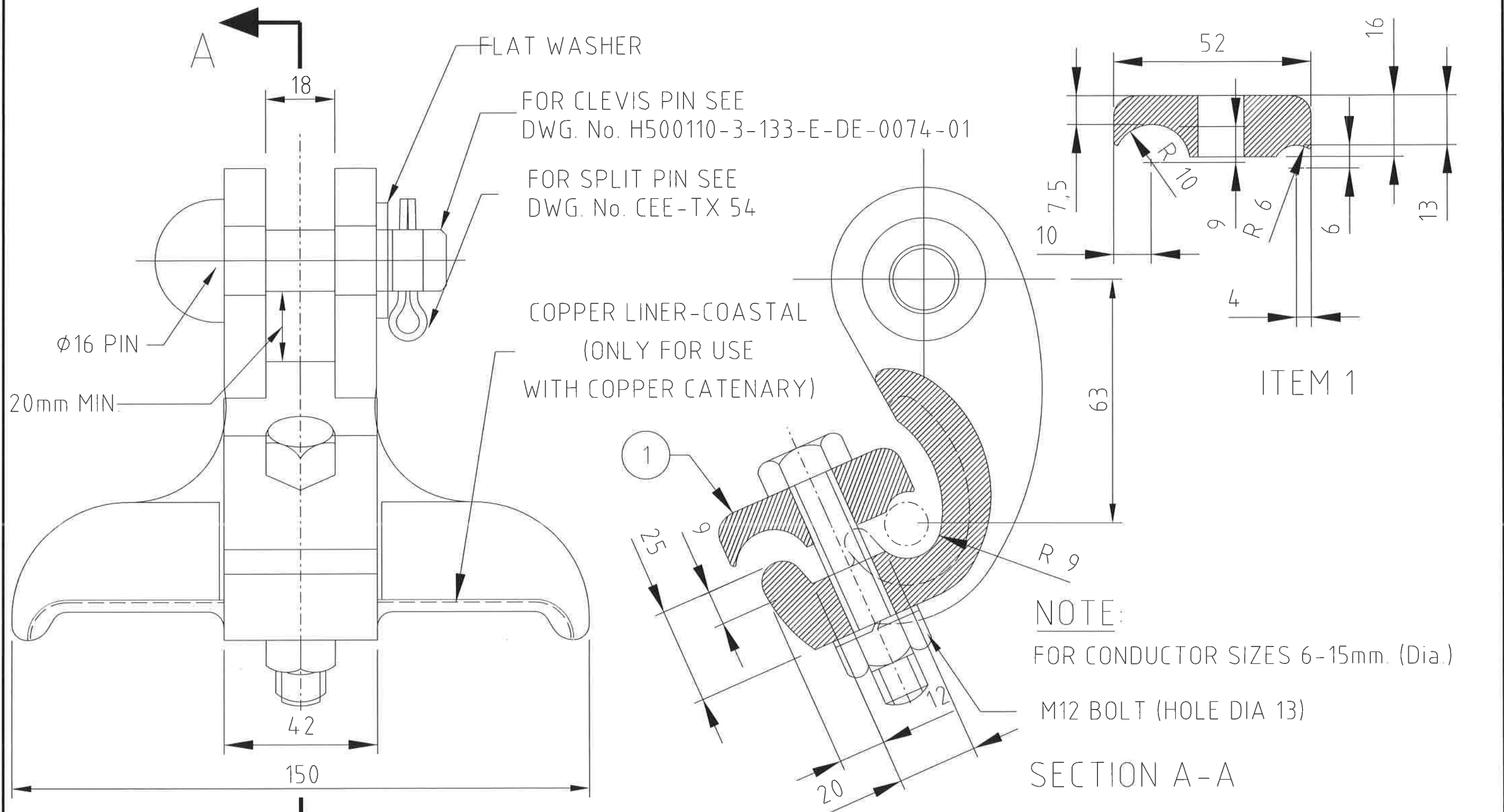
DATE: 2016-8-29

APPROVED
AUTHORISED

3	XXX	X	XXX	XXX
2	XXX	X	XXX	XXX
1	XXX	X	XXX	XXX
ITEM NO	DESCRIPTION	QTY	STORES ITEM NO	DRAWING NO

IRON ORE LINE
Ohte - CATENARY SUSPENSION CLAMP

TRANSNET
freight rail
BBG4976
VERSION 1



19/64 COPYRIGHT PROTECTED. PREPARED BY CENTRAL DRAWING OFFICE

DIMENSIONS : mm
TOLERANCE : LIN³⁵/₆₄
MATERIAL : XXX
VERSION INFO:XXX

SCALE : 1:1
XX ITEM NO: ANG³⁵/₆₄

DO REF BLE0021
CP REF : JJJJ/XXX
DRAWN : A. KLOPPER
DESIGNED : A. KLOPPER
CHECKED : T. GOVENDER

DATE: 2016-8-29

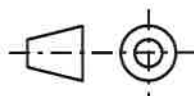
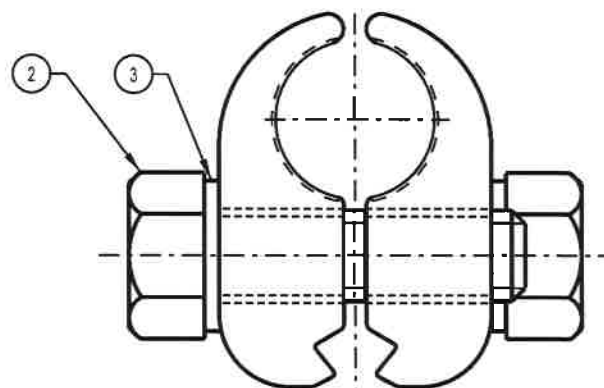
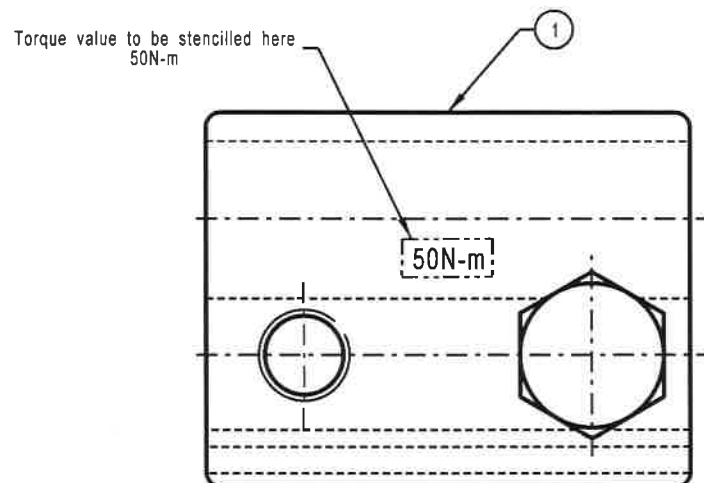
APPROVED
AUTHORISED

3	XXX	X	XXX	XXX
2	XXX	X	XXX	XXX
1	XXX	X	XXX	XXX
ITEM NO	DESCRIPTION	QTY	STORES ITEM NO	DRAWING NO

IRON ORE LINE
Ohte - CATENARY SUSPENSION CLAMP

TRANSNET
freight rail
BBG4976
VERSION 1

STORES ITEM NO	CONDUCTOR SIZES
54/014849	50mm ² / 63mm ² / 70mm ²
54/014850	80mm ² / 100mm ²
54/014862	160mm ²
54/014874	250mm ²



3	Lock washer, Stainless steel to Spec. AISI GR 304, M12	2	-	-
2	Machine screw, Stainless steel to Spec. AISI GR 304, Hex. head M12 x 35 Long	2	-	-
1	Clamp, Electrical, Feeder half clamp	2	-	TNB-0080
ITEM NO	DESCRIPTION	QTY	STORES ITEM NO	DRAWING NO

© COPYRIGHT PROTECTED. PREPARED BY CENTRAL DRAWING OFFICE

DIMENSIONS : mm SCALE : 1 : 1
TOLERANCE : LIN ± ANG ± ITEM NO : -
MATERIAL : -
VERSION INFO : Material changed on Item 2 & 3
Torque value added

+ 09/03/2015

[Signature]

APPROVED

+ 9-3-2015

[Signature]

AUTHORISED

ELECTRICAL CLAMP ASSEMBLY
FEEDER CLAMP,
107mm² Cu. CONTACT WIRE

TRANSNET
freight rail

CEE-TNB-0081

AMENDMENT 4

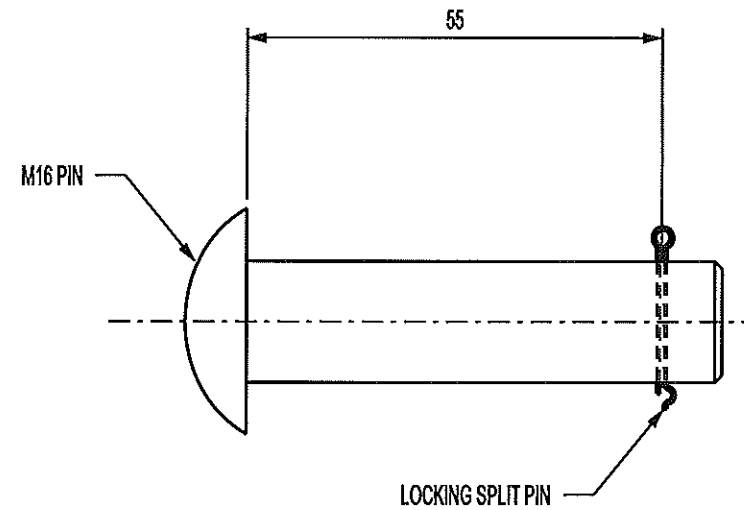
A4

H 5 0 0 1 1 0 - 3 - 1 3 3 - E - D E - 0 0 7 4 - 0 1 - 1 - J V
DRAWING NUMBER

DO NOT SCALE - IF IN DOUBT, ASK

NOTES

1) ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED.



MASTER

2008 -04- 01

TRANSNET
TRANSNET PROJECTS

MATERIAL	STAINLESS STEEL GRADE 316
FINISH	NATURAL

NOTES:

1	FOR CONSTRUCTION	R.P.	D.W.	A.D.W.	27/03/08
A	FOR CLIENT APPROVAL	R.P.	D.W.	A.D.W.	13/03/08
NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REVISIONS / ISSUE AUTHORIZATION

This Document including all design and information therein is Confidential Intellectual Property of Transnet and/or HMG JV. Copyright and all other rights are reserved by Transnet and/or HMG JV. This Document may only be used for its intended purpose.

EPCH CONSULTANT: HMGJV

TITLE	NAME	SIGNATURE	DATE
LEAD DES. ENG.	J. STRYDOM		27 03 08
ENG. COORD.	N. WELCH		27 03 08
ENG. MANAGER	T. SOUTHWOOD		27 03 08
AREA MANAGER	T. KGOBE		27 03 08
PROJECT MGR.			

CLIENT APPROVAL: TRANSNET FREIGHT RAIL

TITLE	NAME	SIGNATURE	DATE
SEN. ENG. (ELEC & SIG)	T. EMERAN		27 03 08
SEN. TECHNOLOGIST (ELEC)	M. MLONZI		27 03 08

ORIGINATOR: TP DESIGN

TITLE	NAME	SIGNATURE	DATE
DRAWN	R. PENFOLD		27 03 08
CHECKED	D. WILLCOCK		27 03 08
ENG. COORD.			
DISCIP. ENG.			
ENG. MANAGER			
AREA MANAGER			
SIGNAL ENG.			

PR. ENG. / PR. TECH.

NAME	DATE
ANDRIES DE WET	27 03 08

REG. NUMBER 9070204

SCALE: NTS

OR AS NOTED A3

TRANSNET
TRANSNET PROJECTS

ORE LINE RAIL EXPANSION PROJECT PHASE 1A

SISHEN SALDANHA RAILWAY LINE (TFR)
OHE CATENARY SYSTEM
M16 CLEVIS PIN
DRAWING DETAIL

PROJECT NUMBER	DV	FBS	DIS	TYPE	DRG. NO.	SHT.	REV.	ID
H 5 0 0 1 1 0 - 3 - 1 3 3 - E - D E - 0 0 7 4 - 0 1 - 1 - J V								

SIZE: A3 DATE: 2006/12/05

ITEM	DESCRIPTION	QTY	STORES ITEM NO	DRG NO CEE-	AMENDMENTS		
1	Clamp, Electrical, 107mm ² Contact Wire	1	_____	TND-0014	NO	NAME	DATE
2	Screw, Hex Head, M8 x 25L	1	_____	_____	2	<i>[Signature]</i>	13/2/07
3	Washer, Locking, Internal tooth, Phosphor bronze, M8 or Stainless Steel to Spec AISI GR 304	1	_____	_____	REDRAWN AND REVISED. ITEM 2 AND 3 WAS M10. ECP REF: BBC5700 DO REF: CDO/5261		
					STORES ITEM NO 54/006787		
DIMENSIONS:mm SCALE: 1:1							
			A4				
DRAWING NO CEE- TND-0013							
SHEET - OF -							

© COPYRIGHT PROTECTED. PREPARED BY CENTRAL DRAWING OFFICE.

DO REF: T80/65	GEN TOL: LIN ± - ANG ± -	
DRN: P. MARTIN	CKD: R. McMILLAN	DATE: 80-04-30
ENG: -	G.A. WILLIAMS for CHIEF ENG	

ELECTRICAL CLAMP ASSEMBLY

CONTACT WIRE CLIP FOR 107mm² CONTACT WIRE

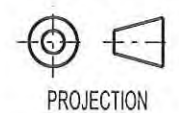
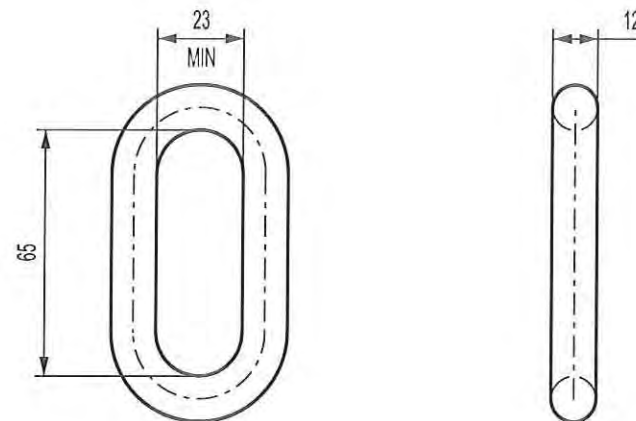
CENTRAL DRAWING OFFICE

1
H 5 0 0 1 1 0 - 3 - 3 - 1 3 - 3 - 1 0 - 0 8 3 - 0 1 - 0 - JV
DRAWING NUMBER

2
DO NOT SCALE - IF IN DOUBT, ASK

3
NOTES

4
1) ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED.



MATERIAL	STEEL (GRADE 43)
SPEC	BS EN 10025:S275
FINISH	GALVANISED
SPEC	SANS 121

NOTES:

0	FOR CONSTRUCTION	R.L	D.W	A.D.W	21/08/09
B	FOR REVIEW	R.L	D.W	A.D.W	05/01/09
A	FOR REVIEW	R.L	D.W	A.D.W	17/07/08

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
REVISIONS / ISSUE AUTHORIZATION					
This Document including all design and information therein is Confidential Intellectual Property of Transnet and/or HMG JV. Copyright and all other rights are reserved by Transnet and/or HMG JV. This Document may only be used for its intended purpose.					

EPCH CONSULTANT: HMGJV			
TITLE	NAME	SIGNATURE	DATE
LEAD DES. ENG.	J. STRYDOM		21 08 09
ENG. COORD.	N. WELCH		21 08 09
ENG. MANAGER	T. SOUTHWOOD		21 08 09
AREA MANAGER			
PROJECT MGR.			
CLIENT APPROVAL: TRANSNET FREIGHT RAIL			
TITLE	NAME	SIGNATURE	DATE
SEN. ENG. (ELEC & SIG)	T. EMERAN		21 08 09
SEN. TECHNOLOGIST (ELEC)	M. MLONZI		21 08 09

ORIGINATOR: TP DESIGN			
TITLE	NAME	SIGNATURE	DATE
DRAWN	R. LEATHER		21 08 09
CHECKED	D. WILLCOCK		21 08 09
ENG. COORD.			
DISCIP. ENG.			
ENG. MANAGER			
AREA MANAGER			
SIGNAL ENG.			
PR. ENG. / PR. TECH.			
NAME	ANDRIES DE WET	DATE	
SIGNATURE		21 08 09	
REG. NUMBER	9070204		
SCALE	NTS		

TRANSNET



ORE LINE RAIL EXPANSION PROJECT PHASE 1A

SISHEN SALDANHA RAILWAY LINE (TFR)
OHE CATENARY SYSTEM
CHAIN LINK
DRAWING DETAIL

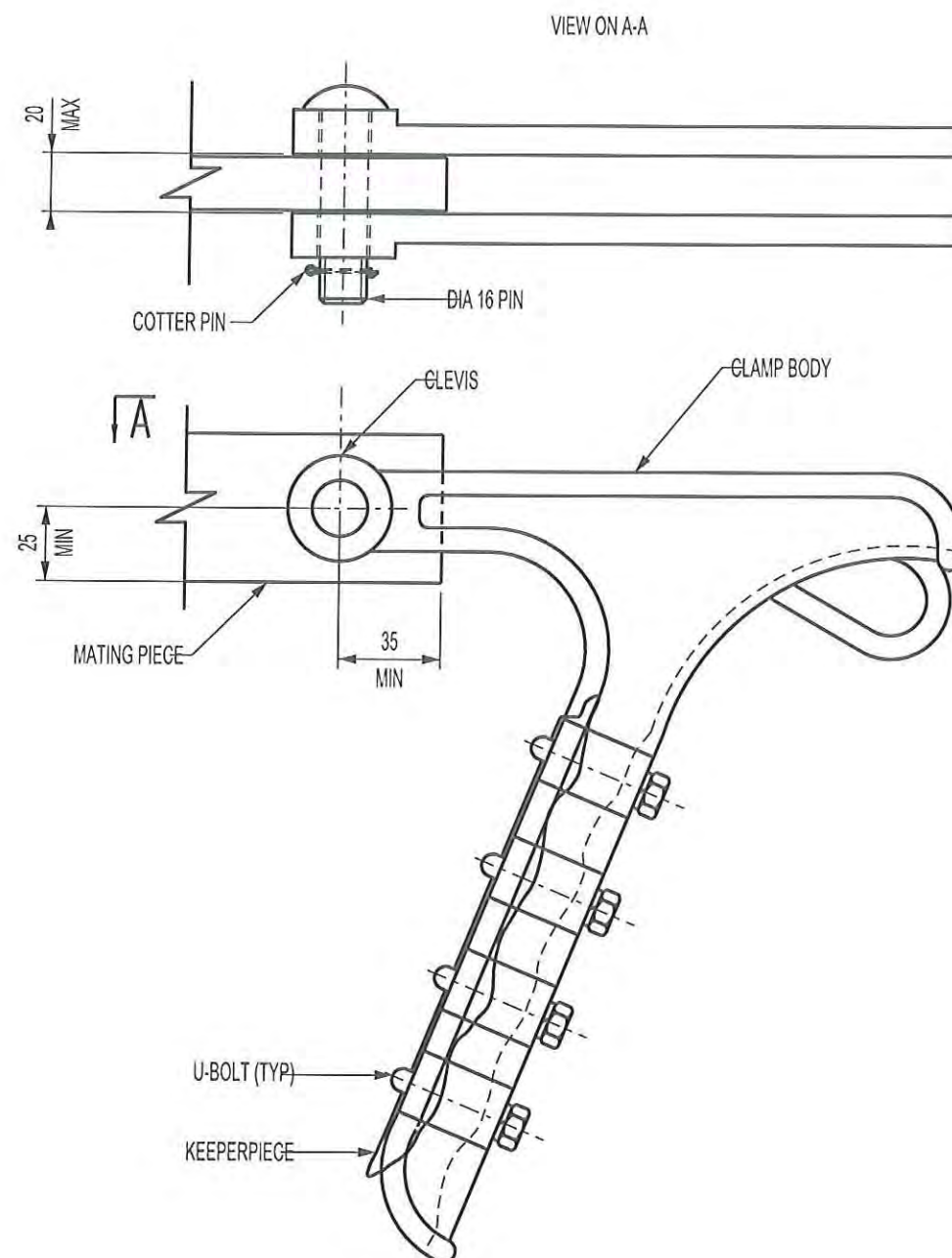
PROJECT NUMBER	DV	FBS	DIS	TYPE	DRG. NO.	SHT.	REV.	ID
H 5 0 0 1 1 0 - 3 - 1 3 3 - E - D E - 0 0 8 3 - 0 1 - 0 JV								

1 2 3 4
H500110-3-133-E-DE-0088-A
DRAWING NUMBER

DO NOT SCALE - IF IN DOUBT, ASK

NOTES

- 1) ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED.
- 2) DRAWING IS REPRESENTATIVE ONLY. FOR FULL DETAILS REFER TO MANUFACTURERS SPECIFICATION.
- 3) U-BOLTS TO BE TIGHTENED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
- 4) MINIMUM FAILING LOAD TO BE 70KN.



ASSEMBLY REF.	USE
H500110-3-133-E-DE-0088-A	ACSR/ AAC WIRES-, 5-7MM DIA.
H500110-3-133-E-DE-0088-B	COPPER WIRES, 5-7MM DIA.

NOTES:

EPCM CONSULTANT: HMGJV						ORIGINATOR: TP DESIGN					
NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE	TITLE	NAME	SIGNATURE	DATE	TITLE	NAME
0	FOR CONSTRUCTION	R.L.	D.W.	A.D.W.	21/08/09	LEAD DES. ENG.	J. STRYDOM	[Signature]	21 08 09	DRAWN	R. LEATHER
B	FOR REVIEW	R.L.	D.W.	A.D.W.	05/01/09	ENG. COORD.	N. WELCH	[Signature]	21 08 09	CHECKED	D. WILLCOCK
A	FOR REVIEW	R.L.	D.W.	A.D.W.	17/07/08	ENG. MANAGER	T. SOUTHWOOD	[Signature]	21 08 09	ENG. COORD.	
REVISIONS / ISSUE AUTHORIZATION						AREA MANAGER				DISCIP. ENG.	
This Document including all design and information therein is Confidential Intellectual Property of Transnet and/or HMG JV. Copyright and all other rights are reserved by Transnet and/or HMG JV. This Document may only be used for its intended purpose.						PROJECT MGR.				ENG. MANAGER	
						CLIENT APPROVAL: TRANSNET FREIGHT RAIL					
						TITLE	NAME	SIGNATURE	DATE	AREA MANAGER	
						SEN. ENG. (ELEC & SIG)	T. EMERAN	[Signature]	21 08 09	SIGNAL ENG.	
						SEN. TECHNOLOGIST (ELEC)	M. MLONZI	[Signature]	21 08 09	PR. ENG. / PR. TECH.	
						PR. ENG. / PR. TECH.					
						NAME	ANDRIES DE WET		DATE		
						SIGNATURE	[Signature]		21-08-09		
						REG. NUMBER	9070204				
						SCALE	NTS				

TRANSNET

ORE LINE RAIL EXPANSION PROJECT PHASE 1A

SISHEN SALDANHA RAILWAY LINE (TFR)
OHTE CATENARY SYSTEM
CONDUCTOR STRAIN CLAMP
DRAWING DETAIL

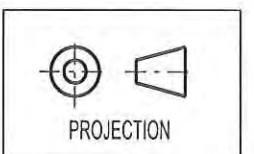
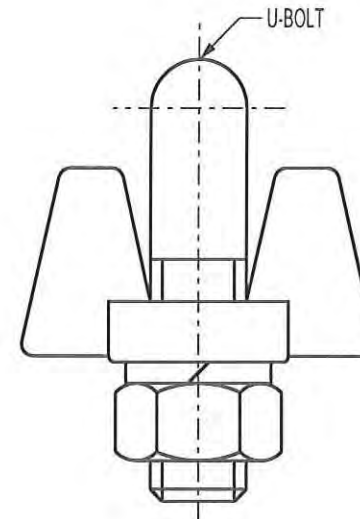
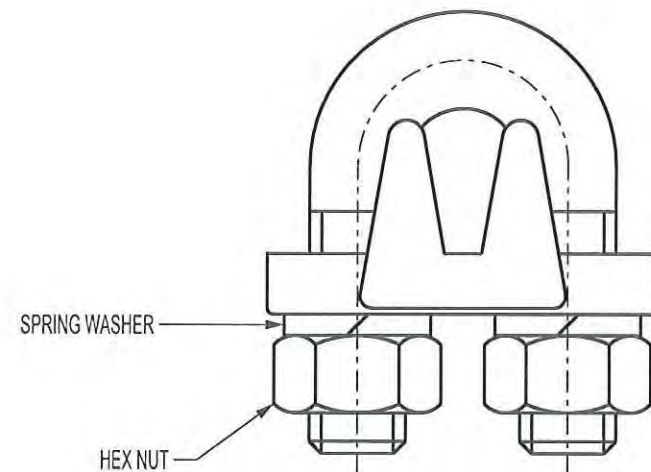
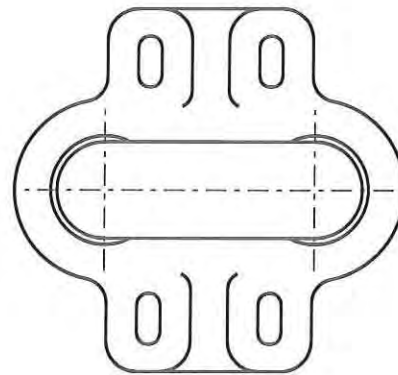
PROJECT NUMBER	DV	FBS	OIS	TYPE	DRG. NO.	SHT.	REV.	ID
H500110-3-133-E-DE-0088-A	01	01	01	01	01	01	01	01

1 2 3 4
DRAWING NUMBER
H500110-3-133-E-DE-0109-01-0 JV

DO NOT SCALE - IF IN DOUBT, ASK

NOTES

1) TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.



ASSEMBLY REF.	WIRE SIZE
H500110-3-133-E-DE-0109-A	13MM
H500110-3-133-E-DE-0109-B	10MM
H500110-3-133-E-DE-0109-C	3MM

NOTES:

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
0	FOR CONSTRUCTION	R.L.	D.W.	A.D.W.	21/08/09
B	FOR REVIEW	R.L.	D.W.	A.D.W.	05/01/09
A	FOR REVIEW	R.L.	D.W.	A.D.W.	17/07/08
REVISIONS / ISSUE AUTHORIZATION					
This Document including all design and information therein is Confidential Intellectual Property of Transnet and/or HMG JV. Copyright and all other rights are reserved by Transnet and/or HMG JV. This Document may only be used for its intended purpose.					

EPCH CONSULTANT: HMGJV				ORIGINATOR: TP DESIGN			
TITLE	NAME	SIGNATURE	DATE	TITLE	NAME	SIGNATURE	DATE
LEAD DES. ENG.	J. STRYDOM		21 08 09	DRAWN	R. LEATHER		21 08 09
ENG. COORD.	N. WELCH		21 08 09	CHECKED	D. WILLCOCK		21 08 09
ENG. MANAGER	T. SOUTHWOOD		21 08 09	ENG. COORD.			
AREA MANAGER				DISCIP. ENG.			
PROJECT MGR.				ENG. MANAGER			
CLIENT APPROVAL: TRANSNET FREIGHT RAIL				AREA MANAGER			
TITLE	NAME	SIGNATURE	DATE	SIGNAL ENG.			
SEN. ENG. (ELEC & SIG)	T. EMERAN		21 08 09	PR. ENG. / PR. TECH.			
SEN. TECHNOLOGIST (ELEC)	M. MLONZI		21 08 09	NAME	ANDRIES DE WET	DATE	
				SIGNATURE		21 08 09	
				REG. NUMBER	9070204		
				SCALE :	NTS		

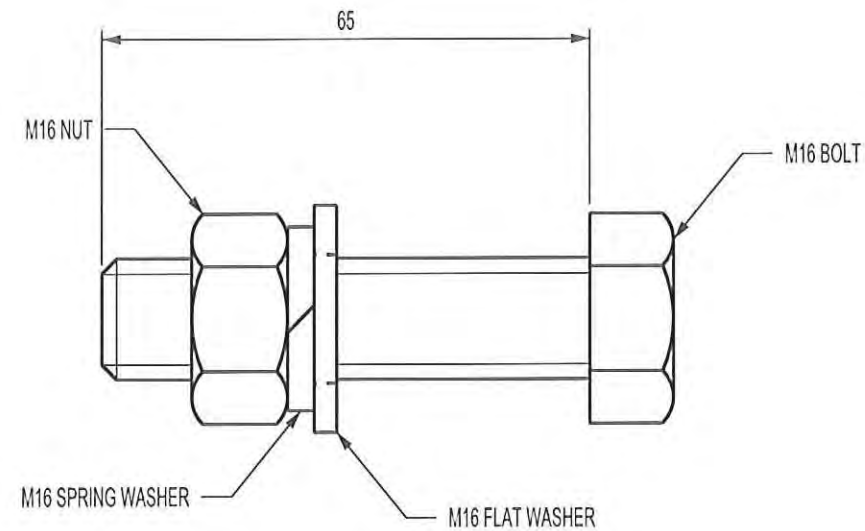
TRANSNET											
ORE LINE RAIL EXPANSION PROJECT PHASE 1A											
SISHEN SALDANHA RAILWAY LINE (TFR)											
OHE CATENARY SYSTEM											
WIRE ROPE CLIP											
DRAWING DETAIL											
PROJECT NUMBER	DV	FBS	DIS	TYPE	DRG NO	SHT.	REV	ID			
H500110-3-133-E-DE-0109-01-0 JV											

1 2 3 4
H 5 0 0 1 1 0 - 3 - 3 - 1 3 - 3 - E - D - E - 0 0 7 2 - 0 1 - 0 2 - JV
DRAWING NUMBER

DO NOT SCALE - IF IN DOUBT, ASK

NOTES

- 1) ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED.
- 2) STAINLESS STEEL GRADE 316 MAY BE SUPPLIED AS AN ALTERNATIVE.



MATERIAL	STEEL (GRADE 8.8)
SPEC	BS EN 10025:S275
FINISH	GALVANISED
SPEC	SANS 121

NOTES:

2	FOR CONSTRUCTION	R.L.	D.W.	A.D.W.	21/08/09
1A	REVISED AS SHOWN	R.L.	D.W.	A.D.W.	05/01/09
1	FOR CONSTRUCTION	R.P.	D.W.	A.D.W.	27/03/08
A	FOR CLIENT APPROVAL	R.P.	D.W.	A.D.W.	13/03/08

REVISIONS / ISSUE AUTHORIZATION

This Document including all design and information therein is Confidential Intellectual Property of Transnet and/or HMG JV. Copyright and all other rights are reserved by Transnet and/or HMG JV. This Document may only be used for its intended purpose.

EPCH CONSULTANT: HMGJV

TITLE	NAME	SIGNATURE	DATE
LEAD DES. ENG.	J. STRYDOM		21 08 09
ENG. COORD.	N. WELCH		21 08 09
ENG. MANAGER	T. SOUTHWOOD		21 08 09
AREA MANAGER			
PROJECT MGR.			

CLIENT APPROVAL: TRANSNET FREIGHT RAIL

TITLE	NAME	SIGNATURE	DATE
SEN. ENG. (ELEC & SIG)	T. EMERAN		21 08 09
SEN. TECHNOLOGIST (ELEC)	M. MLONZI		21 08 09

ORIGINATOR: TP DESIGN

TITLE	NAME	SIGNATURE	DATE
DRAWN	R. LEATHER		21 08 09
CHECKED	D. WILLCOCK		21 08 09
ENG. COORD.			
DISCIP. ENG.			
ENG. MANAGER			
AREA MANAGER			
SIGNAL ENG.			
PR. ENG. / PR. TECH.			
NAME	ANDRIES DE WET		
SIGNATURE			21 08 09
REG. NUMBER	9070204		
SCALE	NTS		

TRANSNET



ORE LINE RAIL EXPANSION PROJECT PHASE 1A

SISHEN SALDANHA RAILWAY LINE (TFR)
OHE CATENARY SYSTEM
M16 65MM BOLT, WASHERS AND NUT
DRAWING DETAIL

PROJECT NUMBER	DV	FBS	DIS	TYPE	DRG. NO.	SHT.	REV.	ID
H 5 0 0 1 1 0 - 3 - 1 3 3 - E - D E - 0 0 7 2 - 0 1 - 0 2 JV								

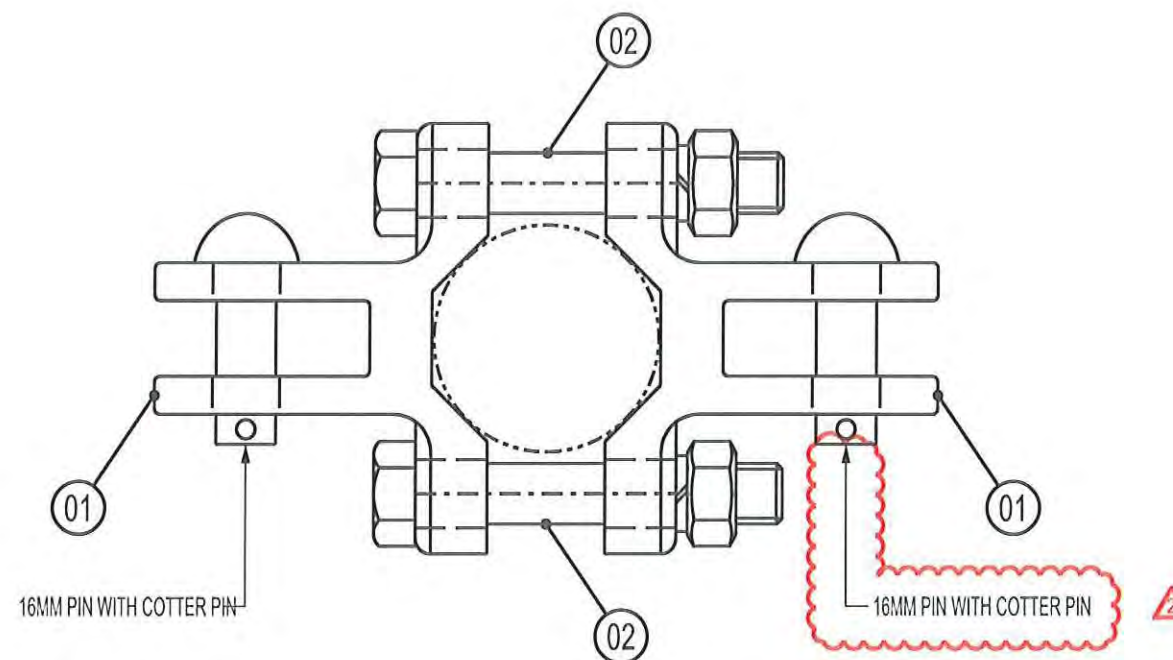
1 2 3 4
H500110-3-133-E-DE-0101-02-JV
DRAWING NUMBER

DO NOT SCALE - IF IN DOUBT, ASK

NOTES

1) ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED.

2) TO BE SUPPLIED COMPLETE WITH 16MM PINS & COTTER PINS.



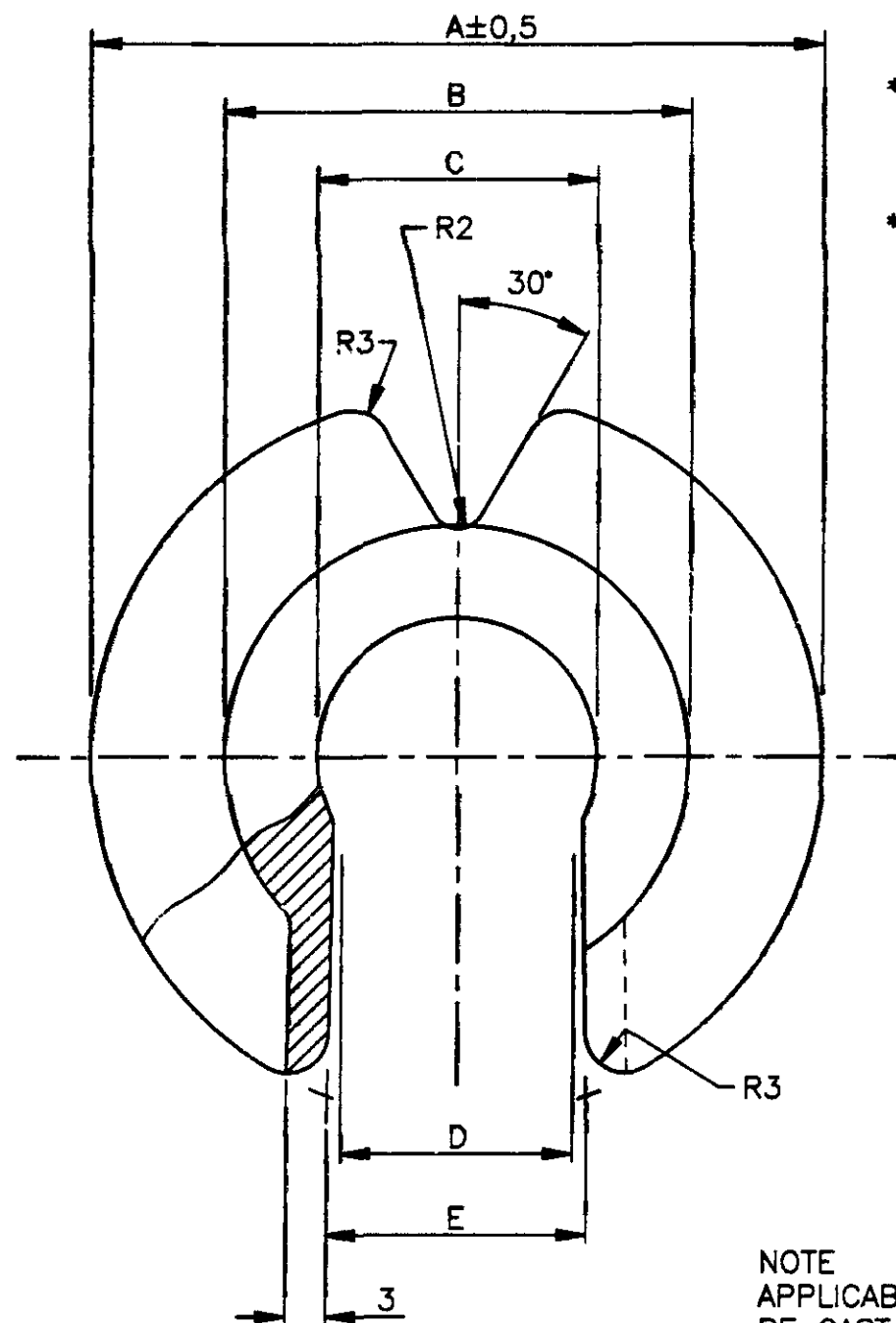
MATERIAL DETAILS		
ITEM	DRAWING No.	DESCRIPTION
1	H500110-3-133-E-DE-0101	PIPE CLAMP HOUSING ONLY
2	H500110-3-133-E-DE-0072	M16 BOLT, NUT, SPRING WASHER & FLAT WASHER

NOTES:

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
2	FOR CONSTRUCTION	R.L.	D.W.	A.D.W.	21/08/09
1B	REVISIONS AS INDICATED- FOR REVIEW	R.L.	D.W.	A.D.W.	05/01/09
1A	REVISIONS AS INDICATED- FOR REVIEW	R.L.	D.W.	A.D.W.	17/07/08
1	FOR CONSTRUCTION	R.P.	D.W.	A.D.W.	30/01/08
A	FOR CLIENT APPROVAL	R.P.	D.W.	J.L.	03/12/07
REVISIONS / ISSUE AUTHORIZATION					
This Document including all design and information therein is Confidential Intellectual Property of Transnet and/or HMG JV. Copyright and all other rights are reserved by Transnet and/or HMG JV. This Document may only be used for its intended purpose.					

EPCH CONSULTANT: HMGJV				ORIGINATOR: TP DESIGN			
TITLE	NAME	SIGNATURE	DATE	TITLE	NAME	SIGNATURE	DATE
LEAD DES. ENG.	J. STRYDOM		21 08 09	DRAWN	R. LEATHER		21 08 09
ENG. COORD.	N. WELCH		21 08 09	CHECKED	D. WILLCOCK		21 08 09
ENG. MANAGER	T. SOUTHWOOD		21 08 09	ENG. COORD.			
AREA MANAGER				DISCIP. ENG.			
PROJECT MGR.				ENG. MANAGER			
CLIENT APPROVAL: TRANSNET FREIGHT RAIL				AREA MANAGER			
TITLE	NAME	SIGNATURE	DATE	SIGNAL ENG.			
SEN. ENG. (ELEC & SIG)	T. EMERAN		21 08 09	PR. ENG. / PR. TECH.			
SEN. TECHNOLOGIST (ELEC)	M. MLONZI		21 08 09	NAME	ANDRIES DE WET	DATE	
				SIGNATURE		21 08 09	
				REG. NUMBER	9070204		
				SCALE :	NTS		

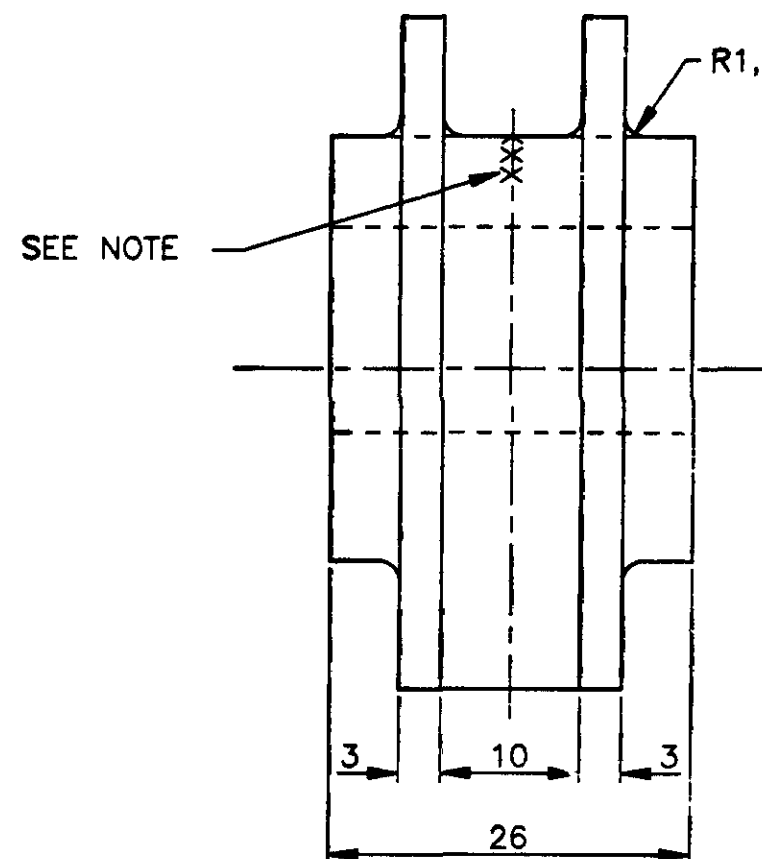
TRANSNET											
ORE LINE RAIL EXPANSION PROJECT PHASE 1A											
SISHEN SALDANHA RAILWAY LINE (TFR) OHTE CATENARY SYSTEM BACK TO BACK PIPE CLAMP ASSEMBLY DRAWING DETAIL											
PROJECT NUMBER	DV	FBS	DIS	TYPE	DRG. NO.	SHT.	REV	ID			
H500110-3-133-E-DE-0101-02-JV											



CATENARY	A	B	C	D	E	ITEM NO
80mm ²	ø38	ø15	ø10,8	9,6	9 ⁺¹ ₀	54/6840
100mm ²	ø40	ø20,1	ø12,1	10,7	10 ⁺¹ ₀	54/16861
* 160mm ²	ø46,5	ø26,4	ø15,9	14,1	13 ⁺² ₀	54/16836
250mm ²	ø54	ø33,9	ø20,5	18,2	16 ⁺³ ₀	54/16848
** 530mm ²	ø68	ø48,1	ø29,4	26	25 ⁺⁴ ₀	54/31701

* ALSO FOR CONDUCTOR (ACSR) CODE NAME "TIGER"

** FOR CONDUCTOR (ACSR) CODE NAME "DEER"



SEE NOTE

NOTE
APPLICABLE CONDUCTOR SIZE 80-, 100-, 160-, 250- OR 530mm² TO BE CAST OR PUNCHED IN POSITION SHOWN (3mm CHARACTER HEIGHT).

AMENDMENTS		
NO	NAME	DATE
1	I DE VILLIERS	90-02-14
REDRAWN, INFORMATION ADDED. DO REF: T90/009		
2	I DE VILLIERS	91-03-04
INDICATION OF CONDUCTOR SIZE MOVED. DO REF: T91/010		
3	W BRIGHT	92-06-22
DIMENSION "E" WAS 10,1 ; 11,3 ; 14,8 AND 19. DO REF: T92/027		
4	H A SLIER	98-06-04
DRAWING REVISED AND INFORMATION ADDED. DO REF: T98/024		

MATERIAL: NYLON 66, PIGMENT: BLACK

DO REF T90/001 GEN TOL: LIN± 0,2 ANG± 0°30'

DRN J VON ABO CKD J H SWIGERS DATE 90-01-29

ENG A VERSTEEG A VERSTEEG for CHIEF ENG

INFRASTRUCTURE
(ELECTRICAL)

SPOORNET

DROPPER CLIP

CLIP-ON TYPE

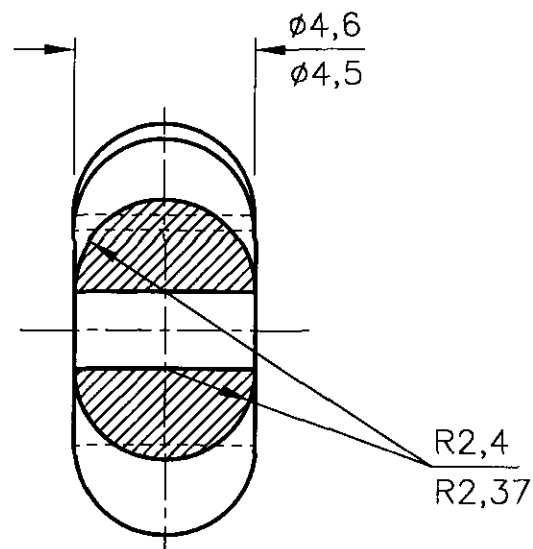
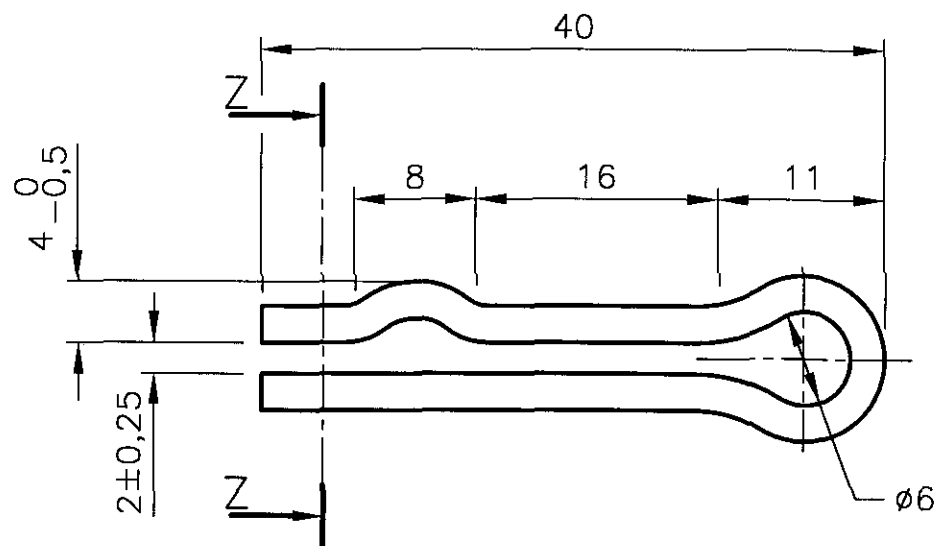
80-, 100-, 160-, 250- & 530mm² CATENARIES

DIMENSIONS:mm
SCALE 2:1

A3

DRAWING NO CEE-
TND-5

SHEET — OF —



SECTION Z — Z

SCALE 5:1

AMENDMENTS

NO	NAME	DATE
2	J v DÿK	94-8-4

DRG REVISED.
DO RÉF T94/046

3	J HARCUS	98-6-25
---	----------	---------

PIN DIAMETER WAS
ø4,8/ø4,74
DO REF: T98/028

STORES ITEM NO.
54/3734

DIMENSIONS: mm
SCALE: 2:1

MATERIAL: ITEM NO —, BRASS TO SPEC BS 2873/CZ 108 OR STAINLESS STEEL TO SPEC BS 970 GRADE 316S16

DO REF: N37/69 GEN TOL: LIN ± 0,5 ANG ± —

DRN: C.J.S. CKD: R.N. DATE: 69-03-03

ENG: F PIENAAR F PIENAAR for CHIEF ENG

INFRASTRUCTURE
(ELECTICAL)



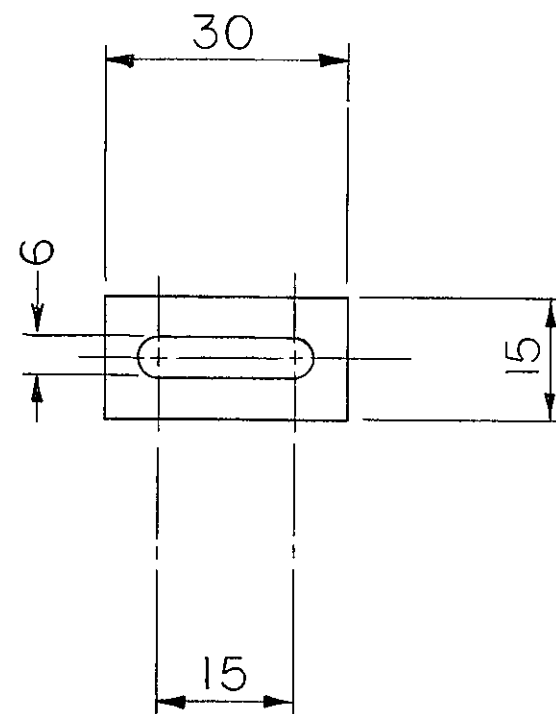
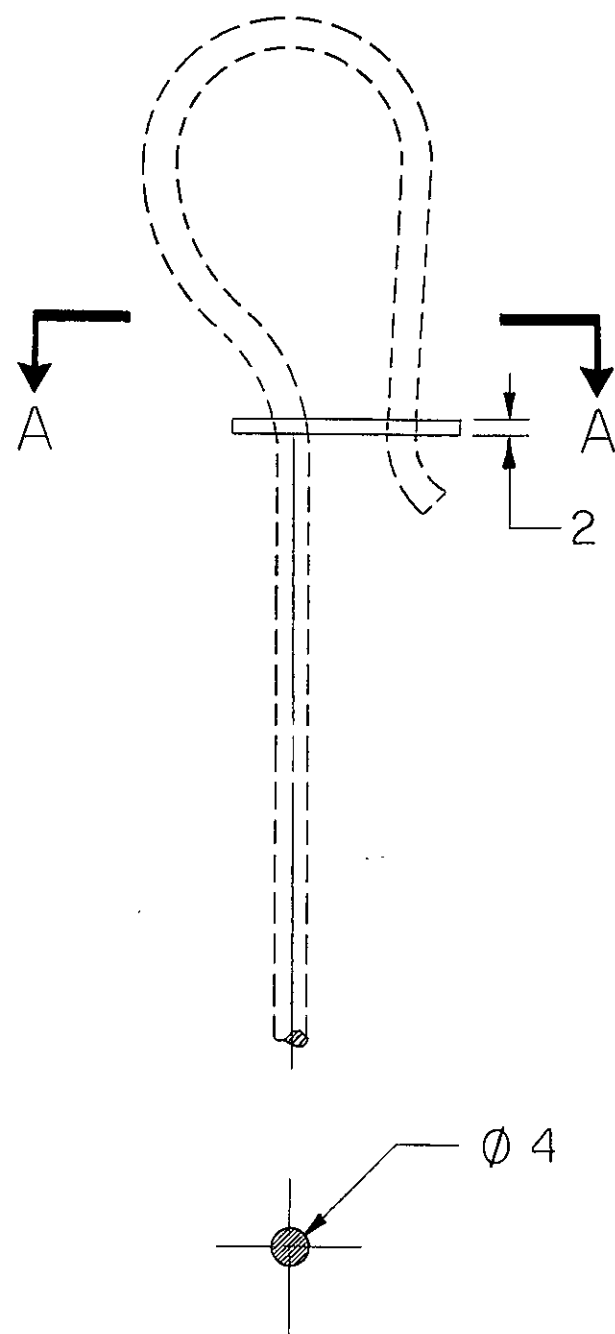
COTTER PIN



DRG NO CEE-
TX-54

SHT — OF —

TO000640



SECTION A-A

COMPONENT REFERENCE CG 502
REFERENCE SPECIFICATION PG 502

DRAKE & GORHAM - FISCHBACH AND MOORE SOUTH AFRICA (PTY) LTD		KP- 3503
HANGER WIRE KEEPER		
SYSTEM ELECTRICAL ENGINEER ELEKTROTEGNIJSE AFDELINGSINGENIEUR		S A R S A S SALDANHA
DRAWN: J.M.	APPROVED:	
DATE: 4 16 76	ENGINEER:	
CHECKED: D.W.	DESIGNER:	
TRACED: J.M.	SCALE: N.T.S.	
PROJN:		
DRG. NO. SSE -	2 0 8 5 0 3	

0 10 20 30 40 50 100 150