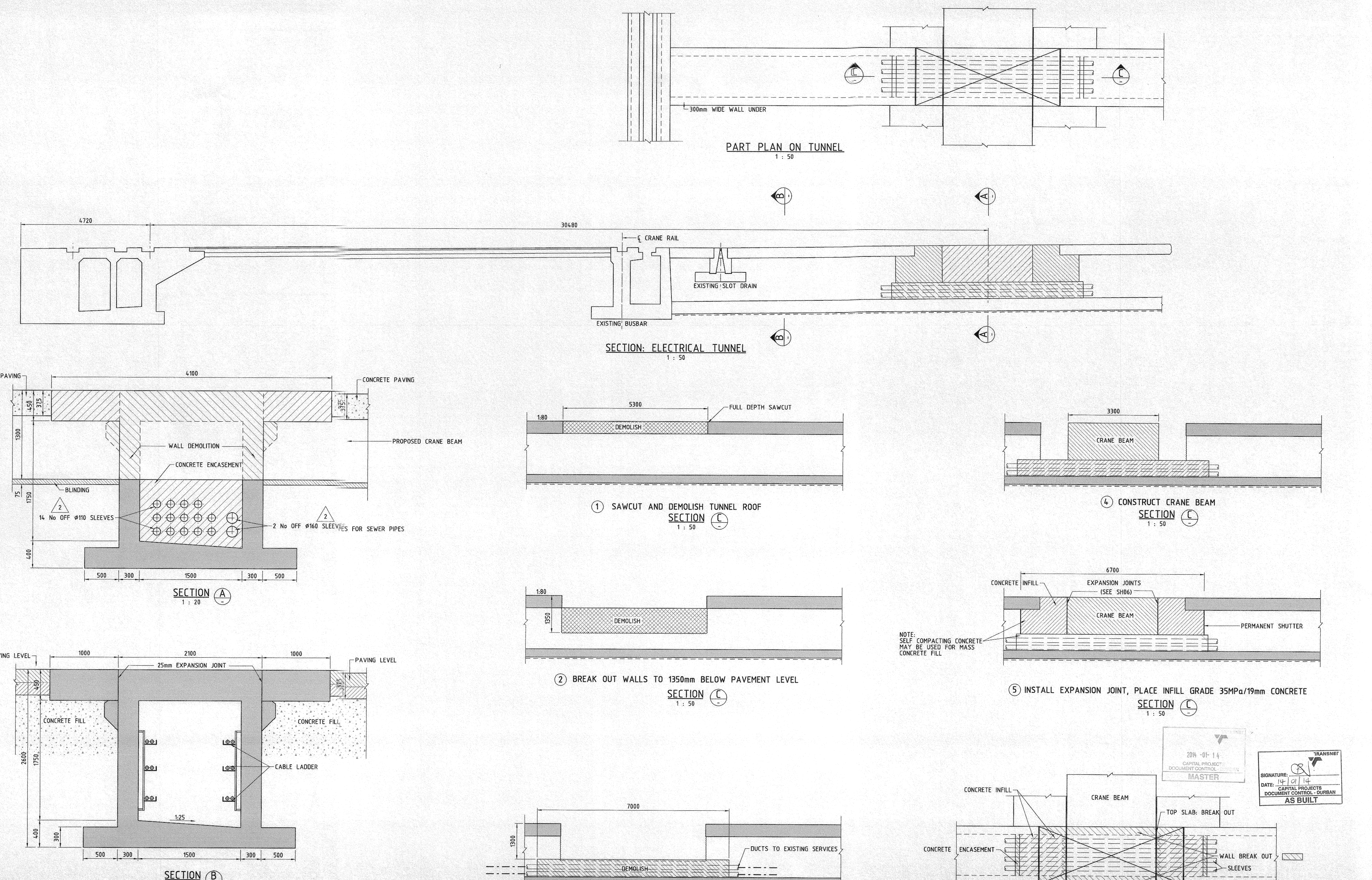
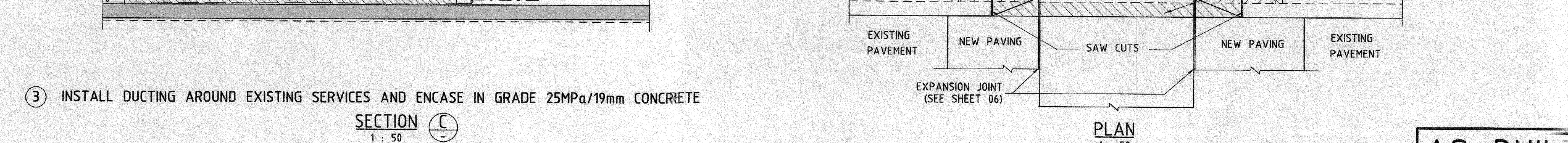


CONSTRUCTION PROCEDURE

1. SAWCUT TRANSVERSELY THROUGH TUNNEL ROOF (5300mm cc) AND DEMOLISH ROOF SLAB.
2. DEMOLISH WALLS DOWN TO 1350mm BELOW PAVEMENT LEVEL.
3. REMOVE DEAD CABLES.
4. FIX SPLIT DUCTING TO ALL LIVE CABLES AND ENCASE IN CONCRETE TO CRANE BEAM INVERT LEVEL.
5. CONSTRUCT CRANE BEAM.
6. PLACE MASS CONCRETE TO PAVEMENT LEVEL INCLUDING FOR 600mm BENEATH END OF TUNNEL ROOF.
7. REINSTATE PAVING TO DETAIL ON SHEET 06.



AS BUILT

NOTES

1. DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.
2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.

REFERENCE DRAWINGS

DRAWING NO.	REFERENCE

CONSULTANT: RCE CONSULTANTS — Railway & Civil Engineering

DRAWING NO: RCE-346-CB-01 Sh. 16 Rev. Z

REVISIONS

NO.	DESCRIPTION	BY	CHKD	APPD	DATE
Z	AS-BUILT	LAV	JLG	HDW	2013-04-23
2	EXTRA SLEEVES ADDED	LAV	JLG	HDW	2012-10-22
1	TRANSNET NUMBER ADDED	LAV	JLG	HDW	2012-07-16
0	ISSUED FOR CONSTRUCTION	LAV	JLG	HDW	2012-07-13
A	ISSUED FOR COMMENT	E.N	JLG	HDW	2012-07-05

CONTRACTOR / CONSULTANT

TITLE	NAME	SIGN	DATE

OPERATING DIVISIONS

TITLE	NAME	SIGN	DATE

TRANSNET CAPITAL PROJECTS

TITLE	NAME	SIGN	DATE
DRAWN	E.N		12 07 05
CHECKED			
DESIGNED			
CHECKED			

PR.ENG. / PR.TECH./PR. ARCH

NAME: H de WET — DATE: 12 07 05
SIGNATURE
REG. NUMBER: 720570
SCALE: 1:50 — A0

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DURBAN TEL: 031 361 1696
P.O. BOX 1073, DURBAN FAX: 0866 770815

PORT OF DURBAN

INFRASTRUCTURE FOR NEW SHIP TO SHORE CRANES AT NORTH QUAY

LANDSIDE CRANE BEAM CROSSING OF ELECTRICAL TUNNELS

PROJECT NUMBER	OD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
2223097	1	000	S	DE	0007	02	Z	TD

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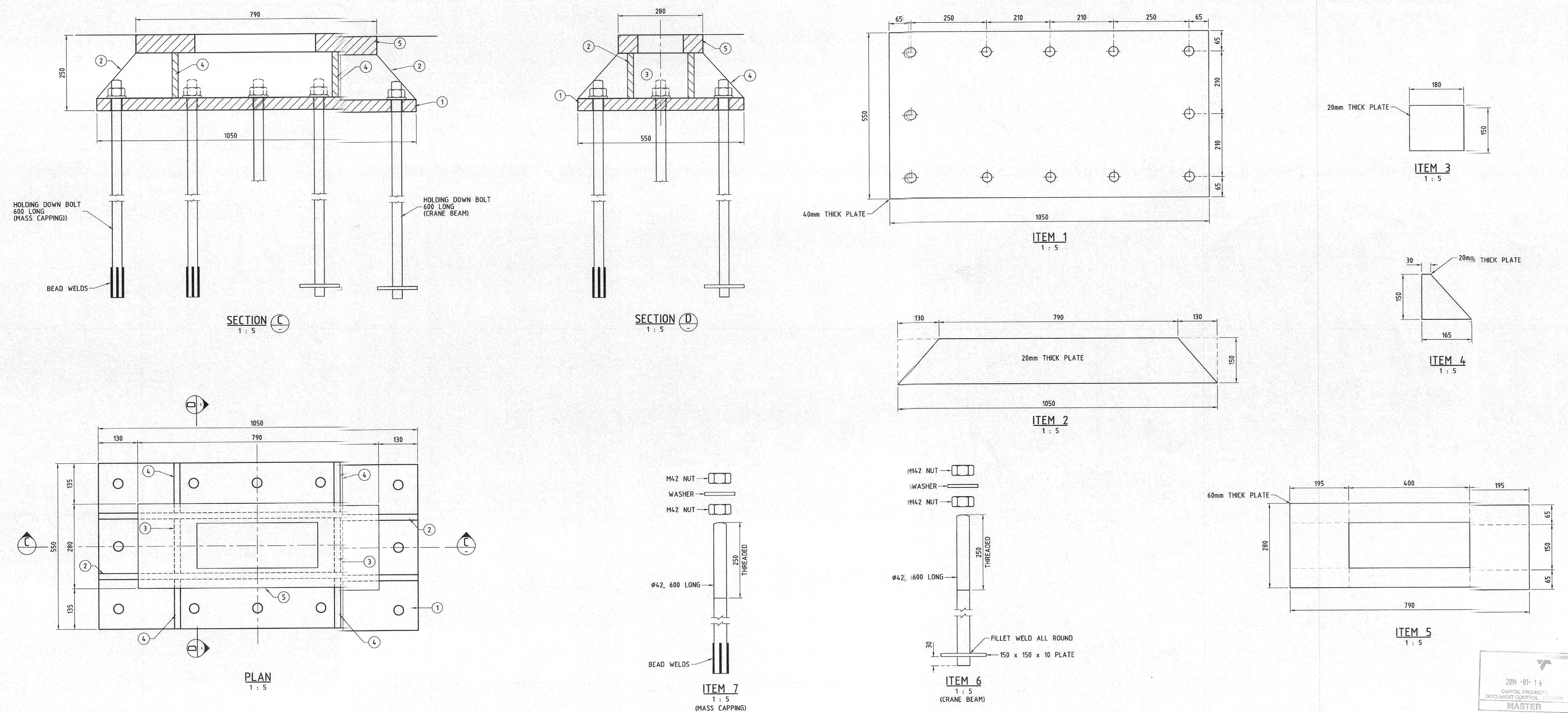

MATERIAL LIST (PER ANCHOR)

	ITEM	DESCRIPTION	DIMENSIONS	No OFF PER ITEM	MASS/ITEM (kg)	TOTAL MASS (kg)
MASS CAPPING (20 No OFF)	ITEM (1)	BASE PLATE	1050 x 550 x 40 PLATE	1	181,34	181
	ITEM (2)	STIFFENERS	1050 x 150 x 20 PLATE	2	21,67	44
	ITEM (3)	STIFFENERS	180 x 150 x 20 PLATE	2	4,2	10
	ITEM (4)	STIFFENERS	165 x 150 x 20 PLATE	4	2,3	10
	ITEM (5)	TOP PLATE	790 x 280 x 60 PLATE	1	75,93	76
	ITEM (7)	ANCHOR BOLT	ø42 BOLT, 600 LONG WITH NUT AND WASHER	12	6,52	78
CRANE BEAM (20 No OFF)	ITEM (1)	BASE PLATE	1050 x 550 x 40 PLATE	1	181,34	181
	ITEM (2)	STIFFENERS	1050 x 150 x 20 PLATE	2	21,67	44
	ITEM (3)	STIFFENERS	180 x 150 x 20 PLATE	2	4,2	10
	ITEM (4)	STIFFENERS	165 x 150 x 20 PLATE	4	2,3	10
	ITEM (5)	TOP PLATE	790 x 280 x 60 PLATE	1	75,93	76
	ITEM (6)	ANCHOR BOLT	ø42 BOLT, 600 LONG WITH NUT AND WASHER INCLUDED 150x150x10 PLATE	12	8,29	99

SEASIDE

TOTAL MASS PER ANCHOR
399 kg

LANDSIDE

TOTAL MASS PER ANCHOR
420 kg

SIGNATURE: [signature]
DATE: 14/01/14
CAPITAL PROJECTS DOCUMENT CONTROL - DURBAN
AS BUILT

NOTES

1. FABRICATION:
   1.1. AFTER FABRICATION, THE WHOLE ASSEMBLY IS TO BE THERMAL DIFFUSED TO BS EN:13811:2003
   1.2. H.D. BOLT FABICATED FROM GRADE 8.8 STEEL
   1.3. ALL PLATES TO BE GRADE S355JR.
2. WELDING:
   2.1. ALL WELDS FOR ANCHOR, TO BE ALL ROUND 12mm FILLET WELDS UNLESS OTHERWISE NOTED
3. FOR INSTALLATION SEE SHEET 08

AS BUILT

NOTES

1. DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.
2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE NEC SUPERVISOR OF ANY VARIATIONS BEFORE CONSTRUCTION.

DRAWING NO.	REFERENCE

REFERENCE DRAWINGS

CONSULTANT:
RCE CONSULTANTS
Railway & Civil Engineering
tel: +27 (12) 450 0040
fax: +27 (12) 450 0060
Building 1, Route 21 Corporate Park, Irene, South Africa, 0062
P O Box 102733, Moreleta Park, South Africa, 0167
e-mail: info@RCE-Consultants.co.za
www.RCE-Consultants.co.za

DRAWING NO:
RCE-346-CB-01 Sh. 12 Rev. Z

REVISIONS

NO.	DESCRIPTION	BY	CHKD	APPD	DATE
Z	AS-BUILT	LAV	JLG	HDW	2013-04-23
3	STORM PIN No. OFF AMENDED	LAV	JLG	HDW	2012-11-19
2	STORM PIN No. OFF AMENDED	LAV	JLG	HDW	2012-10-22
1	NOTE 1.2. STEEL GRADE AMENDED	LAV	JLG	HDW	2012-07-10
0	ISSUED FOR CONSTRUCTION	LAV	JLG	HDW	2012-05-30
A	ISSUED FOR TENDER	LAV	JLG	HDW	2012-02-29

CONTRACTOR / CONSULTANT

TITLE	NAME	SIGN	DATE

OPERATING DIVISIONS

TITLE	NAME	SIGN	DATE

TRANSNET CAPITAL PROJECTS

TITLE	NAME	SIGN	DATE
DRAWN	LAV		12 02 17
CHECKED	JLG		12 05 30
DESIGNED	HDW		
CHECKED	JLG		

PR.ENG. / PR.TECH./PR. ARCH

NAME	H de WET	DATE
SIGNATURE	[signature]	12 05 30
REG. NUMBER	720570	
SCALE :	1:5	A0

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PORT OF DURBAN

INFRASTRUCTURE FOR NEW SHIP TO SHORE CRANES AT NORTH QUAY, STORM PIN ANCHOR FABRICATION

PROJECT NUMBER	OD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
2223097	1	000	S	DE	0007	01	Z	TD

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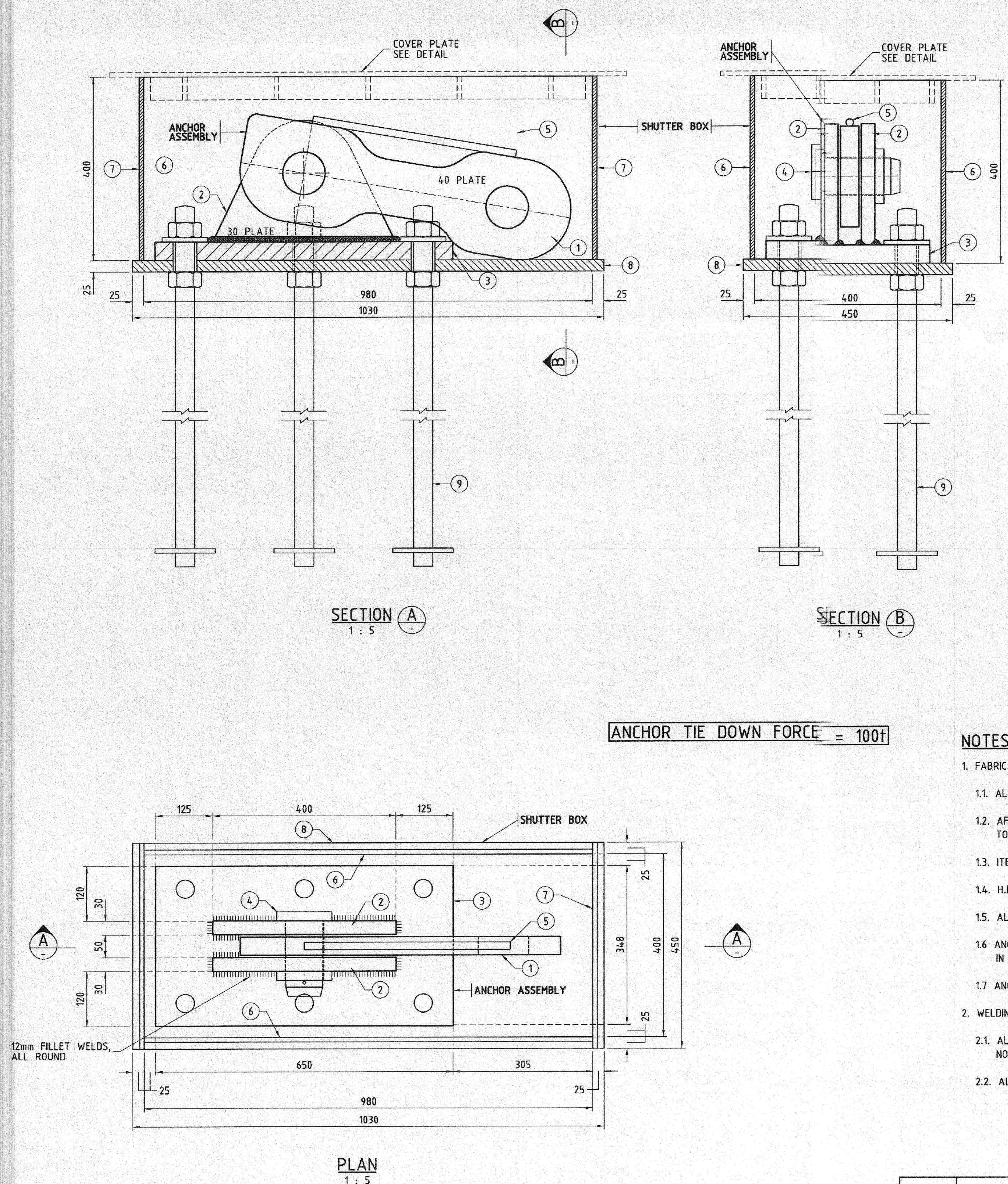
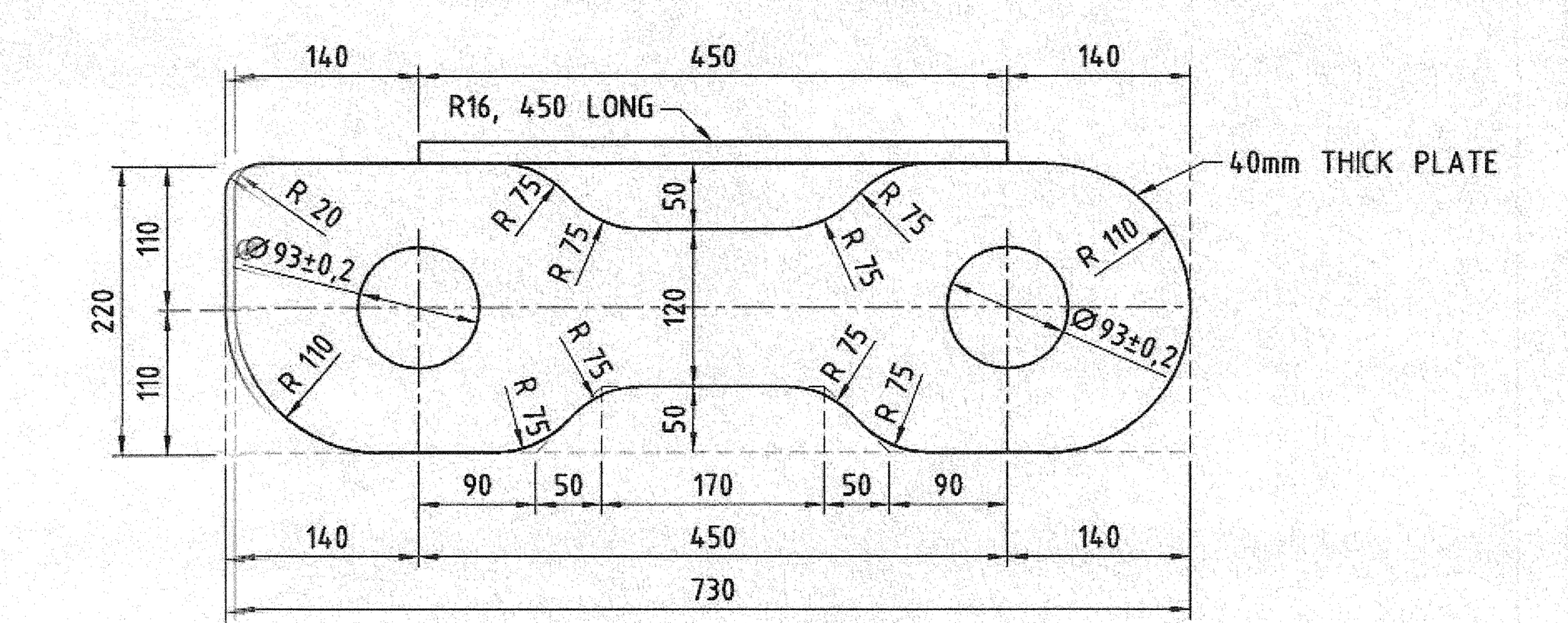
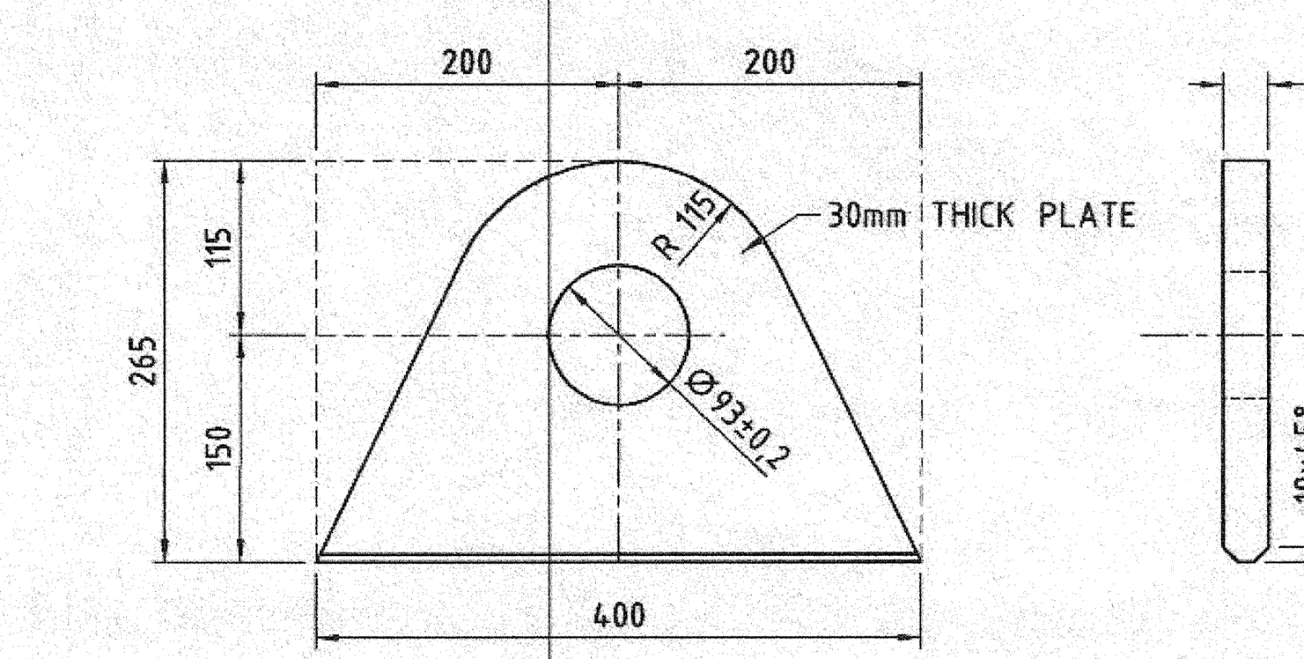


ANCHOR ASSEMBLY



ITEM 1
1 : 5



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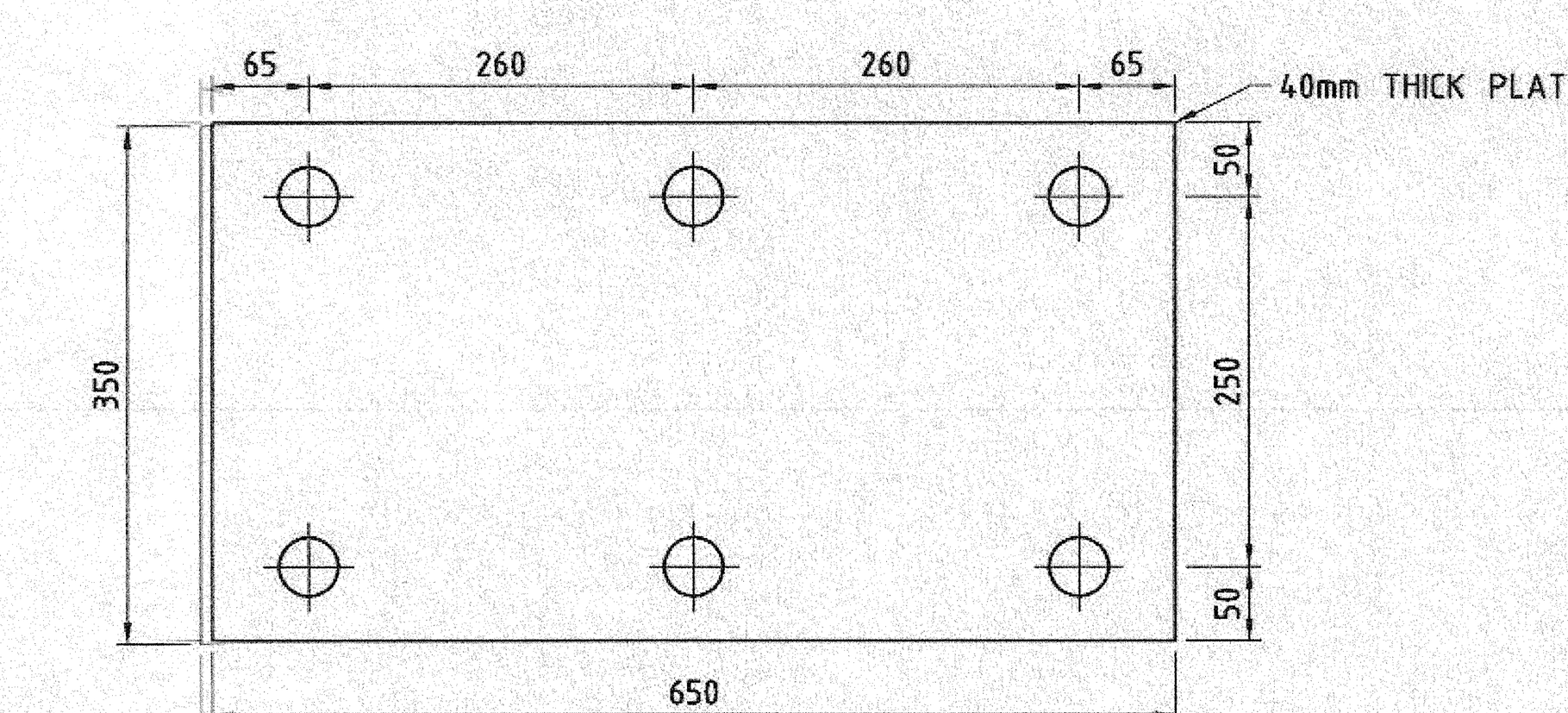
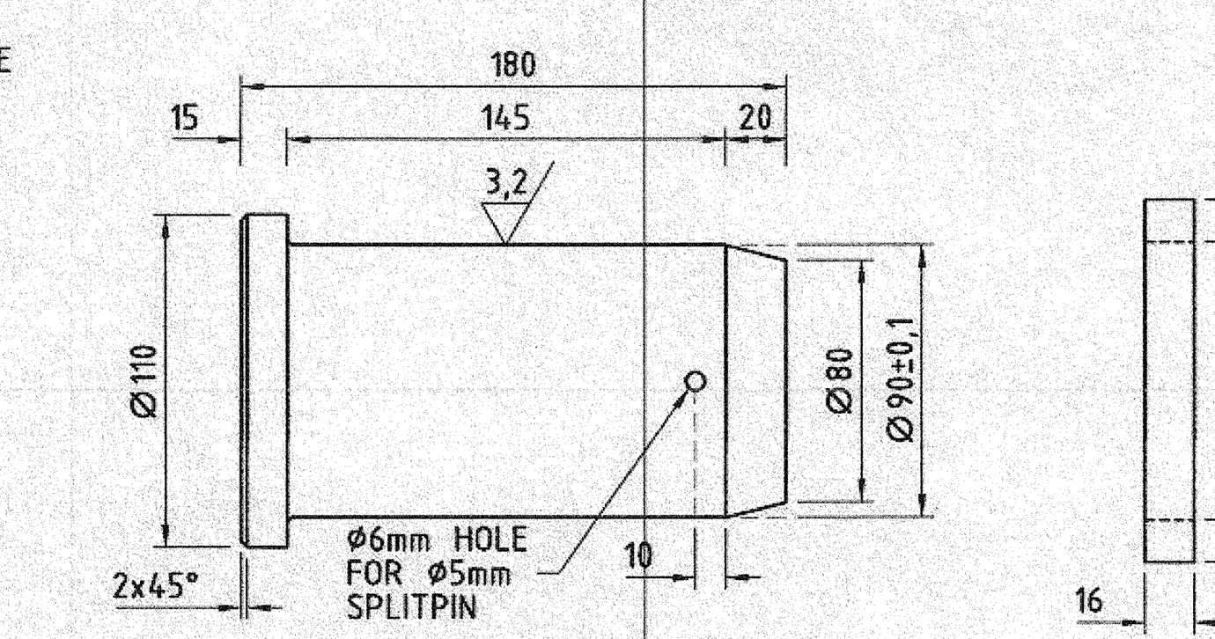
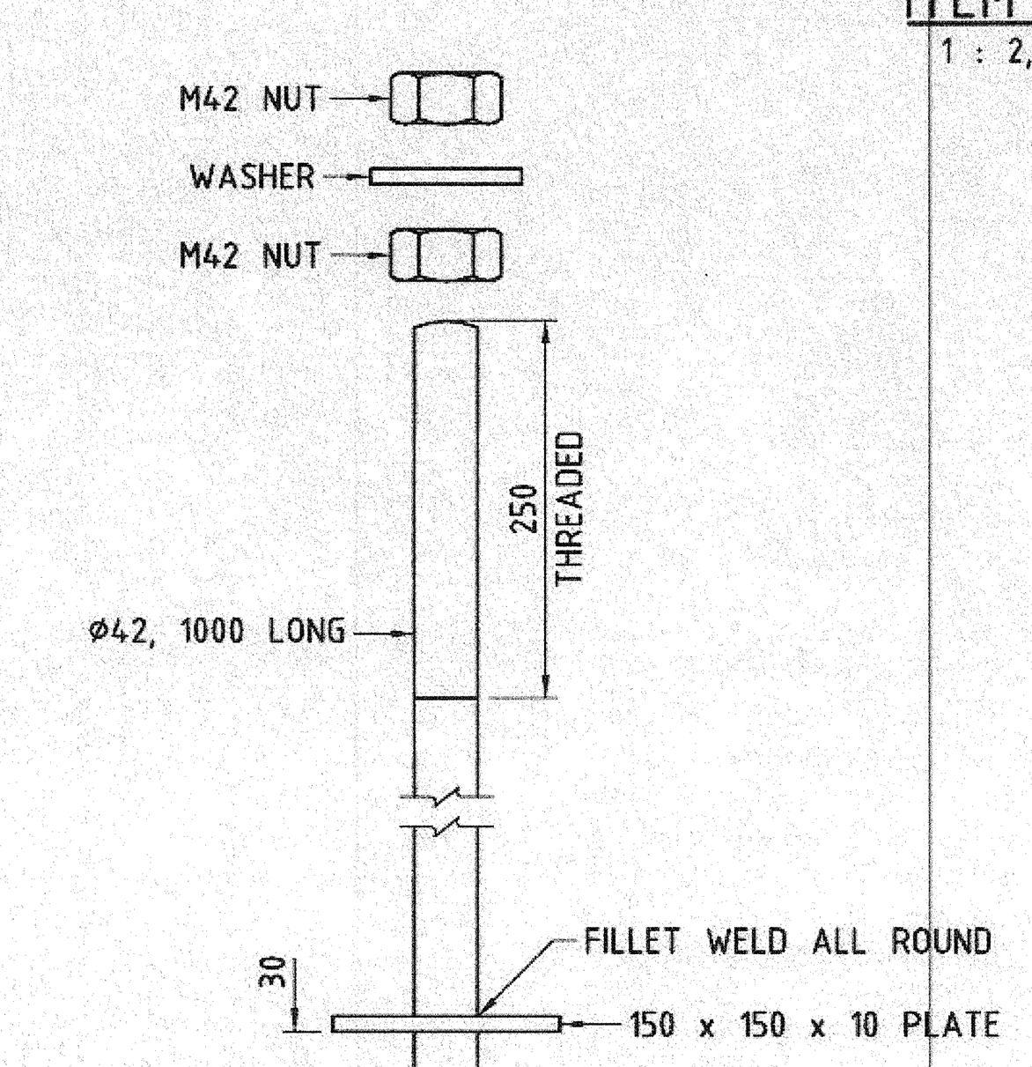
1 : 5



ITEM 3
1 : 5



ITEM 4
1 : 2,5



ITEM 9
1 : 5

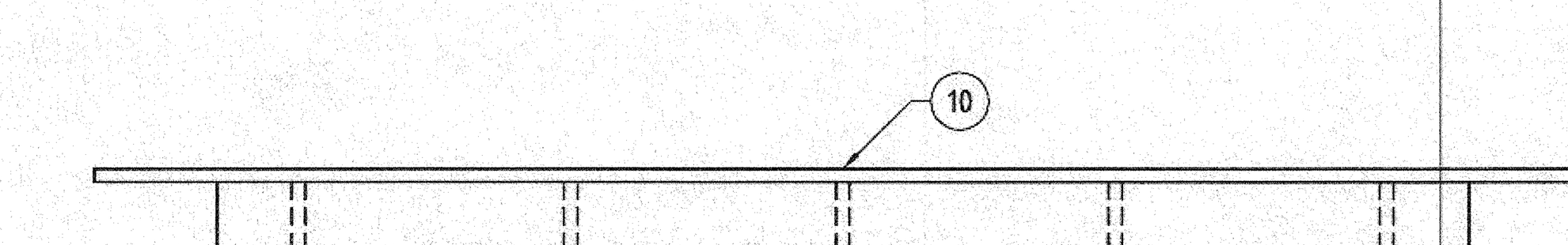
NOTES

1. FABRICATION:
   - 1.1. ALL SHARP CORNERS AND EDGE TO BE ROUNDED.
   - 1.2. AFTER FABRICATION, THE WHOLE ASSEMBLY IS TO BE THERMAL DIFFUSED TO BS EN:13811:2003.
   - 1.3. ITEMS 1 & 4 TO BE SEPARATELY DIFFUSED.
   - 1.4. H.D. BOLTS FABICATED FROM GRADE 8.8 STEEL.
   - 1.5. ALL PLATES TO BE GRADE S355JR.
   - 1.6 ANCHOR SHANK (ITEM 1) TO BE CUT WITH THE AXIS THROUGH THE PIN HOLES IN THE ROLLING DIRECTION OF THE STEEL PLATE.
   - 1.7 ANCHOR PIN (ITEM 4) TO BE GRADE EN 8 STEEL.
2. WELDING:
   - 2.1. ALL WELDS FOR ANCHOR, TO BE 15mm FILLET WELDS UNLESS OTHERWISE NOTED. ELECTRODE BASE METAL STRENGTH TO BE 600MPa.
   - 2.2. ALL WELDS FOR COVER PLATE TO BE 5mm FILLET WELDS

ANCHOR INSTALLATION

1. H.D. BOLTS AND SHUTTER BOX TO BE CAST INTO POSITION ACCURATELY USING THE SHUTTER BOX AS A H.D. BOLT TEMPLATE
2. UPPER RETAINING NUTS TO BE REMOVED FOR FIXING OF THE ANCHOR ASSEMBLY

2014-01-14
CAPITAL PROJECTS
DOCUMENT CONTROL - DURBAN
MASTER



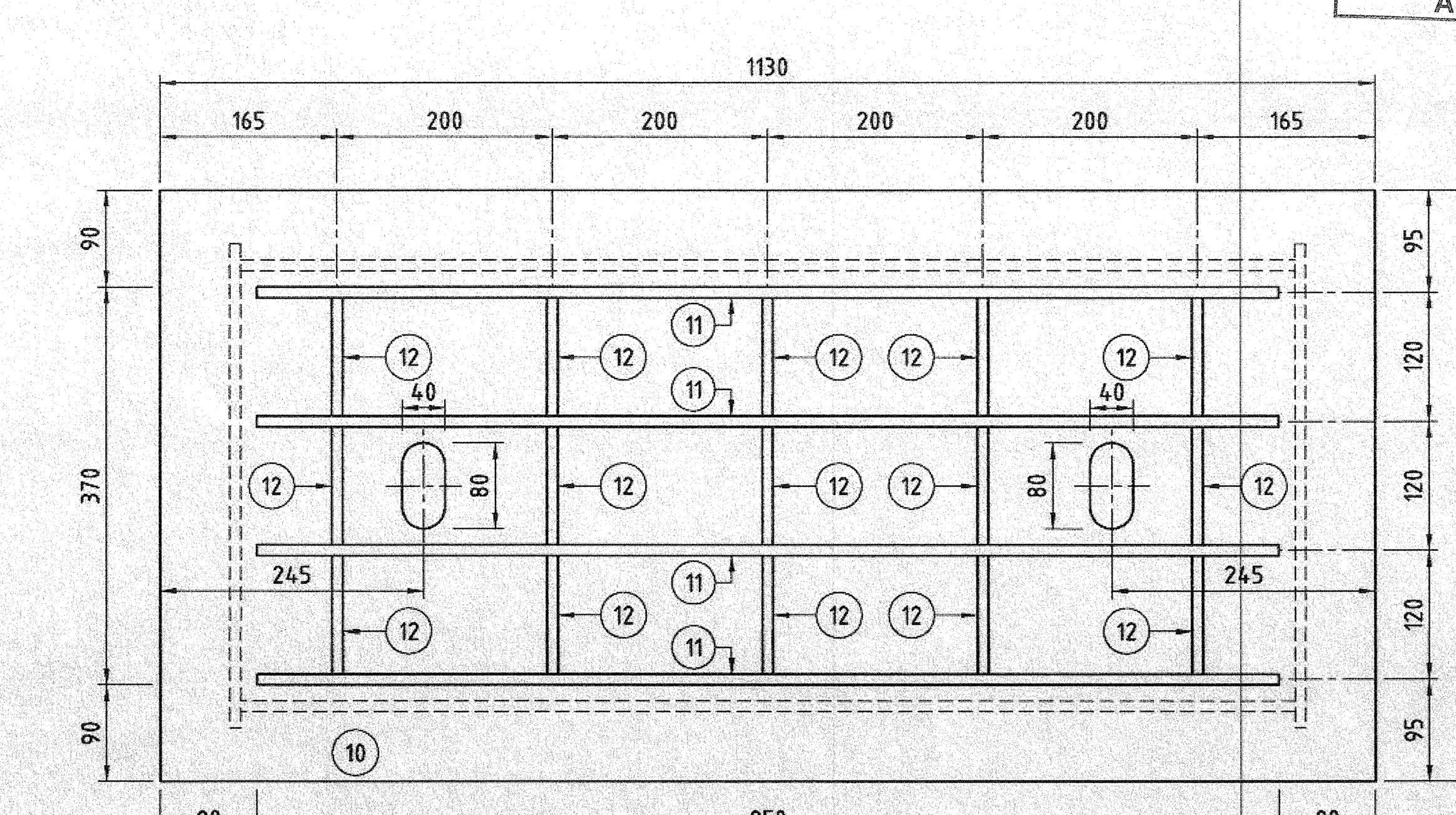
ELEVATION
1 : 5

SIGNATURE:
DATE: 14 01 14
CAPITAL PROJECTS
DOCUMENT CONTROL - DURBAN
AS BUILT

MATERIAL LIST (PER ANCHOR)

	ITEM	DESCRIPTION	DIMENSIONS	No OFF	MASS/ITEM (kg)	TOTAL MASS (kg)	
ANCHOR	ITEM (1)	ANCHOR SHANK	730 x 220 x 40 PLATE (SHAPED) WITH HOLES	1	36,77	37	
ANCHOR	ITEM (2)	FLANGE PLATE	400 x 265 x 30 PLATE (SHAPED) WITH HOLES	2	14,98	30	
ANCHOR	ITEM (3)	BASE PLATE	650 x 350 x 40	1	71,44	71	
ANCHOR	ITEM (4)	PIN	ø90 PIN, 180 LONG WITH ø120 x 16 WASHER	1	9,42	10	
ANCHOR	ITEM (5)	HANDLE ROD	R16, 450 LONG	1	0,71	1	
ANCHOR	ITEM (6)	SIDE SHUTTER	980 x 400 x 10 PLATE	2	30,77	62	
ANCHOR	ITEM (7)	END SHUTTER	450 x 400 x 10 PLATE	2	14,13	28	
ANCHOR	ITEM (8)	BOTTOM SHUTTER	1030 x 450 x 25 PLATE	1	90,96	91	TOTAL MASS PER ANCHOR
ANCHOR	ITEM (9)	ANCHOR BOLT	ø42 BOLT WITH NUT AND WASHER, 1000 LONG	6	10,88	65	395 kg
COVER PLATE	ITEM (10)	COVER PLATE	1130 x 550 x 10 PLATE	1	48,79	49	
COVER PLATE	ITEM (11)	STIFFENER	920 x 50 x 10 PLATE	4	3,73	16	TOTAL MASS PER COVER PLATE
COVER PLATE	ITEM (12)	STIFFENER	110 x 50 x 10 PLATE	15	0,43	7	72 kg
					TOTAL	467 kg	

ANCHOR ASSEMBLY REQUIRED NO. OFF = 20
COVER PLATE REQUIRED No. OFF = 20 1 2



BOTTOM PLAN
1 : 5

COVER PLATE

AS BUILT

DRAWING NO.	REFERENCE

REFERENCE DRAWINGS

NOTES

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CONSULTANT:
RCE CONSULTANTS
Railway & Civil Engineering

DRAWING NO:
RCE-346-CB-01 Sh. 11 Rev. Z

NO.	DESCRIPTION	BY	CHKD	APPD	DATE
Z	AS-BUILT	LAV	JLG	HDW	2013-04-23
2	UPLIFT No. OFF AMENDED	LAV	JLG	HDW	2012-11-19
1	UPLIFT No. OFF AMENDED	LAV	JLG	HDW	2012-10-22
0	ISSUED FOR CONSTRUCTION	LAV	JLG	HDW	2012-05-30
A	ISSUED FOR TENDER	LAV	JLG	HDW	2012-02-29

REVISIONS

CONTRACTOR / CONSULTANT

TITLE	NAME	SIGN	DATE

OPERATING DIVISIONS

TITLE	NAME	SIGN	DATE

TRANSNET CAPITAL PROJECTS

TITLE	NAME	SIGN	DATE
DRAWN	LAV		12 01 16
CHECKED	JLG		12 05 30
DESIGNED	HDW		
CHECKED	JLG		

PR.ENG. / PR.TECH./PR. ARCH

NAME: H de WET
SIGNATURE: DATE: 12 05 30
REG. NUMBER: 720570
SCALE: 1:5
A0

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DURBAN TEL: 031 361 1696
P.O. BOX 1073, DURBAN FAX: 0866 770815

PORT OF DURBAN

INFRASTRUCTURE FOR NEW SHIP TO SHORE CRANES AT NORTH QUAY,

UPLIFT ANCHOR FABRICATION
100t (LANDWARD)

PROJECT NUMBER	OD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
2 2 3 0 9 7	1	0 0 0	S	D E	0 0 0 6	0 1	Z	TD

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