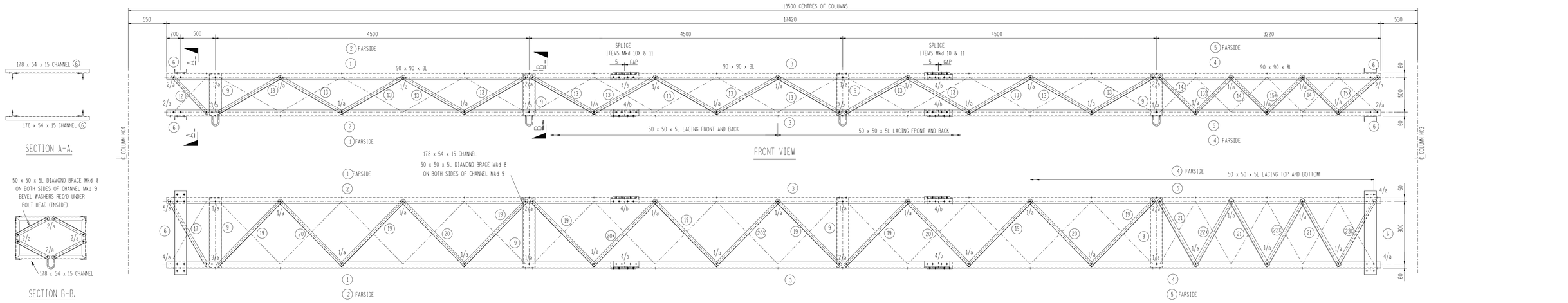


FRONT VIEW

TOP VIEW

BEAM ASSEMBLY DETAILS

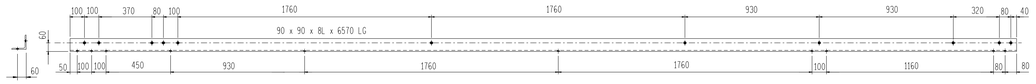
1:20

SECTION A-A.

SECTION B-B.

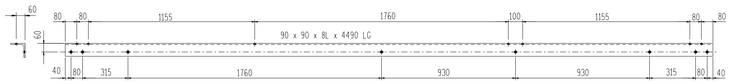
2 - MAIN ANGLES REQ'D AS DRAWN Mkd 1

1:15



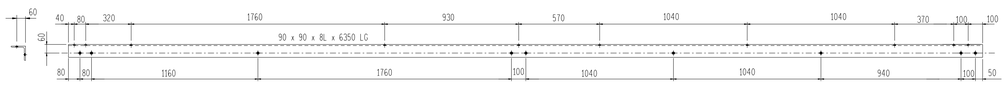
2 - MAIN ANGLES REQ'D AS DRAWN Mkd 2

1:15



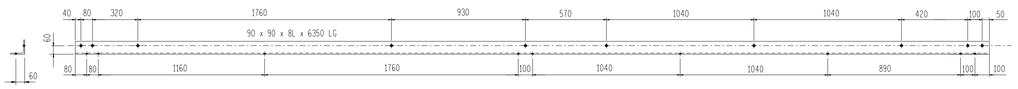
4 - MAIN ANGLES REQ'D AS DRAWN Mkd 3

1:15



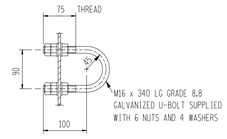
2 - MAIN ANGLES REQ'D AS DRAWN Mkd 4

1:15



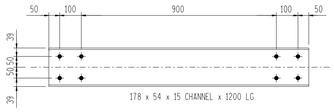
2 - MAIN ANGLES REQ'D AS DRAWN Mkd 5

1:15



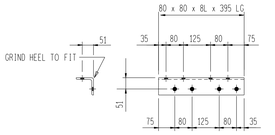
M16 SHACKLE BOLT - 4 NO OFF REQ'D

1 : 5



4 - BRACKET REQ'D AS DRAWN AND NOTED Mkd 6

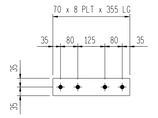
1:10



4 - SPLICE ANGLES REQ'D AS DRAWN Mkd 10

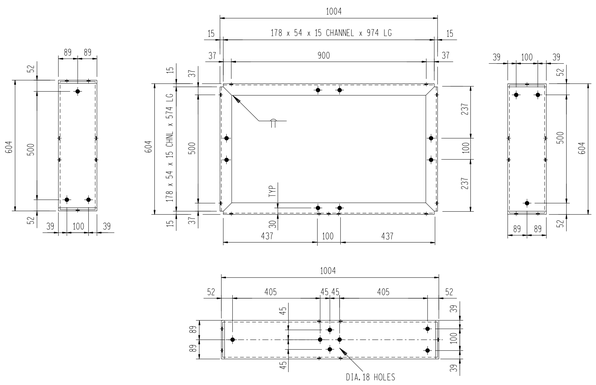
4 - SPLICE ANGLES REQ'D TO OPP.HAND Mkd 10X

1:10



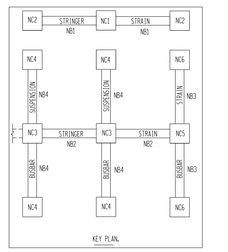
16 - SPLICE PLATES REQ'D AS DRAWN Mkd 11

1:10

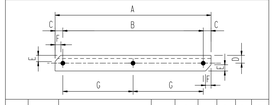


4 - ATTACHMENT MEMBERS REQ'D AS DRAWN Mkd 9

1:10



LACING / BRACING SCHEDULE



MARK	NO OFF	TYPE	A	B	C	D	E	F
12.	2..	50 x 50 x 5	750.	686.	32.	28.	---	---
13.	30.	50 x 50 x 5	1076	1012	32.	28.	---	---
14.	6..	50 x 50 x 5	789.	721.	32.	28.	---	---
15X	6..	50 x 50 x 5	789.	721.	32.	28.	5..	5..
17.	2..	50 x 50 x 5	1103	1039	32.	28.	---	---
19.	18.	50 x 50 x 5	1323	1259	32.	28.	---	---
20.	8..	50 x 50 x 5	1323	1259	32.	28.	5..	5..
20X	4..	OPP.HAND	---	---	---	---	---	---
21.	6..	50 x 50 x 5	1103	1039	32.	28.	---	---
22X	4..	50 x 50 x 5	1103	1039	32.	28.	5..	5..
23X	2..	50 x 50 x 5	1079	1015	32.	28.	5..	5..
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---

		BRACING	A	B	C	D	G
8..	24.	50 x 50 x 5	540.	476.	32.	28.	238.
---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---

"X" DENOTES OPP.HAND TO TYPICAL DETAIL ABOVE.

MASS OF STEELWORK (BOLTS EXCLUDED)	1496 kg
NO. OFF GRADE 8.8 U-BOLTS	4
NO. OFF GRADE 8.8 BOLTS	282

BOLT SCHEDULE

*** STRENGTH GRADE 8.8 ***			
MARK	TYPE	NO OFF	LENGTH
.a	M16	218	45.
.b	M16	64.	50.
---	---	---	---
---	---	---	---

48 M16 BEVEL WASHERS REQ'D.

NOTES ON BOLTS:
1) BOLTS TO BE SUPPLIED WITH NUT AND WASHER.
2) BOLTS ERECTED WITH HEAD TO INSIDE PREFERED.
3) WASHER TO BE PLACED UNDER NUT.
4) ALL BOLTS TO BE GALVANISED.
5) BOLT POSITIONS INDICATED THUS: NO OFF/MARK eg. 6/a
6) TIGHTENING TORQUE = 190 Nm

NOTES

UNLESS OTHERWISE NOTED :

1) QUANTITIES SHOWN ARE FOR ONE BEAM ONLY.
2) ALL STRUCTURAL STEEL TO BE GRADE 300W.
3) ALL STEELWORK TO BE HOT DIP GALVANIZED TO S.A.B.S. 763.
4) ALL HOLES TO BE 18 DIAMETER U.O.N.
5) OPEN HOLES AND SITE BOLTS INDICATED THUS: ⊕ ⊕
6) THE CONTRACTOR SHALL SUPPLY ALL NUTS, BOLTS, WASHERS, ETC, REQUIRED FOR ERECTION.
7) ALL PORTIONS OF WELDED JOINTS, NOT SEALED BY STRUCTURAL WELD, SHALL BE SEAL WELDED.
8) ALL MARKS TO BE STAMPED ONTO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANIZING.
9) ALL MARKS TO BE PREFIXED : ZDB
10) LIMITATIONS OF GENERAL USAGE-
THESE STRUCTURES HAVE BEEN DESIGNED TO SAFELY WITHSTAND THE FOLLOWING LOADING CONDITIONS:
A) CONDUCTOR SUSPENSION LOAD OF 4.5KN PER PHASE
B) WIND LOADS RESULTING FROM A FREE STREAM VELOCITY PRESSURE (qz) OF 1000 Pa AS DEFINED IN CLAUSE 4.5.3 OF SABS 0160-1980. THIS DESIGN PRESSURE IS APPLICABLE FOR TERRAIN CATEGORY 2 LOCATIONS THROUGHOUT SOUTH AFRICA, WITH THE EXCEPTION OF THE AREA BOUNDED BY THE TOWNS OF UPINGTON, KIMBERLEY, COLESBURG AND LAINSBURG INCLUSIVE. WHERE THE STRUCTURES ARE TO BE LOCATED WITHIN THIS AREA, OR ANYWHERE WITHIN SOUTH AFRICA AT A TERRAIN CATEGORY 1 LOCATION (ie. IN A SEVERELY EXPOSED LOCATION), APPROVAL TO USE THESE STRUCTURES MUST BE OBTAINED FROM ESKOM'S CIVIL ENGINEERING DIVISION.

REV	AUTH	DATE	REVISION/REVISIES	BY	CHD	REFERENCE DRAWING
	MAG	DATUM	INDEX REF/INDEKSVERW	DEUR	NAGES	VERWYSINGSTEKENINGE
2	D.D.	02.04.93	AS BUILD REVISION.	A.G.R.	D.D.	
1	D.D.	11.11.91	U-BOLTS AND U-BOLT HOLES REVISED.	A.G.R.	D.D.	3909 BEAM NB3
0			FIRST ISSUE / EERSTE UITREIKING			3902 E&S, NC1 & NC6
DIRECTIVE REGISTR						S2 & S9

ESKOM

275 kv YARD STEELWORK

ASSEMBLY AND DETAILS OF BOBBAR SUSPENSION BEAM TYPE NB4

CHD NAGES	A.G.R. 91.11.11	RL H
	D.D. 02.04.93	RL H
DRAWN GETEKEN	SPELPOPPE	
SCALE SKAAL	AS SHOWN	

APPROVED N. BARNARD. GOEDGEKEUR 06.03.89

0-54/3910 REV 2

SIZE GROOTTE A0L

THIS DRAWING HAS BEEN CREATED ON A C.A.D. SYSTEM. ANY AMENDMENT MUST BE EFFECTED ON THE SAME SYSTEM. C.A.D. REFERENCE No 003 164 039104000 - R02 : 1.