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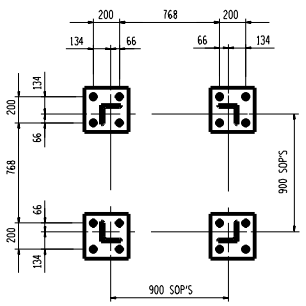
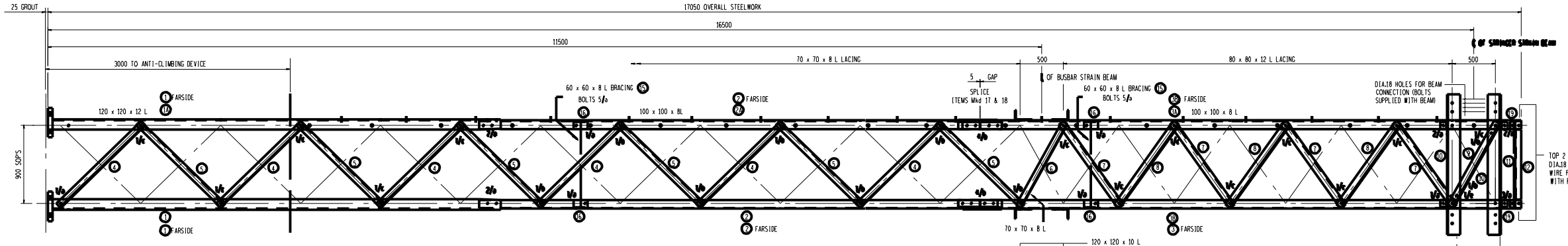
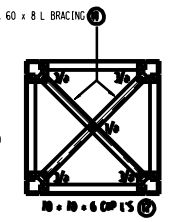


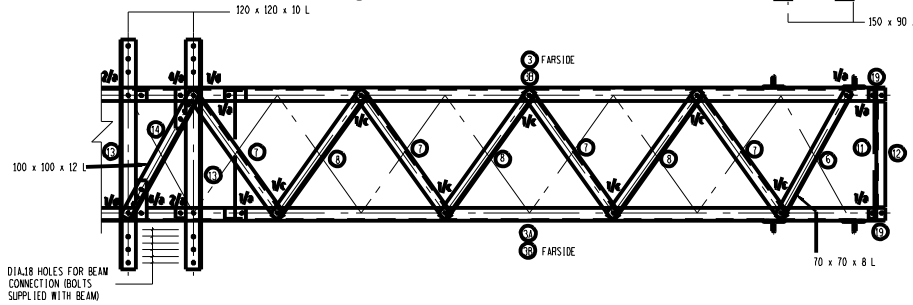
BASE LAYOUT
1:20

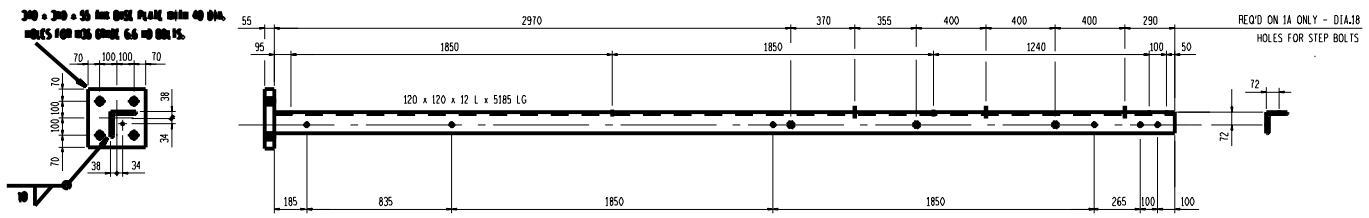




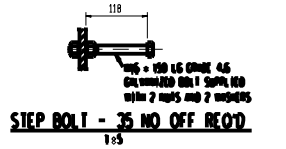
PLAN ON COLUMN CAP
1:20

COLUMN ASSEMBLY DETAILS
1:20

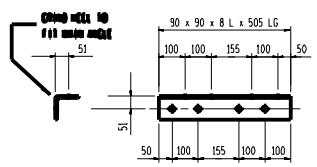




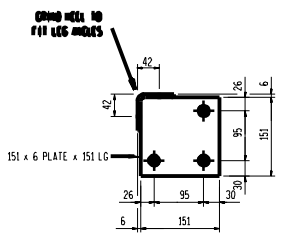
4 - LEG ANGLES REQ'D AS NOTED Mkd 3/1 & 1/1A
1:5

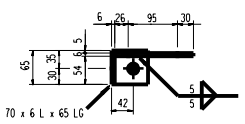


STEP BOLT - 35 NO OFF REQ'D
1:5



4 - SPLICE ANGLES REQ'D AS DRAWN Mkd 17
1:10

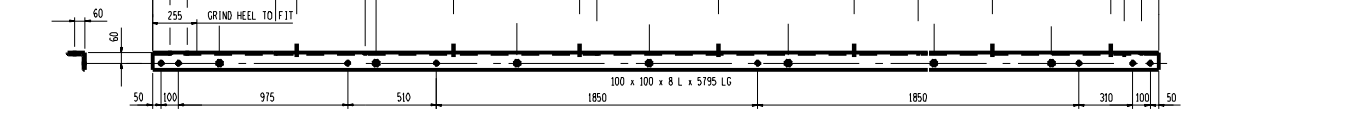




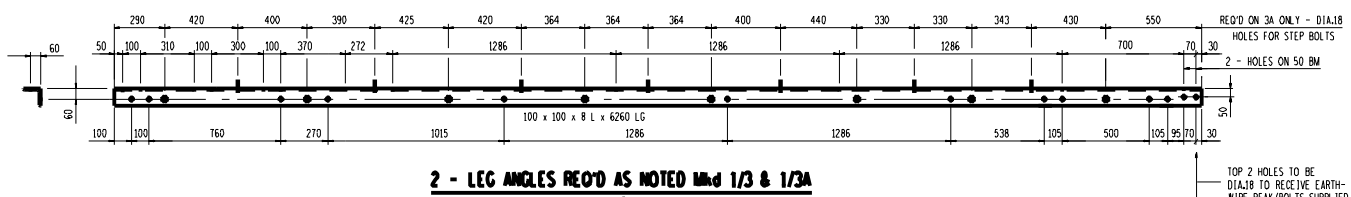
4 - COLUMN CAP PLATES REQ'D AS DRAWN Mkd 19
1:5

LACING / BRACING SCHEDULE

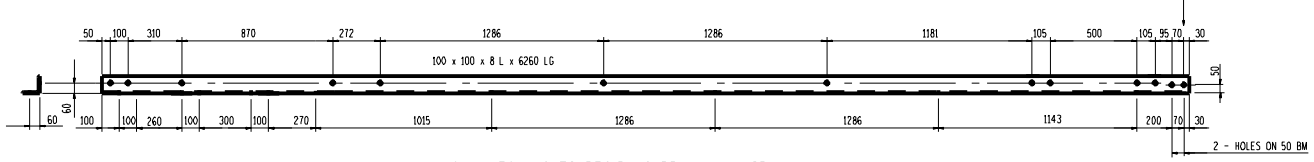
MARK	NO OFF	SIZE	A	B	C	D	E	F
9.	24.	80 x 80 x 8 L	1300	1250	90.	25.		
5.	20.	80 x 80 x 8 L	1300	1250	90.	20.	18.	18.
6.	4.	70 x 70 x 8 L	1110	1050	90.	20.		
7.	16.	80 x 80 x 12 L	1105	1095	90.	20.	25.	20.
8.	12.	80 x 80 x 12 L	1105	1095	90.	40.		
12.	4.	70 x 70 x 8 L	880.	790.	30.	90.		
...	...	...						
...	...	...						
...	...	...						
...	...	...						
...	...	...						
...	...	...						
...	...	...						
...	...	...						
...	...	...						
...	...	...						
...	...	...						
...	...	...						
10.	4.	80 x 80 x 10 L	1260	1200	90.	30.	100.	
11.	2.	80 x 80 x 8 L	1100	1090	90.	20.	530.	
...	...	...						



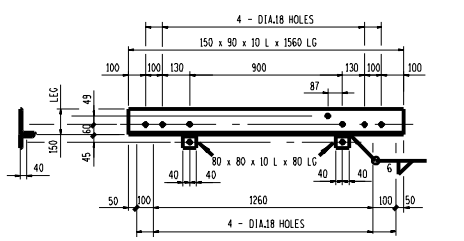
4 - LEG ANGLES REQ'D AS NOTED Mkd 3/2 & 1/2A
1:5



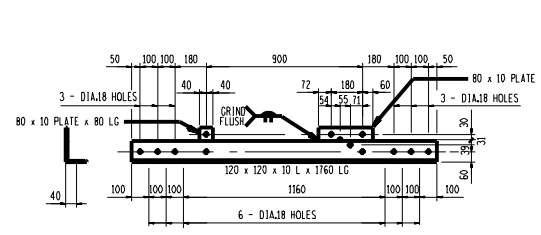
2 - LEG ANGLES REQ'D AS NOTED Mkd 1/3 & 1/3A
1:5



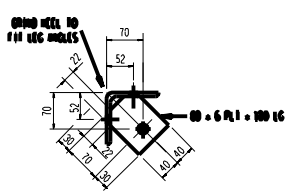
2 - LEG ANGLES REQ'D AS DRAWN Mkd 3B
1:5



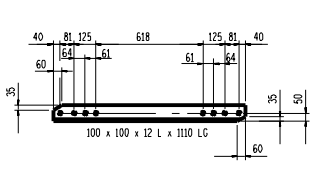
4 - BEAM CONNECTION BRACKETS REQ'D AS DRAWN Mkd 10
1:5



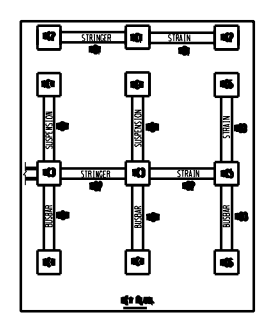
4 - BEAM CONNECTION BRACKETS REQ'D AS DRAWN Mkd 13
1:5

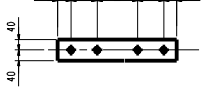


8-X BRACING BRACKETS REQ'D AS DRAWN Mkd 16
1:5

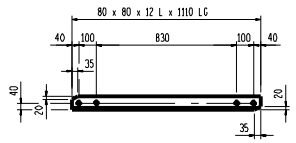


2 - LACING ANGLES REQ'D AS DRAWN Mkd 14
1:5





8 - SPLICE PLATES REQ'D AS DRAWN Mkd 18
1:10



2 - LACING REQ'D AS DRAWN Mkd 9
1:5

BOLT SCHEDULE

MARK	TYPE	NO OFF	LENGTH
.A.	M20	100.	90.
.B.	M20	62.	50.
.C.	M20	50.	55.
.D.	M20	.0.	60.
.E.	M20	.2.	70.

NOTES ON BOLTS
1) BOLTS TO BE SUPPLIED in nuts and washers.
2) BOLTS CHECKED with HEAD TO BEAM PREFERRED.
3) WASHER TO BE PLACED UNDER NUT.
4) ALL BOLTS TO BE GALVANIZED.
5) BOLT POSITIONS INDICATED thus NO OFF/mark eg.4/A
6) TIGHTENING TORQUE = 300 Nm

MASS OF STEELWORK (BOLTS EXCLUDED)

MASS OF GRADE 4.6 BOLTS (SUPPLIED)	10.. kg
NO. OFF GRADE 8.8 BOLTS	222.
...2759 kg	

NOTES

UNLESS OTHERWISE NOTED :
1) DIMENSIONS SHOWN ARE FOR ONE COLUMN ONLY.
2) ALL STRUCTURAL STEEL TO BE GRADE 300W.
3) ALL SECTIONS TO BE HOT DIP GALVANIZED TO S.A.B.S. 763.
4) ALL HOLES TO BE 22 DIAMETER MM.
5) OPEN HOLES AND SLOTTED HOLES INDICATED thus ✦ -H-
SKEW BOLTS INDICATED thus ✱ -N-
6) THE CONTRACTOR SHALL SUPPLY ALL NUTS, BOLTS, WASHERS, ETC, REQUIRED FOR ERECTION.
7) ALL B.BOLTS SHALL BE SNUG TIGHT UNLESS OTHERWISE.
8) ALL FACINGS OF MITRED JOINTS, AND SEALED OF STRUCTURE WELD SHALL BE SEAL WELDED.
9) ALL MARKS TO BE STAMPED ONTO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANIZING.
10) ALL MARKS TO BE PREFIXED : 400/.....
11) ERECTION OF GENERAL STEEL :
THESE STRUCTURES HAVE BEEN DESIGNED TO SAFELY WITHSTAND THE FOLLOWING LOADING CONDITIONS:
a) CONSTRUCTION LOAD OF 20 KN PER PANEL AT +10 DEG.CENTIGRADE.
b) WIND-LOADING SUPPORTING ENGINEER TO BE SUPPLIED PER PANEL AT 20 DEGREES CENTIGRADE
c) WIND LOADS RESULTING FROM A FREE STREAM VELOCITY PRESSURE EQUAL TO 1000 Pa AS DEFINED IN CLAUSE 4.5.3 OF SANS 0160-1989. 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, COLESBERG AND LADYBRAND INCLUSIVE. WHERE THE STRUCTURES ARE TO BE LOCATED WITHIN THIS AREA, OR ANYWHERE ELSE IN SOUTH AFRICA AT A TERRAIN CATEGORY 1 LOCATION (i.e. IN A SEVERELY EXPOSED LOCATION) A DIFFERENT TO USE THESE STRUCTURES MUST BE OBTAINED FROM ESKOM'S CIVIL ENGINEERING DIVISION.
d) SHORT-CIRCUIT LOADS DUE TO PHASE-TO-PHASE AND PHASE-TO-EARTH FAULTS.

REV	BY	DATE	REVISIONS/AMENDMENTS
2	B.B.	97.09.30	AS BUILT REVISION.
1	B.B.	97.07.31	UPGRADED FOR ADDITIONAL LOADS
0			FIRST ISSUE / EERSTE UITREIKING

REFERENCE DRAWINGS / VERWYSINGSTEKENINGE: 0-54

DRAWN / GETEKEN	B.B.	97.07.31	
CHECKED / GEKONTR.	P.J.V.H.	97.08.01	
APPROVED / GOEDGEKEUR	P.J.V.H.	97.08.01	
SCALE / SKAAL	1:5		
SIZE / GROOTTE	A0		

ESKOM

275 kV YARD STEELWORK
ASSEMBLY AND DETAILS OF STRINGER STRAIN/BUSBAR STRAIN COLUMN TYPE MCS

0·54/3905.. REV .2

THIS DRAWING HAS BEEN CREATED ON A CAD SYSTEM. ANY AMENDMENT MUST BE EFFECTED ON THE SAME SYSTEM. CAD REFERENCE No(s) ..W)/0000000 - REV 01.