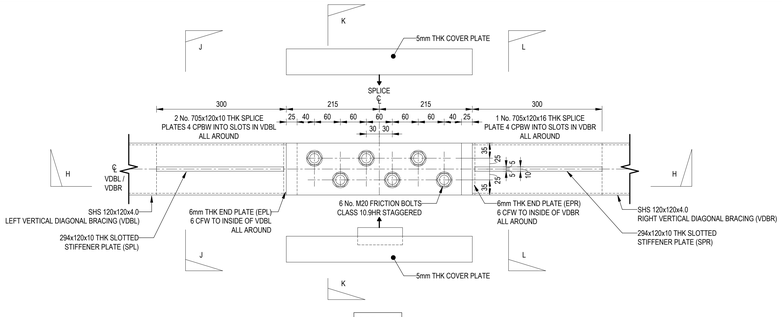
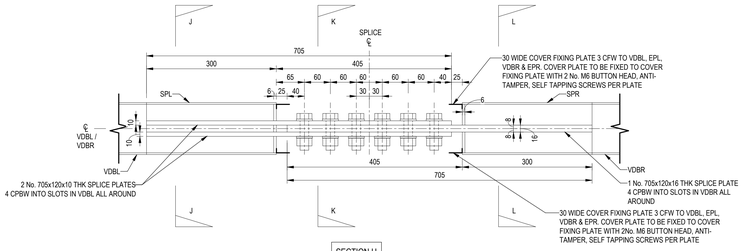
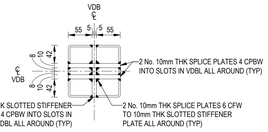


SIDE VIEW



SECTION H



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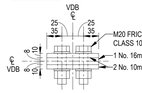
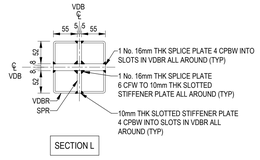


SECTION K



SECTION L

VERTICAL DIAGONAL (120x120x4.0 SHS) SPLICE CONNECTION DETAIL

1 : 5

FRICTION BOLT NOTE:

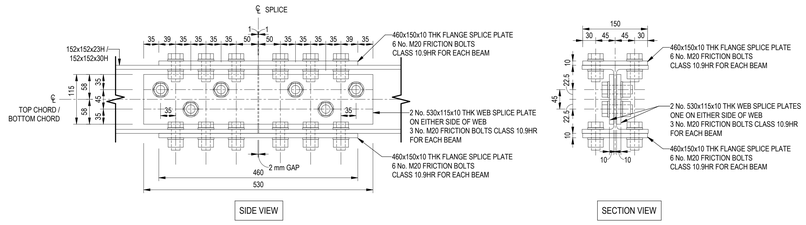
- ALL FRICTION BOLTS TO BE CLASS 10.9HR WITH A MINIMUM TENSILE STRENGTH OF 1040 MPa (IN ACCORDANCE WITH ISO 14399-3).
- ONLY CLASS 10 NUTS MAY BE USED WITH CLASS 10.9HR BOLTS (IN ACCORDANCE WITH ISO 14399-3).
- CHAMFERED WASHERS TO BE PROVIDED UNDER THE BOLT HEAD (IN ACCORDANCE WITH ISO 14399-6).
- PLAIN WASHERS TO BE PROVIDED UNDER THE NUT (IN ACCORDANCE WITH ISO 14399-5).
- TURN-OF-THE-NUT TIGHTENING METHOD TO BE APPLIED.
- SURFACE PREPARATION OF THE FAYING SURFACES (INCLUDING SURFACES OF STEEL MEMBERS, SPLICE PLATES ETC.) TO BE AT LEAST **CLASS A**. FAYING SURFACES MUST BE CLEAN AND FREE OF ANY DEBRIS, PAINT, COATING.
- AFTER THE BOLTS IN A GROUP HAVE BEEN TIGHTENED, ALL BOLTS ARE REQUIRED TO BE TENSIONED TO A MINIMUM VALUE OF 178 kN (FOR M20 BOLTS).
- ANY FRICTION GRIP BOLTS OR PRELOADED BOLTS MUST BE KEPT STRICTLY APART FROM OTHER BOLTS AND IN BATCH LOTS, AS ISO 14399 REQURIES FULL TRACEABILITY.
- THE HOLES IN THE STEELWORK SHOULD NOT HAVE ANY RIDGES INSIDE THEM.

TURN-OF-THE-NUT TIGHTENING NOTE:

- BEFORE APPLING THE PRESCRIBED TURN ON THE NUT OR THE BOLT HEAD, ALL PLIES OF THE JOINT AT ALL BOLT POSITION ARE TO BE PULLED INTO CLOSE CONTACT AND ALL THE BOLTS ARE TIGHTENED TO WHAT AN ORDINARY, FIT STEELWORKER CAN ACHIEVE WITH A PODGER SPANNER TO THE "SNUG-TIGHT" CONDITION.
- AFTER SUITABLE MARKS ARE MADE SUCH THAT THE SUBSEQUENT ROTATION BETWEEN BOLT AND NUT MAY BE OBSERVED. THE NUT OR THE HEAD TO BE SUBJECTED TO THE APPROPRIATE ROTATION, EQUAL TO 1/3 TO 3/4 TURNS DEPENDING ON THE GRIP LENGTH, AS SHOWN IN THE TABLE BELOW.

DISPOSITION OF OUTER FACES OF BOLTED PARTS	BOLT LENGTH (L)	TURN
BOTH FACES NORMAL TO BOLT AXIS OR ONE FACE NORMAL TO AXIS AND OTHER FACE SLOPED 1:20 MAX (BEVEL WASHER NOT USED)	L ≤ 4d	1/3 (120°)
	4d < L ≤ SMALLER OF (8d or 200mm)	1/2 (180°)
	SMALLER OF (8d or 200mm) < L	2/3 (240°)
BOTH FACES SLOPED 1:20 MAX FROM NORMAL TO BOLT AXIS (BEVEL WASHER NOT USED)	ALL LENGTHS	3/4 (270°)

- PUNCH MARKS TO BE MADE OPPOSITE EACH OTHER ON THE NUT AND THE END OF THE BOLT, TO ALLOW VISUAL PROOF OF WHETHER A PARTICULAR BOLT HAS BEEN TORQUED AND BY HOW MUCH. QUALITY ASSURANCE AND THE STRUCTURAL INSPECTION WILL BE BASED ON THIS CRITERA - CHECKING WHETHER THE NUT HAS ROTATED RELATIVE TO THE BOLT AS PER THE PROCEDURE DESCRIBED ABOVE.
- RE-USE OF FRICTION BOLTS IS NOT PERMITTED IN THE CASE OF CLASS 10.9HR
- REFER TO SANS 10094 FOR DETAILED BOLT INSTALLATION AND TIGHTENING PROCEDURES.

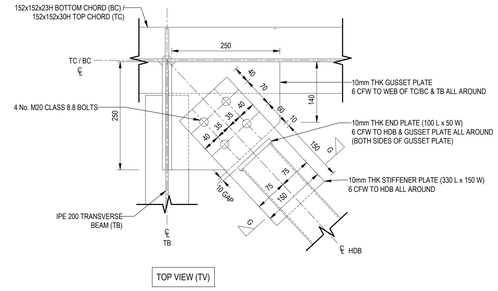


SIDE VIEW

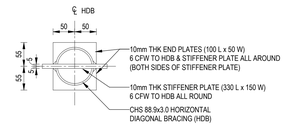
SECTION VIEW

TOP / BOTTOM CHORD (152x152x23H/30H SPLICE CONNECTION DETAIL

1 : 5



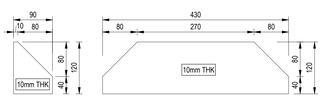
TOP VIEW (TV)



SECTION G

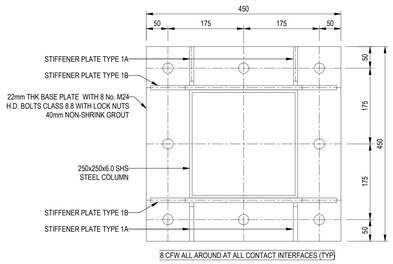
HORIZONTAL DIAGONAL BRACING END CONNECTION 1 (HDB1)

1 : 5

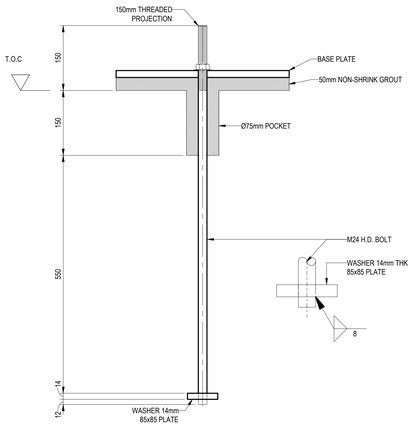


STIFFENER PLATE TYPE 1A

STIFFENER PLATE TYPE 1B

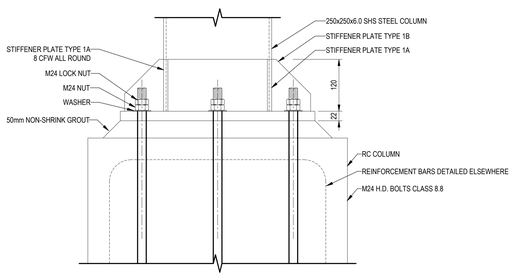


TOP VIEW



M24 H.D BOLT DETAIL

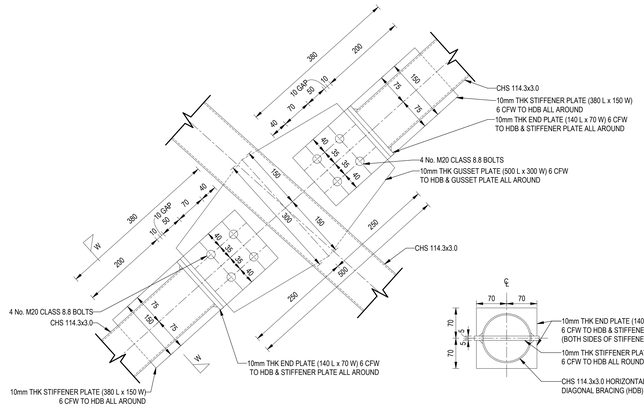
NOTE: ALL H.D. BOLTS TO BE CLASS 8.8



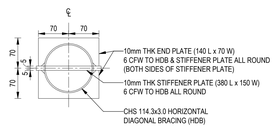
SECTION

250x250x6.0 SHS BASE PLATE DETAIL

1 : 5



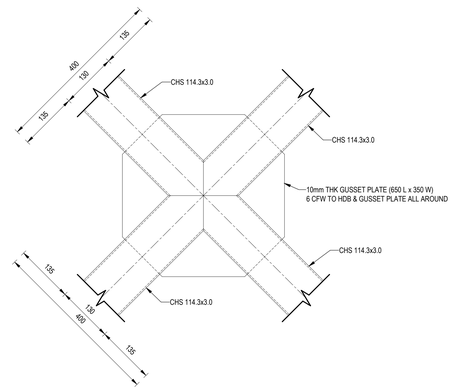
FRONT VIEW



SECTION W

CHORD CONNECTION TYPE 13 (CC13) DETAIL

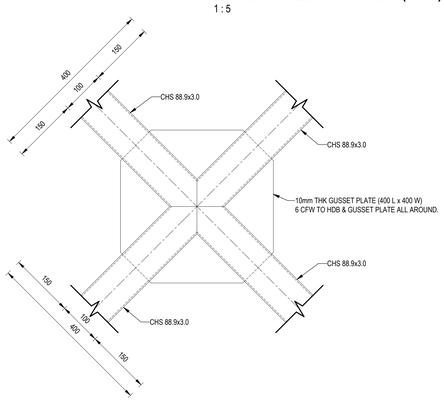
1 : 5



FRONT VIEW

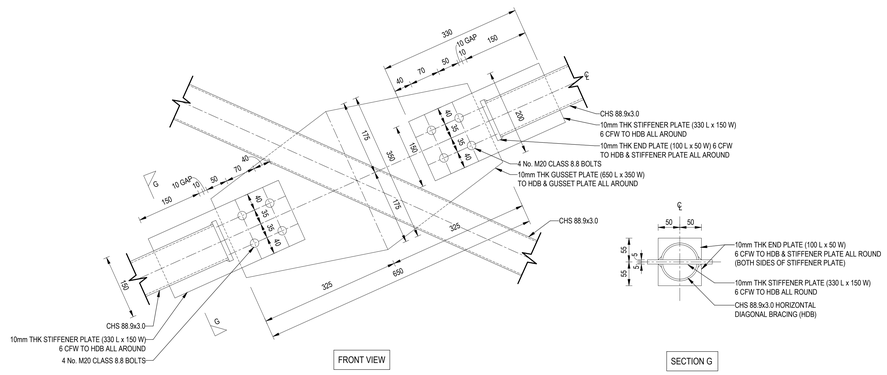
CHORD CONNECTION TYPE 14 (CC14) DETAIL

1 : 5



CHORD CONNECTION TYPE 15 (CC15) DETAIL

1 : 5



FRONT VIEW

SECTION G

CHORD CONNECTION TYPE 16 (CC16) DETAIL

1 : 5

GENERAL NOTES:

- DO NOT SCALE DRAWINGS. ONLY DIMENSIONS PROVIDED ON DRAWINGS TO BE USED.
- ALL DIMENSIONS ARE IN MILLIMETERS UNO.
- ALL DIMENSIONS SHALL BE VERIFIED ON SITE BEFORE PROCEEDING WITH THE WORK. RELEVANT PARTIES SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES.
- THIS DRAWING MUST BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS, REPORTS AND DRAWINGS.
- FOR GENERAL NOTES, REFER TO DRAWINGS: 1002970-ZUT-DRG-1X-GF-ST-0150 TO -0152
- ALL SETTING OUT OF VERTICAL ELEMENTS AND FOUNDATIONS TO CENTRE LINES UNO.
- ALL SETTING OUT OF HORIZONTAL ELEMENTS ARE TO EDGES UNO.
- SETTING OUT ONLY PROVIDED TO VERTICAL ELEMENTS NOT CENTERED ON GRIDLINES UNO.
- FOR SETTING OUT NOT INDICATED ON STRUCTURAL DRAWINGS, REFER TO ARCHITECTURAL DOCUMENTATION.
- THE SAFE BEARING CAPACITY OF THE GROUND FOR ALL FOUNDATIONS IS TO BE VERIFIED BY DCP TESTS IN ACCORDANCE WITH THE NUMBER AND PROCEDURE SPECIFIED IN THE GENERAL NOTES.

PRELIMINARY

NOT FOR CONSTRUCTION

DISCLAIMER

IF CONSTRUCTION DRAWINGS ARE ISSUED UNSIGNED, THE MASTER WITH THE ORIGINAL SIGNATURE OF APPROVAL WILL BE HELD AT THE ZUTARI OFFICE OF THE APPROVER

REVISIONS

NO.	DATE	DESCRIPTION	APPROVED
A	2025-09-12	ISSUED FOR INFORMATION	W. JACKSON
1	2025-01-31	ISSUED FOR CONSTRUCTION	W. JACKSON
0	2024-11-29	ISSUED FOR CONSTRUCTION	W. JACKSON

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USE FIGURED DIMENSIONS ONLY - DO NOT SCALE. ANY CONSTRUCTION FROM THESE DRAWINGS IS AT OWNER'S RISK.

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PARTIAL SERVICE: ANY DISCREPANCIES WITH SITE OR OTHER INFORMATION IS TO BE ADVISED TO THE ARCHITECT AND DIRECTION OR APPROVAL IS TO BE SOUGHT BEFORE IMPLEMENTATION OF THE DRAWING.

FOR THE PURPOSE OF COORDINATION, ALL RELEVANT PARTIES MUST CHECK THIS INFORMATION PRIOR TO IMPLEMENTATION AND REPORT ANY DISCREPANCIES TO THE ARCHITECT.

Engineer: W. JACKSON REG no: 20150154

Signature: Date:

DBSA
DEVELOPMENT BANK OF SOUTHERN AFRICA
Building Africa's Prosperity

Client: Goverment Printing Works

Signature: Date:

government printing
Department: Government Printing Works
REPUBLIC OF SOUTH AFRICA

PROJECT:
CONSTRUCTION OF NEW CARPORTS, GUARDHOUSE AND BOUNDARY WALL FOR GOVERNMENT PRINTING WORKS ADMINISTRATIVE HEADQUARTERS

PROJECT:

DRAWING TITLE:
STRUCTURAL SERVICES
LINK BRIDGE
CONNECTIONS- SHEET 8

Building Classification: G1_Offices		Climatic Zone: Zone 2:
Paper Size: A0		Scale: AS INDICATED
Drawn: J.P. DELPORT	Checked: J. HUANG	Date: 2025-09-12

PROJECT No: GPW/HIQ/2017/02

DRAWING No: 1002970-ZUT-DRG-1X-GF-ST-0217

REVISION: A

Plot Date: 2025/09/09 07:29:17 Office: Filename: Autodesk Docs://1002970_DBSA Tech/18 CFX_2023/1002970-ZUT-MDBA-A1-ZZ-ST-M2000.rvt