Supplementary Information

The following information is associated with Network Rail Standard:
**NR CIV/SD/1034** Rev B

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### CAD Drawing

- CIV/SD/1034

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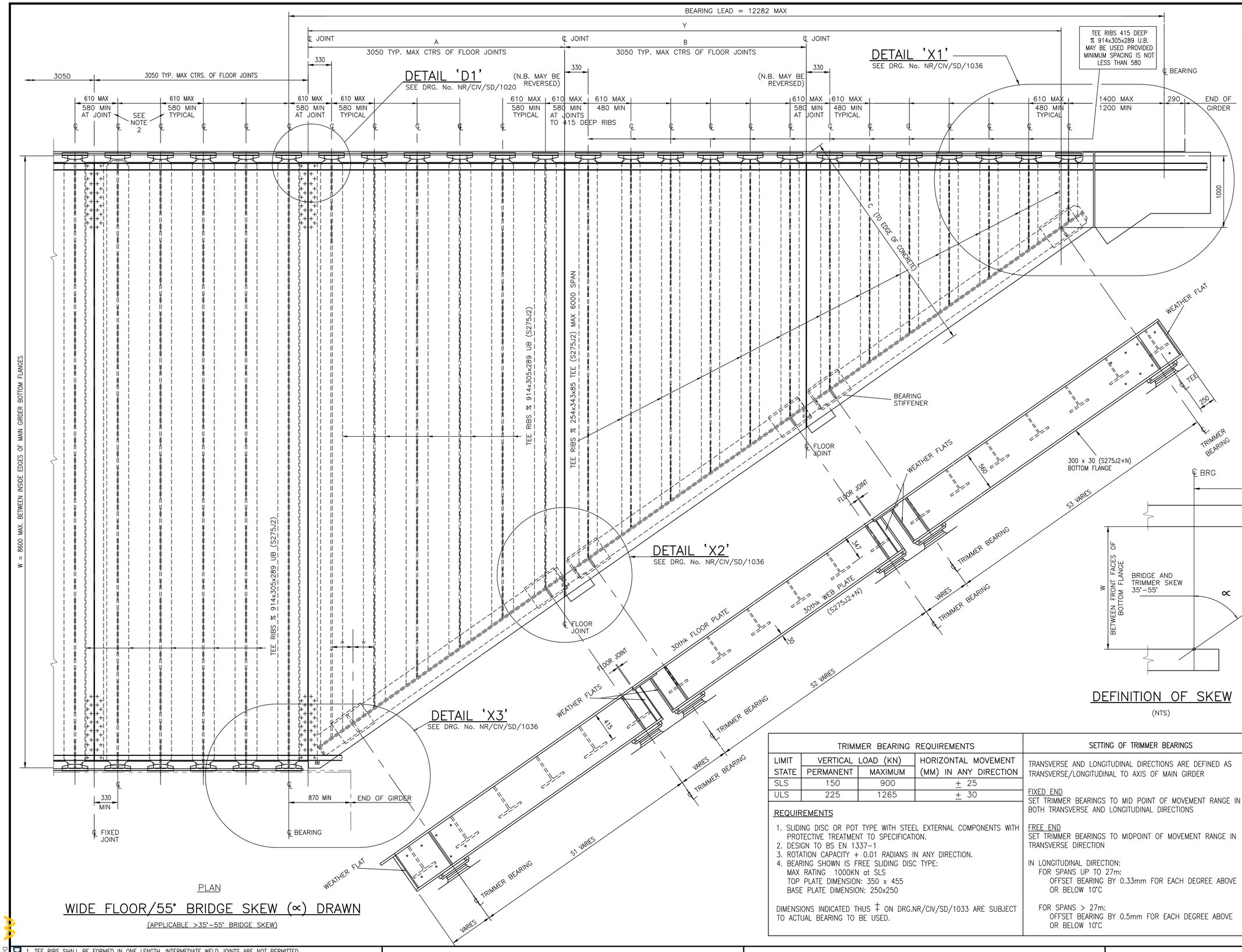
DRAWING No. NR/CIV/SD/1034




PLAN

## WIDE FLOOR/55° BRIDGE SKEW (∝) DRAWN

(APPLICABLE >35°–55° BRIDGE SKEW)

## DEFINITION OF SKEW

(NTS)

### TRIMMER SETTING OUT

TRIMMER LENGTHS TO BE MADE APPROXIMATELY EQUAL USING THE FOLLOWING FORMULAE:

$$\frac{Y}{3} - 300 \leqslant A \leqslant \frac{Y}{3} + 300$$

$$\frac{Y}{3} - 300 \leqslant B \leqslant \frac{Y}{3} + 300$$

IF A, B OR C EXCEED *3500mm THEN TRIMMER IS TO BE SPLIT INTO FOUR SECTIONS AS FOR 50 – 55° RANGE

* ABSOLUTE MAXIMUM FOR TRANSPORTATION

WORKED EXAMPLE:

SKEW : ∝ = 55°
FLOOR WIDTH : W = 8600
BEARING LEAD : BL = 12282

Y = 12282 –(610–330) –1000 tan 55°)
= 10574

A = 3225 < A < 3825
3225 < B < 3825

CHOOSE TEE RIB SPACING TO SUIT A, B AND TO GIVE APPROXIMATELY EQUAL TRIMMER SPANS.

A (SHOWN) = 3600
B (SHOWN) = 3391
C (SHOWN) = 3270

S1 = 3296
S2 = 3458
S3 = 3962

E.G. $S1 = \sin^{-1}\alpha\left(A - 330 - \frac{600}{2} - (600-330)\right)$

$= \sin^{-1} 55\left(3600 - 330 - \frac{600}{2} - (600-330)\right)$

= 3296

### TRIMMER BEARING REQUIREMENTS

| LIMIT STATE | VERTICAL LOAD (KN) PERMANENT | VERTICAL LOAD (KN) MAXIMUM | HORIZONTAL MOVEMENT (MM) IN ANY DIRECTION |
|---|---|---|---|
| SLS | 150 | 900 | ± 25 |
| ULS | 225 | 1265 | ± 30 |

REQUIREMENTS

1. SLIDING DISC OR POT TYPE WITH STEEL EXTERNAL COMPONENTS WITH PROTECTIVE TREATMENT TO SPECIFICATION.
2. DESIGN TO BS EN 1337–1
3. ROTATION CAPACITY + 0.01 RADIANS IN ANY DIRECTION.
4. BEARING SHOWN IS FREE SLIDING DISC TYPE:
   MAX RATING 1000KN at SLS
   TOP PLATE DIMENSION: 350 x 455
   BASE PLATE DIMENSION: 250x250

DIMENSIONS INDICATED THUS ‡ ON DRG.NR/CIV/SD/1033 ARE SUBJECT TO ACTUAL BEARING TO BE USED.

### SETTING OF TRIMMER BEARINGS

TRANSVERSE AND LONGITUDINAL DIRECTIONS ARE DEFINED AS TRANSVERSE/LONGITUDINAL TO AXIS OF MAIN GIRDER

FIXED END
SET TRIMMER BEARINGS TO MID POINT OF MOVEMENT RANGE IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS

FREE END
SET TRIMMER BEARINGS TO MIDPOINT OF MOVEMENT RANGE IN TRANSVERSE DIRECTION

IN LONGITUDINAL DIRECTION:
FOR SPANS UP TO 27m:
OFFSET BEARING BY 0.33mm FOR EACH DEGREE ABOVE OR BELOW 10°C

FOR SPANS > 27m:
OFFSET BEARING BY 0.5mm FOR EACH DEGREE ABOVE OR BELOW 10°C

1. TEE RIBS SHALL BE FORMED IN ONE LENGTH, INTERMEDIATE WELD JOINTS ARE NOT PERMITTED.
2. 580 RIB SPACING IS DESIRABLE MINIMUM TO ALLOW WELDING, PROTECTIVE TREATMENT & MAINTENANCE.
3. SEE DRG. No. NR/CIV/SD/1020 FOR LOCATION OF FLOOR PLATE BUTT WELDS.

| Rev | Date | Description of revision | Design'd | C'kd |
|---|---|---|---|---|
| B | Dec 10 | EUROCODE ISSUE | CH | MM |
| A | Dec 09 | ORIGINAL ISSUE | CH | MM |

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| Approved | P Clark | Senior Programme Engineering Manager (Building & Civils) | P.C. | Dec–10 |

Master copy with original signatures held by Network Rail HQ CIVIL ENGINEERING STANDARD DESIGN

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STANDARD HALF THROUGH UNDERBRIDGES
BOX GIRDERS & TRANSVERSE RIBBED FLOORS

# DOUBLE TRACK – 2 GIRDERS ALTERNATIVE TRIMMER WIDE FLOOR >35° – 55° SKEW SHEET 1 OF 3

| | |
|---|---|
| Scale | 1;25 |
| Drawing Number | NR/CIV/SD/1034 B |

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