Supplementary Information

The following information is associated with Network Rail Standard:
NR CIV/SD/313 Rev C

Additional Content Access

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CAD Drawing

- CIV/SD/313

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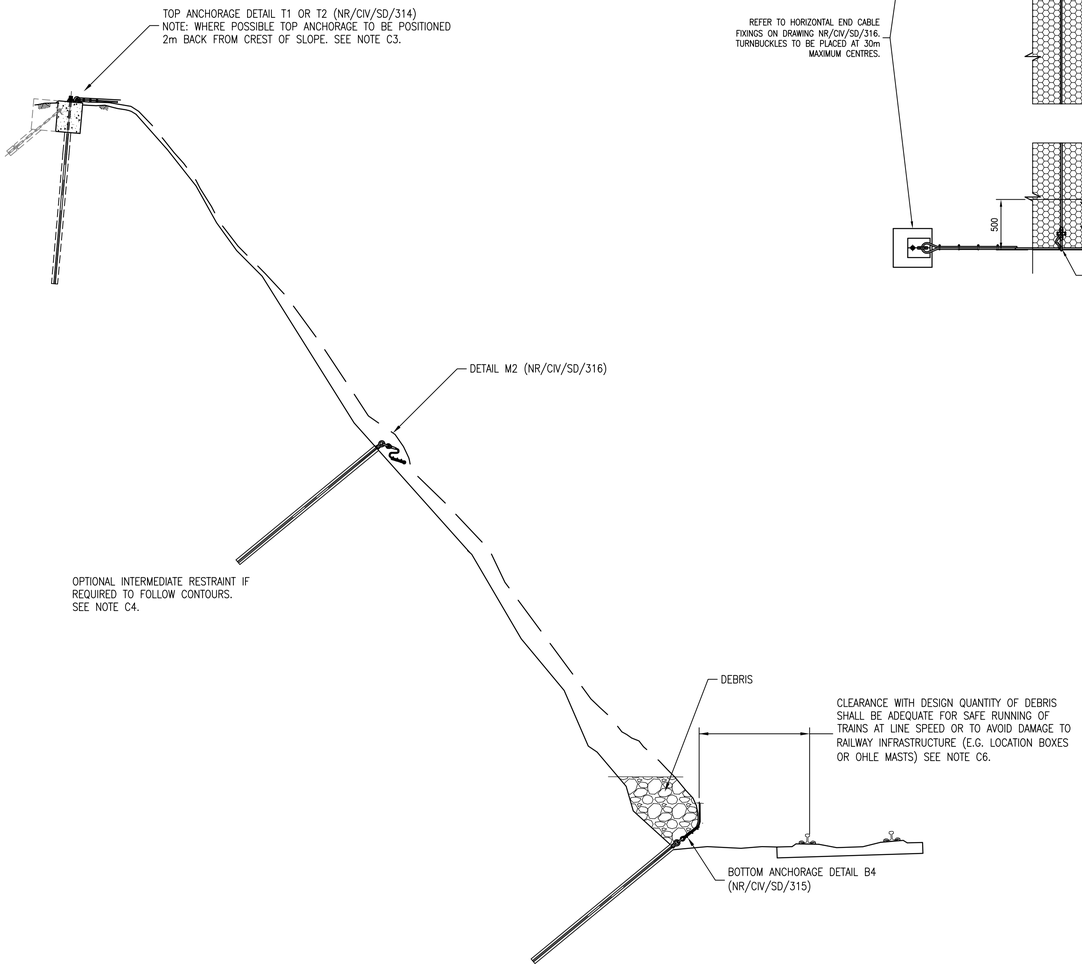
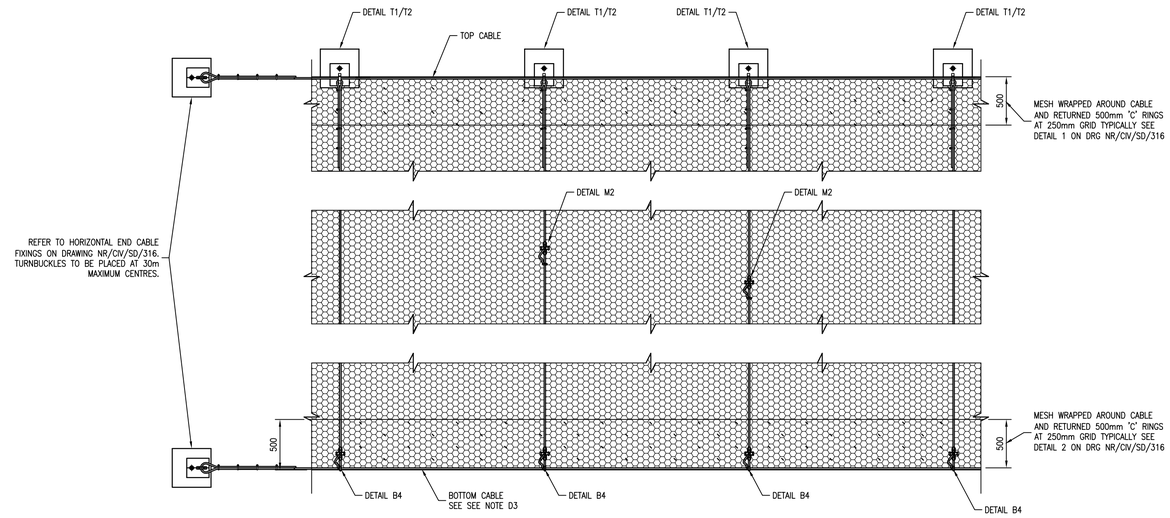


TYPE N5 – CLOSED BASE LOOSE NETTING
TYPICAL SECTION

SCALE 1:50



ELEVATION

SCALE 1:25

NOTE
FOR DETAILS REFER TO DRAWINGS No.
NR/CIV/SD/314 – TOP DETAILS
NR/CIV/SD/315 – BOTTOM DETAILS
NR/CIV/SD/316 – INTERMEDIATE MISCELLANEOUS DETAILS

DRAWING No. NR/CIV/SD/313

NOTES

A GENERAL:

A1 THIS DRAWING SHOWS A TYPICAL ARRANGEMENT FOR AN APPLICATION WHERE THE CESS WIDTH IS RESTRICTED AND THE NETTING IS REQUIRED TO RETAIN MATERIAL AND MAINTAIN A SAFE CLEARANCE TO THE TRACK.

B SPECIFICATION:

B1 REFER TO DRAWING NR/CIV/SD/310

B2 REFER TO TUM NR/CIV/SD/TUM/301

C DESIGN ASSUMPTIONS:

C1 THE CLOSED BASE SYSTEM IS NECESSARY TO STOP DEBRIS SPILLING ONTO THE CESS. THE DISADVANTAGE OF THIS SYSTEM IS THAT NETTING, VERTICAL CABLES AND TOP ANCHORS ARE REQUIRED TO SUPPORT THE WEIGHT OF THE DEBRIS.

C2 THE SCHEME DESIGNER IS TO CONFIGURE THE POSITION OF THE BOTTOM ANCHOR IN CONJUNCTION WITH DEFINING THE APPROPRIATE WIRE CABLE LENGTH BETWEEN THE TOP AND BOTTOM ANCHORS IN THE PROJECT SPECIFIC FORM B. THE CORRECT CABLE LENGTH WILL RESULT IN THE CLEARANCE REQUIREMENTS BEING MET WITH THE NETTING RETAINING THE DESIGN QUANTITY OF DEBRIS. THE CABLE LOAD SHALL BE DETERMINED FOR THE DESIGN CONDITION AND CABLE SPACING AND TOP ANCHOR REQUIREMENTS DETERMINED FROM THIS LOADING.

C3 THE SCHEME DESIGNER SHALL DETERMINE WHETHER THE TOP ANCHOR NEEDS TO BE SUPPORTED USING A TYPE T1 ANCHOR OR A TYPE T2 ANCHOR, AS SHOWN ON DRAWING NR/CIV/SD/314.

C4 THE USE OF INTERMEDIATE SLINGS IS OPTIONAL, NOTING THAT RESTRAINING THE NETTING AT AN INTERMEDIATE LEVEL WILL HELP REDUCE THE ENERGY OF THE FALLING/SLIPPING MASS BUT MAY ALSO RESULT IN LOCAL OVERLOADING IN THE VICINITY OF AN INTERMEDIATE ANCHOR DURING A DEBRIS FALL AND PREMATURE RUPTURE OF THE NETTING.

C5 THE SCHEME DESIGNER SHALL REFER TO THE NETTING MANUFACTURERS PUBLISHED TESTING DATA WHEN ASSESSING MESH STRENGTH AND PERFORMANCE.

C6 MINIMUM CLEARANCE TO DEBRIS TO BE IN ACCORDANCE WITH NR/L2/TRK/2049. SCHEME DESIGNER TO ENSURE ADEQUATE CLEARANCE IS MAINTAINED AFTER ANTICIPATED DEBRIS FALL, INCLUDING ALLOWANCE FOR LINESIDE FACILITIES FOR PERSONAL SAFETY

D INSTALLATION GUIDANCE:

D1 REFER TO DRAWING NR/CIV/SD/310 FOR GENERAL INSTALLATION GUIDANCE.

D2 THE LENGTH OF WIRE CABLE AND ASSOCIATED NETTING BETWEEN THE TOP AND BOTTOM ANCHOR WILL NEED TO BE DETERMINED FOLLOWING THE INSTALLATION OF THE TOP AND BOTTOM ANCHORS. THE POSITIONS OF THE TOP AND BOTTOM ANCHORS WILL NEED TO BE SURVEYED AND THE LENGTH DETERMINED IN RELATION TO THE DESIGN GEOMETRY OF THE NETTING SYSTEM WHEN FILLED WITH THE DESIGN DEBRIS VOLUME.

D3 BOTTOM CABLE IS TO BE HAND TIGHTENED TO REMOVE ANY SLACK USING TURNBUCKLE.

E SAFETY, HEALTH & ENVIRONMENTAL RISK ASSESSMENT:

E1 REFER TO 'TABLE 1' OF DRAWING NR/CIV/SD/310.

F MAINTENANCE:

F1 REFER TO NETTING TUM NR/CIV/TUM/301.

F2 DEBRIS NEEDS TO BE REMOVED WHEN ANY ADDITIONAL VOLUME OF SLIPPED DEBRIS COULD
a. DAMAGE OR FAIL NETTING SYSTEM
b. EXCEED CLEARANCE LIMITS
SCHEME DESIGNER TO OUTLINE MAINTENANCE REQUIREMENTS IN SCHEME SPECIFIC FORM A/B AND PRODUCE A MAINTENANCE MANUAL.

Rev	Date	Description of revision	Design'd	C'kd
C	MAY 2011	THIRD ISSUE	GPR	SWMF
B	18.03.08	SECOND ISSUE	NGAY	NGAY
A	08.08.06	FIRST ISSUE	NGAY	NGAY

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CIVIL ENGINEERING STANDARD DESIGN

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EARTHWORKS

PASSIVE NON-STRESSED NETTING
CLOSED BASE LOOSE NETTING

Scale	AS SHOWN	
Drawing Number	NR/CIV/SD/313	REV. C

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