Supplementary Information

The following information is associated with Network Rail Standard:
NR CIV/SD/201 Rev C

Additional Content Access

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CAD Drawing

- CIV/SD/201

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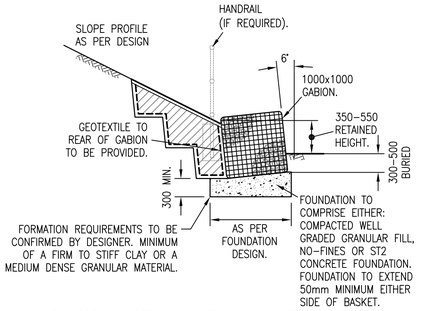
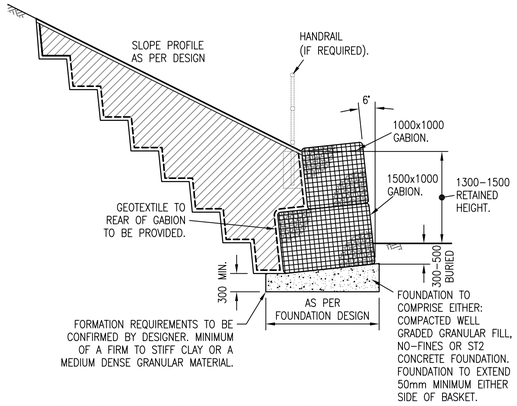


GABION RETAINING WALL FOR GRANULAR MATERIALS EMBANKMENT

(RETAINED HEIGHT <540)

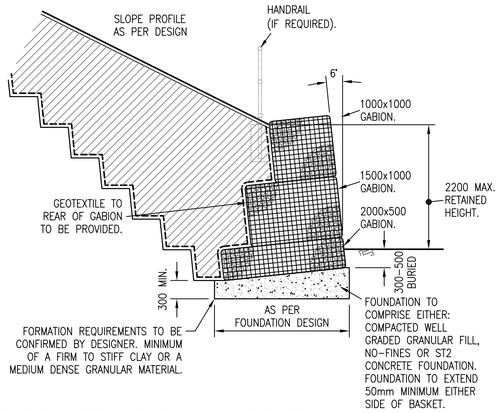
SCALE 1:50



GABION RETAINING WALL FOR GRANULAR MATERIALS EMBANKMENT

(MAXIMUM RETAINED HEIGHT 1500)

SCALE 1:50

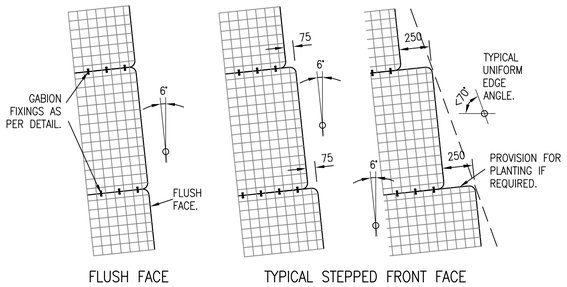


GABION RETAINING WALL FOR GRANULAR MATERIALS EMBANKMENT

(MAXIMUM RETAINED HEIGHT 2200)

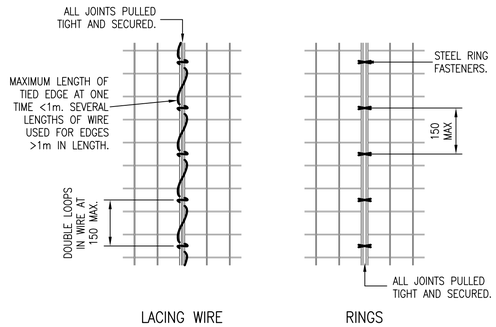
SCALE 1:50

1. UNITS SHOULD NOT OVERLAP UNIT BELOW AT REAR OF WALL.
2. EXPOSED FACES OF GABIONS TO BE HAND PACKED.
3. WHEN MORE THAN ONE VERTICAL LAYER, GABIONS TO BE SLIGHTLY OVERFILLED TO ALLOW FOR NATURAL SETTLEMENT.
4. TOP SURFACE TO BE EVENLY LEVELED TO MINIMISE VOIDS BETWEEN UNITS.



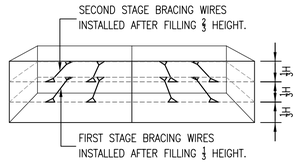
TYPICAL GABION WALL FACE ALIGNMENT CROSS–SECTIONS

SCALE 1:25



GABION BASKET FIXING DETAILS

SCALE 1:10

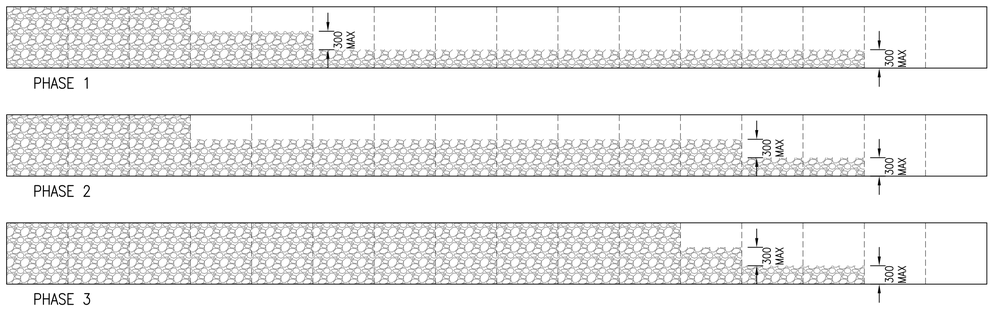


GABION BASKET BRACING WIRES FOR 1m HIGH UNITS

END UNITS REQUIRE BRACING IN TWO DIRECTIONS

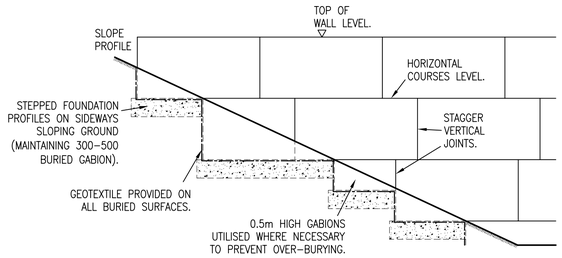
SCALE 1:50

FILL LAYER SHALL NEVER BE MORE THAN 300mm HIGHER THAN ADJOINING COMPARTMENTS TO AVOID OVERLOADING PANELS.



TYPICAL ELEVATION OF WALL SHOWING INDICATIVE CONSTRUCTION SEQUENCE

SCALE 1:50



TYPICAL ELEVATION

SCALE 1:50

DRAWING No. NR/CIV/SD/201

NOTES

A1 FOR GENERAL NOTES SEE DRG NR/CIV/SD/200.

A2 FOR GENERIC RISK ASSESSMENT, REFER TO DRG NR/CIV/SD/200 TABLE 1. DESIGNER TO COMPILE SITE SPECIFIC RISK ASSESSMENT.

B FOUNDATION

B1 NO FINES CONCRETE TO HAVE NOMINAL 20 OR 40mm SINGLE–SIZE AGGREGATE. AGGREGATE TO CEMENT RATIO TO BE 8 TO 1 BY VOLUME AND MAXIMUM CEMENT RATIO 0.27.

B2 CONCRETE TO BE IN ACCORDANCE WITH BS8500 AND EN 206–1.

B3 A GRANULAR FILL FOUNDATION SHALL HAVE A MINIMUM CHARACTERISTIC PHI VALUE OF 35°.

C GABION SPECIFICATION

C1 GABION FILL MATERIAL TO BE HIGHWAY AGENCY CLASS 6G GRADED BETWEEN 100 AND 200mm.

C2 GABION BASKETS TO BE CONSTRUCTED FROM GALVANISED RIGID WELDED WIRE WESH. MESH THICKNESS 4.0mm. MESH SIZE 75X75mm. ALTERNATIVE GABION BASKET MATERIALS MAY BE PROPOSED BY THE DESIGNER IN A PROJECT SPECIFIC FORM A / FORM B SUBMISSION.

C3 ON AC ELECTRIFIED LINES GABIONS SHALL BE ELECTRICALLY BONDED AND EARTHED IN ACCORDANCE WITH NETWORK RAIL COMPANY STANDARD NR/SP/ELP/21085.

D INSTALLATION GUIDANCE

D1 ALL GABIONS TO BE ASSEMBLED, FILLED AND JOINED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. TYPICAL BEST PRACTICE INSTALLATION METHODS ARE SHOWN ON THIS DRAWING.

D2 THE FRONT FACE OF GABIONS TO BE HAND PACKED TO CREATE DRY STONE WALL APPEARANCE. GABIONS SHALL BE CONSTRUCTED TO HAVE BULGE OR DEPRESSION NOT GREATER THAN 1 IN A 100 OVER ANY VERTICAL OR HORIZONTAL DIMENSION OF AN INDIVIDUAL BASKET.

D3 EXCAVATIONS TO CONSIDER THE STABILITY OF THE SLOPE ABOVE AT ALL TIMES (TRENCH EXCAVATION, BENCH BACKING, TOE EXCAVATION). OPEN LENGTHS MAYBE LIMITED. METHOD OF CONSTRUCTION TO BE ASSESSED BY THE DESIGNER. BACKFILLING TO START IMMEDIATELY FOLLOWING EXCAVATION.

D4 GEOTEXTILE FILTER TO MAKE DIRECT CONTACT WITH THE SLOPE SURFACE/BEHIND THE GABION AND TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION.

D5 CLASS 6N GRANULAR BACKFILL TO BE COMPACTED BEHIND THE GABION WALLS. OTHER CLASSES OF BACKFILL CAN BE CONSIDERED FOR USE BEHIND THE WALL SUBJECT TO THE NECESSARY LABORATORY CLASSIFICATION AND STRENGTH TESTS AND WALL STABILITY DESIGN.

Rev	Date	Description of revision	Design'd	C'kd
C	MAY 2011	THIRD ISSUE	RKA	AW
B	25.05.07	SECOND ISSUE	HCHS	NGAY

Network Rail

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Approved	P CLARK	Senior Prog. Eng. Manager Investment Projects Building & Civils	PC	MAY 2011
	Name	Position	Signature	Date

Master copy with original signatures held by Network Rail HQ

CIVIL ENGINEERING STANDARD DESIGN

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RETAINING WALLS

TYPICAL GABION RETAINING WALLS

Scale	AS SHOWN @ A1	
Drawing Number	NR/CIV/SD/201	REV. C

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