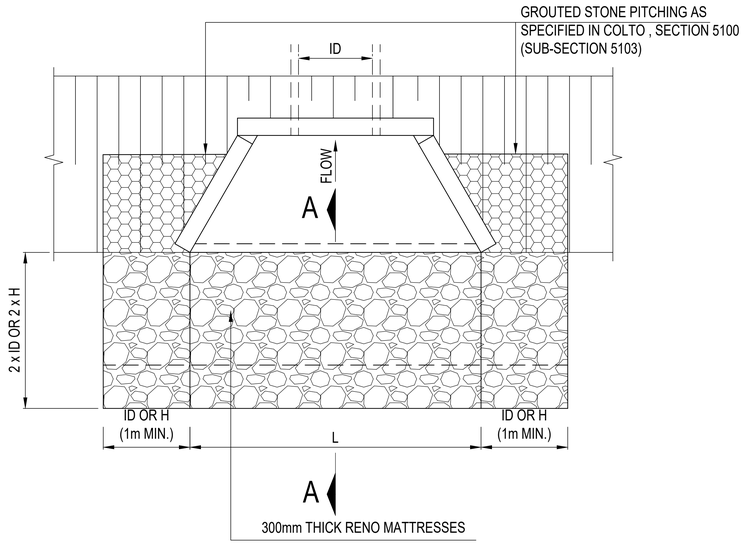
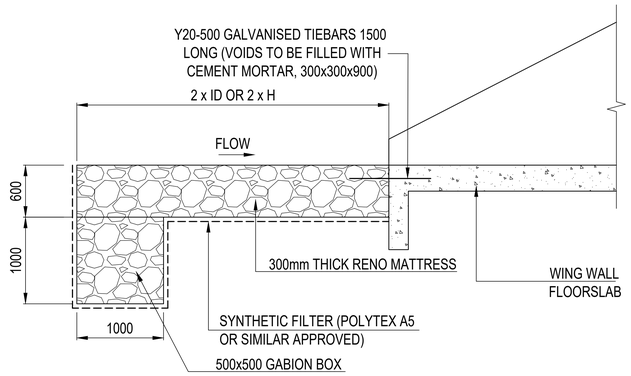


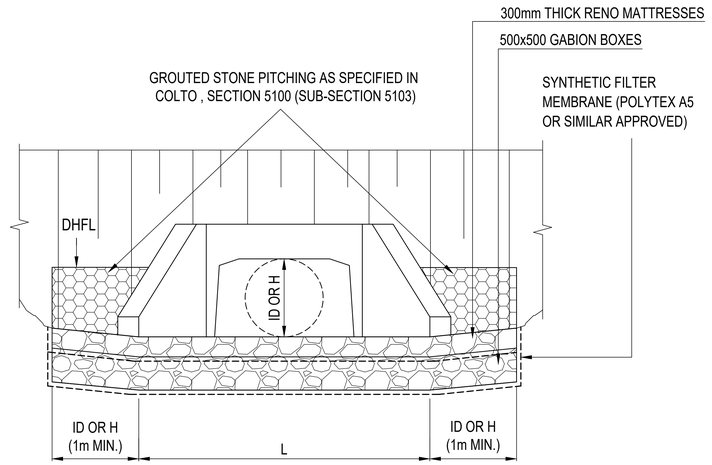
PLAN OF CULVERT (INLET)

SCALE 1:25



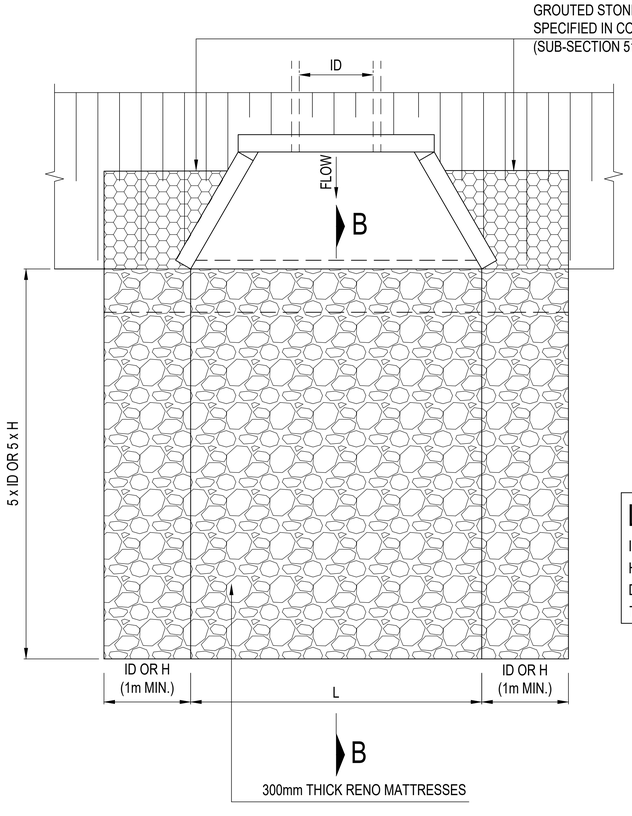
SECTION A-A (INLET)

SCALE 1:12,5



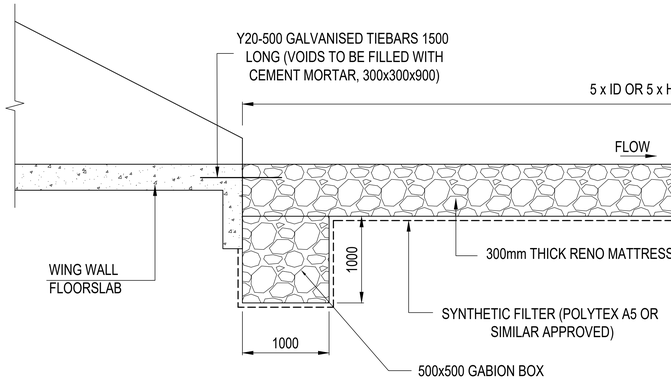
ELEVATION OF CULVERT (INLET)

SCALE 1:25



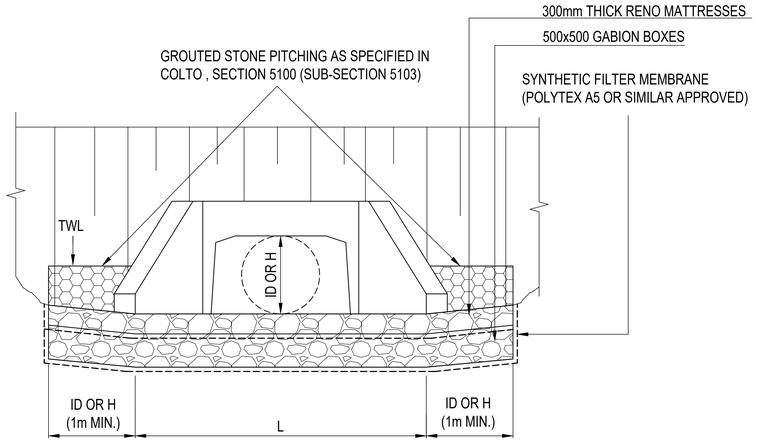
PLAN OF CULVERT (OUTLET)

SCALE 1:25



SECTION B-B (OUTLET)

SCALE 1:12,5



ELEVATION OF CULVERT (OUTLET)

SCALE 1:25

LEGEND

ID : INSIDE DIAMETER OF PIPE CULVERT.
H : HEIGHT OF PORTAL CULVERT.
DHFL : DESIGN HIGH FLOOD LEVEL.
TWL : TAIL WATER LEVEL.

EROSION PROTECTION AT STORMWATER OUTLET STRUCTURE

GUIDELINE FLOW VELOCITY (m/s)	PROTECTION MEASURE*
V < 1.5	FIELD GRASS
1.5 < V < 3.5	GRASS SODS
3.5 < V < 6.5	GABION MATTRESS (300mm)
6.58 < V < 8	GABIONS (500mm MIN)

NOTE

1. GABION BOXES AND RENO MATTRESSES (MACCAFERRI SA OR SIMILAR APPROVED) DIMENSIONS, SPECIFICATIONS AND ASSEMBLY DETAILS AS PER MANUFACTURERS REQUIREMENTS.
2. FOR GRASS, STONE PITCHING, CONCRETE AND STILLING BASIN EROSION PROTECTIVE MEASURES REFER TO CHAPTER 7 OF THE ROAD DRAINAGE MANUAL, 5th EDITION, 2006.

No.	DATE	REVISION
V1	08/03/2024	ORIGINAL VERSION

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SANRAL
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BUILDING SOUTH AFRICA THROUGH BETTER ROADS

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ACCEPTANCE

THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY OR LIABILITY OF ANY KIND FROM WHATSOEVER CAUSE OR HOWEVER ARISING

for the SA NATIONAL ROADS AGENCY SOC LTD.
Date:

PROJECT DESCRIPTION

THE CAPACITY IMPROVEMENT OF NATIONAL ROUTE 1 SECTION 1 FROM OLD OAK INTERCHANGE (KM 18.90) TO KOELENHOF INTERCHANGE (KM 33.00)

EROSION CONTROL
STONE PITCHING AND GABIONS
SHEET 3 OF 3

SCALE @ A0: AS SHOWN | SHEET 3 OF 3

PROJECT NUMBER	N001-010-2021/1	
DRAWING LOCATION DATA	START	END
ROUTE	N01	N01
SECTION	01	01
DRAWING km DISTANCE	18.900	33.000
DRAWING TYPE	DRAINAGE - EROSION CONTROL	
BRIDGE/STRUCTURE No.	N/A	
CONSULTANT DRAWING No.	312-00827-01-TD76	VER
SANRAL DOCUMENT #	XXXXXX	V1

312-00827-01-TD76