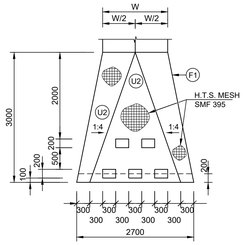
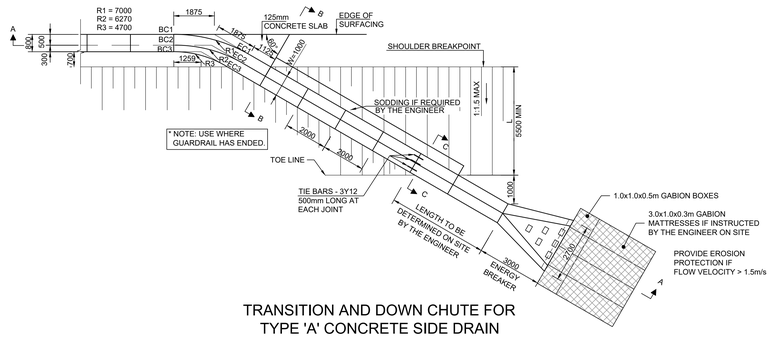
NOTES:

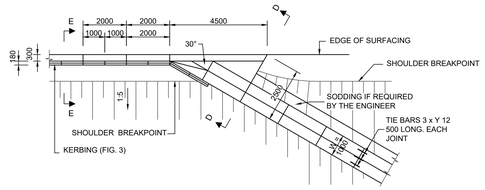
1. ALL CONCRETE CHANNELS AND OTHER DRAINAGE STRUCTURES ON THIS PLAN TO BE CAST USING CLASS 30/20 CONCRETE.
2. TYPES 'E' AND 'F' CONCRETE MUST BE CAST IN ALTERNATIVE LENGTHS OF 2.0m MAXIMUM WITH EXPANSION JOINTS EVERY 5th PANEL (10 m)
3. ALL EXPOSED CORNERS MUST BE ROUNDED OFF TO A MINIMUM RADIUS OF 10mm.
4. THE TYPE OF SURFACE FINISH IS INDICATED AS F1 & U2.
   F - FORMED SURFACES
   U - UNFORMED SURFACES
5. PRECAST KERBING FIG. 5 & FIG. 7 REFER SANS. 927



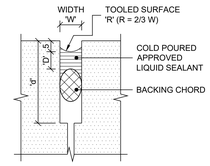
PLAN
SCALE 1:50



TRANSITION AND DOWN CHUTE FOR
TYPE 'A' CONCRETE SIDE DRAIN
SCALE 1:100

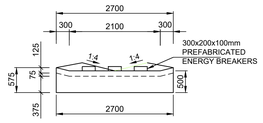


TRANSITION AND DOWN CHUTE FOR
TYPE 'B' CONCRETE KERBING
SCALE 1:100

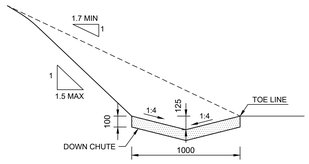


DIMENSION OF LIQUID SEALANT			BACKING CHORD	MINIMUM DEPTH OF RESERVOIR
WIDTH 'W'	DEPTH 'D'	RADIUS 'R'	DIA	'd'
6	6	4	10	35
8	6	5	10	35
10	8	7	13	38
12	9	8	15	42
14	10	9	18	49
15	10	10	20	52
20	12	13	25	68
25	15	17	30	90
30	20	20	35	110

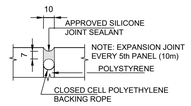
DETAIL OF SILICONE SEALANT



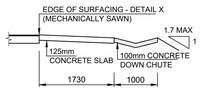
ELEVATION
SCALE 1:50



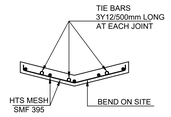
SECTION C-C
SCALE 1:20



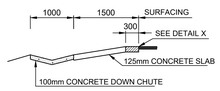
EXPANSION JOINT
N.T.S.



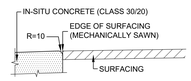
SECTION B-B
SCALE 1:50



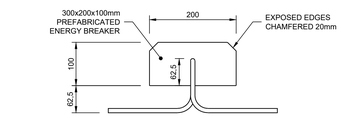
SECTION C-C
SCALE 1:20



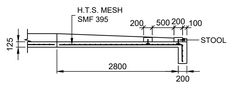
SECTION D-D
SCALE 1:50



DETAIL X - FINISHING OF SURFACING
NEXT TO CONCRETE DRAINS
SCALE 1:5



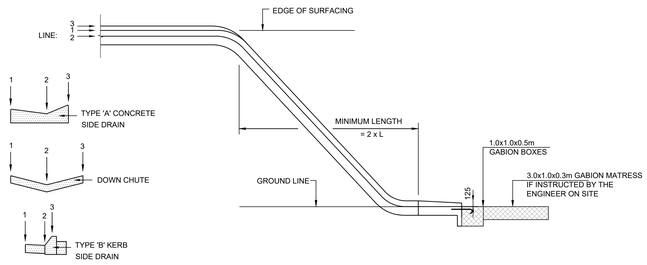
ENERGY BLOCK DETAILS
SCALE 1:5



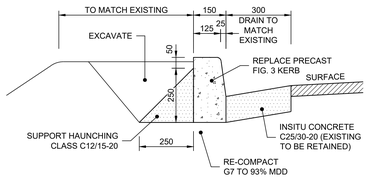
SIDE ELEVATION
SCALE 1:50

DETAIL OF
STOOL
N.T.S.

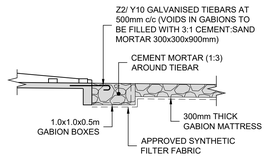
ENERGY BREAKER FOR HIGH
FLOW VELOCITIES



SECTION A-A
SCALE NTS



SECTION E - E
KERB REPLACEMENT DETAIL
SCALE 1:50



DETAIL 1 - GABION TO OUTLET
CONNECTION
SCALE 1:50

No.	DATE	REVISION	CONSULT. ENG.
V2		SCANNED ORIGINAL WITH SIGNATURE	KG MALCOMSON
V1	12/11/2020	ORIGINAL VERSION	KG MALCOMSON

CONSTRUCTION RECORD (AS-BUILT)
WORKS CONTRACT ENGINEER
Name :
Prof. Reg. No. :
Date :
SANRAL PROJECT MANAGER
Name :
Date :

SNA CIVIL AND STRUCTURAL ENGINEERS (Pty) LTD
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CHECKED BY	
NAME	KG MALCOMSON
Prof. Reg. No.	880542
DRAWN BY	
NAME	M WATTS

CONSULTANT APPROVAL
Name : KG MALCOMSON
Prof. Reg. No. : 880542
Date : 02 / 12 / 2019

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Reg No.1998/00894/06
BUILDING SOUTH AFRICA THROUGH BETTER ROADS

NORTHERN REGION
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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:

MSBBR: REPAIRS TO BRIDGE PARAPETS; R40 NELSPRUIT B0064 AND R33 PIET RETIEF B3297

EMERGENCY REPAIR FOR BRIDGE B3297 ON R033/06N AT km 27.5

DRAINAGE DETAILS

SCALE : AS SHOWN | **SHEET 09 OF 10**

PROJECT NUMBER	**NRA X.002-063-2018/01-C05**	
DRAWING LOCATION DATA	**START**	**END**
ROUTE	**R033**	**R033**
SECTION	**06N**	**06N**
DRAWING km DISTANCE	**27.5**	**27.5**
DRAWING TYPE	**STRUCTURES-BRIDGES**	
BRIDGE/STRUCTURE No.	**B3297**	
CONSULTANT DRAWING No.	**TP1916-2/B3297/09**	**VER V2**
SANRAL DOCUMENT #	**16972234**	

DRAWING No :- **TP1916-2/B3297/09**