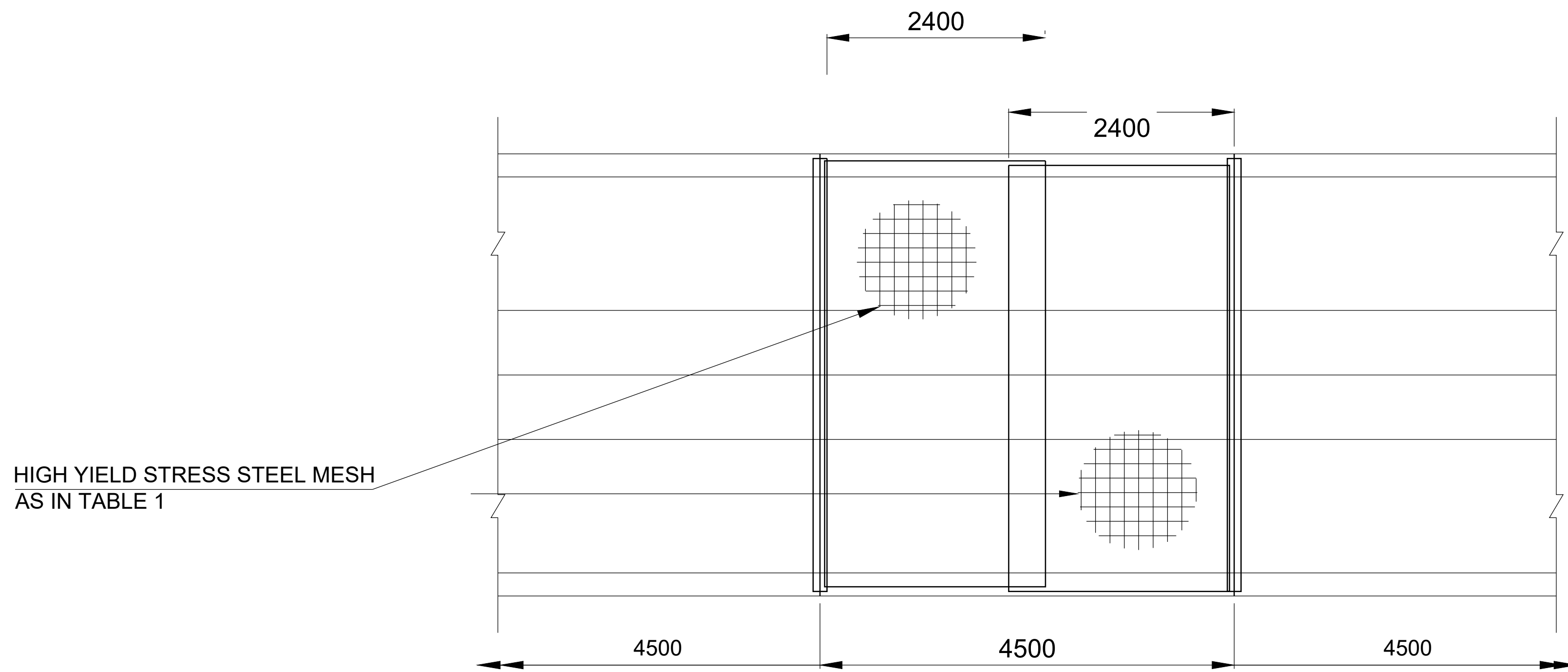
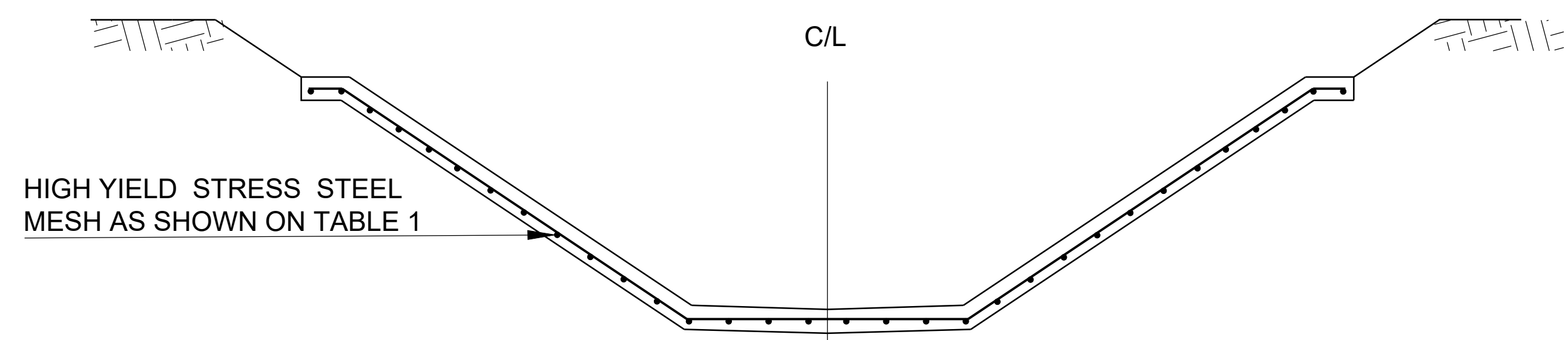


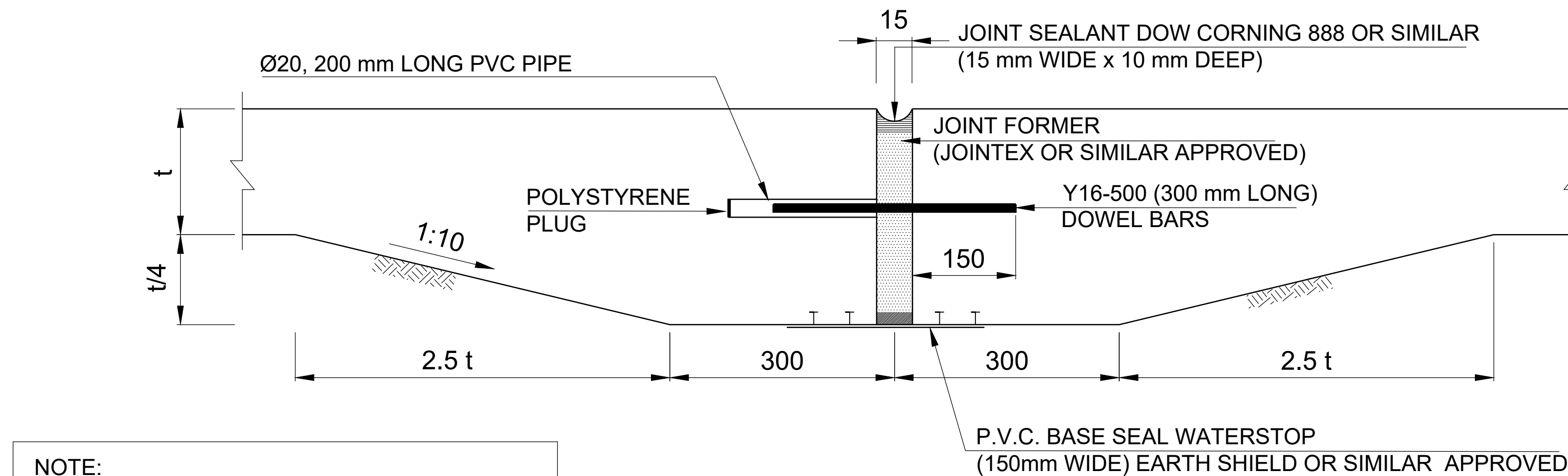
TYPICAL SECTION THROUGH CONCRETE CANAL
(4500mm UNIT LENGTHS)
N.T.S



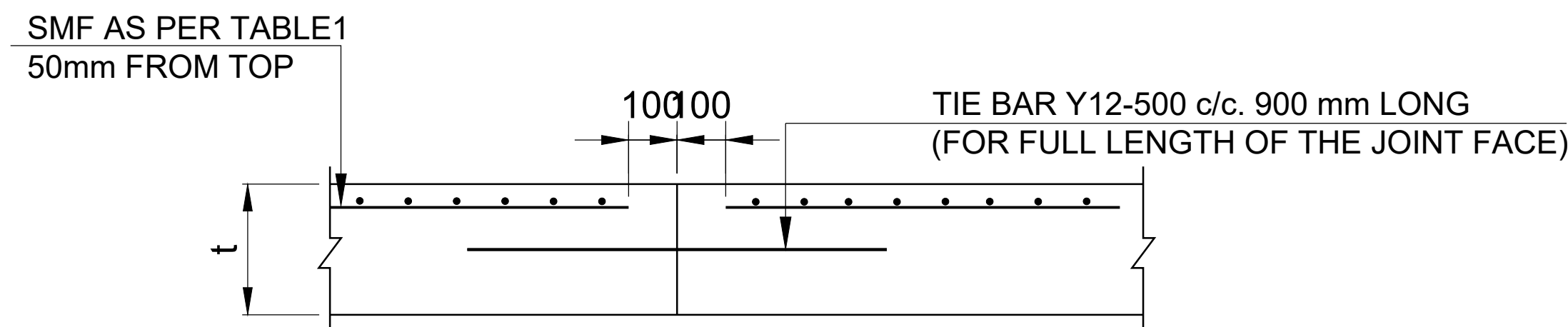
TYPICAL PLACING OF STEEL MESH
N.T.S



CONCRETE CANAL (REINFORCEMENT)
N.T.S



EXPANSION JOINTS IN CANALS (DETAIL 1)
(EVERY 5TH PANEL)
N.T.S



CONCRETE JOINT IN CANAL
(BETWEEN PANELS)
N.T.S

TABLE 1
TABLE OF CANAL / CULVERT COMBINATION FOR 1:1,5 SIDE SLOPES (SEE NOTE 7)

CULVERT		ADJOINING CANAL		CANAL AND IN - AND OUTLETS							
N/SPAN x HEIGHT		BASE(B)	DEPTH(D)	L	t	B+3D	1,5D	1,5t	1,8t	k	HIGH TENSILE STEEL MESH
2/900 x 600		900	600	3000	100	2700	900	150	180	200	SMF \ 193 5,6 mm 200 x 200 mm
2/1200 x 900		1100	800	3600	100	3500	1200	150	180	200	SMF \ 193 5,6 mm 200 x 200 mm
2/1500 x 1200		1350	1000	4200	125	4350	1500	190	225	250	SMF \ 245 6,3 mm 200 x 200 mm
2/1800 x 1200		1700	1200	4800	150	5300	1800	225	270	300	SMF \ 311 7,1 mm 200 x 200 mm
3/1500 x 1500		2000	1400	5400	150	6200	2100	225	270	350	SMF \ 311 7,1 mm 200 x 200 mm
3/1800 x 1800		2300	1600	6000	150	7100	2400	225	270	400	SMF \ 311 7,1 mm 200 x 200 mm

NOTES:

1. ALL CANALS, TRANSITIONS AND JUNCTIONS AS SHOWN ON THIS PLAN TO BE CAST USING CLASS C25/30-20 CONCRETE.
2. CANALS ARE CAST IN ALTERNATIVE SECTIONS OF 4500 mm, WITH EXPANSION JOINT AT EVERY 5TH JOINT (22.5m).
3. THE TYPE OF SURFACE FINISHING ARE SHOWN AS FOLLOWS: F1, U2:
F - FORMED SURFACES
U - UNFORMED SURFACES
4. INVERT LEVELS AND HYDRAULIC INFORMATION PROVIDED ON THE LONGITUDINAL SECTION OF THE CANAL.
5. CONCRETE TO BE CAST AGAINST TRIMMED EXCAVATIONS. ONLY THE VERTICAL SECTION ON THE OUTSIDE TOP EDGE OF THE CANALS MUST BE FORMED.
6. THE LAYOUT OF STEEL MESH REINFORMENT IN IN- AND OUTLETS IN SHOWN IN 8.7.3 (SHEET 3 OF 3).
7. ANY OTHER CANAL/ CULVERT COMBINATIONS COULD BE EMPLOYED BY THE DESIGN ENGINEER.
8. IF SPACE IS LIMITED , CANAL SIDE SLOPES MAY BE STEEPEN TO 1:1.
9. THE NECESSARY SAFETY PRECAUTIONS NEED TO BE IMPLEMENTED IN URBAN CONTEXT WHERE PEDESTRIANS ARE EXPOSED.

FOR TENDER
(FOR TENDER PURPOSES ONLY)

CONSTRUCTION RECORD (AS-BUILT)				DESIGNED BY				CONSULTANT APPROVAL				HEAD OFFICE				EASTERN REGION				ACCEPTANCE				PROJECT DESCRIPTION				PROJECT NUMBER			
WORKS CONTRACT ENGINEER				NAME				Name				48 Tambotie Avenue Val de Grace Pretoria 0184				58 Van Eck Place Mkondeni Pietermaritzburg 3201				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				THE CONSTRUCTION OF PAVEMENT AND SETTLEMENT REPAIRS ON NATIONAL ROUTE 2, SECTION 30 FROM BUSHVELD RETREAT FARM (km47.0) TO HLUHLUWE INTERCHANGE (km 55.0)				N.002-300-2020/1			
SANRAL PROJECT MANAGER				Prof. Reg. No.				Prof. Reg. No.				PO Box 415 Pretoria 0001 South Africa				PO Box 100410 Scottsville 3209				Date:				ROAD SURFACE DRAINAGE TRAPEZOIDAL CONCRETE CANALS DETAILS 1				START			
Name				CHECKED BY				Date				Tel: (012) 844 8000				Tel: (033) 392 8100				for the SA NATIONAL ROADS AGENCY SOC LTD.				DRAWING LOCATION DATA				N.002			
Date				NAME				Date				BUILDING SOUTH AFRICA THROUGH BETTER ROADS				Date:				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				ROUTE				N.002			
Name				Prof. Reg. No.				Prof. Reg. No.				Tel: (012) 844 8000				Tel: (033) 392 8100				Date:				SECTION				SECTION 30			
Date				DRAWN BY				Date				Tel: (012) 844 8000				Tel: (033) 392 8100				Date:				km 47.0				km 55.0			
Name				NAME				Date				Tel: (012) 844 8000				Tel: (033) 392 8100				Date:				km 55.0				N/A			
Date				CONSULT. ENG.				Date				Tel: (012) 844 8000				Tel: (033) 392 8100				Date:				ROADWORKS: DRAINAGE				TP2113-T-077			
Name				CONSULT. ENG.				Date				Tel: (012) 844 8000				Tel: (033) 392 8100				Date:				SANRAL DOCUMENT #				1			
Date				CONSULT. ENG.				Date				Tel: (012) 844 8000				Tel: (033) 392 8100				Date:				SCALE : N. T. S				SHEET 18 OF 26			
Name				CONSULT. ENG.				Date				Tel: (012) 844 8000				Tel: (033) 392 8100				Date:				SCALE : N. T. S				SHEET 18 OF 26			
Date				CONSULT. ENG.				Date				Tel: (012) 844 8000				Tel: (033) 392 8100				Date:				SCALE : N. T. S				SHEET 18 OF 26			