

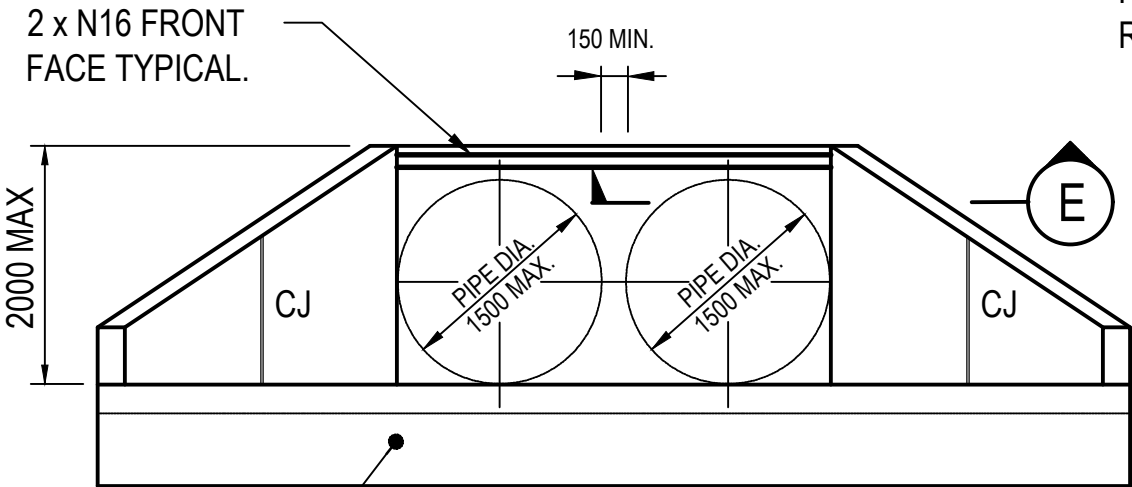
TABLE 1 : ROCK PROTECTION DETAILS

CLASS ROCK	MIN THICKNESS (T)	MIN LENGTH (LOR)	ROCK SIZE (m)	ROCK MASS (Kg)	% OF ROCK LARGER THAN
FACING	500	3000	0.40	100	0
			0.30	35	50
			0.15	2.5	90
LIGHT	750	3000	0.55	250	0
			0.40	100	50
			0.20	10	90
1/4 TONNE	1000	5000	0.75	500	0
			0.55	250	50
			0.30	35	90
1/2 TONNE	1250	5000	0.90	1000	0
			0.70	450	50
			0.40	100	90

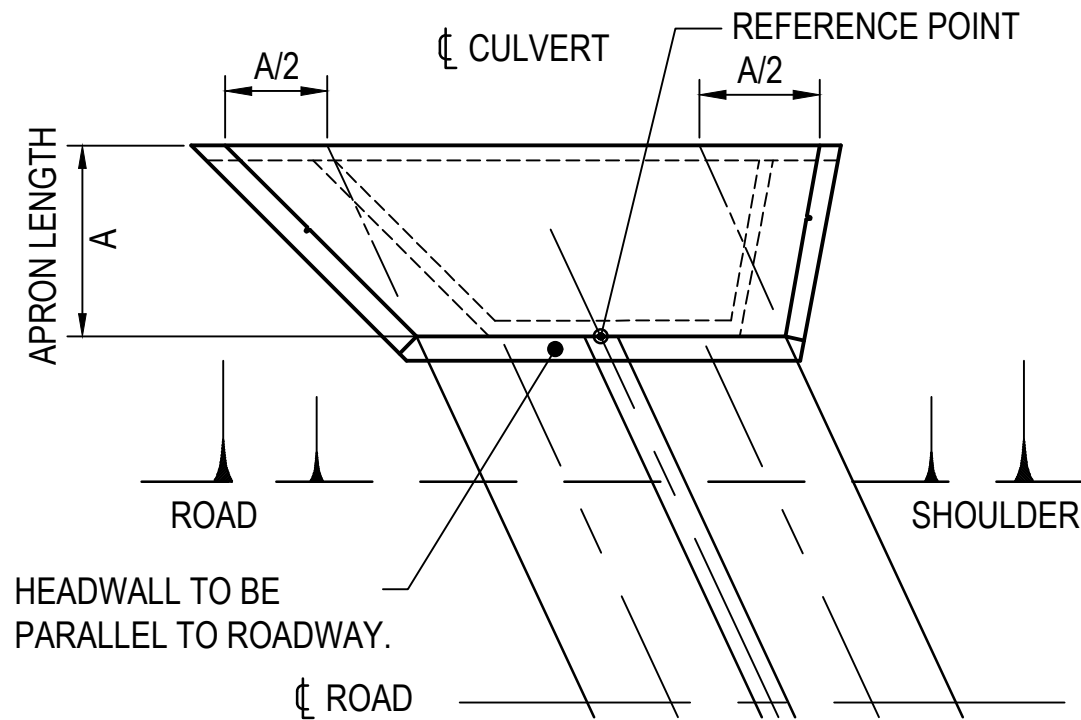
* ASSUMING A SPECIFIC GRAVITY OF 2.65 AND SPHERICAL SHAPE FOR ALL ROCK CLASS.

TABLE 2 : APRON LENGTH TABLE
(BASED ON 1:4 BATTER SLOPE)

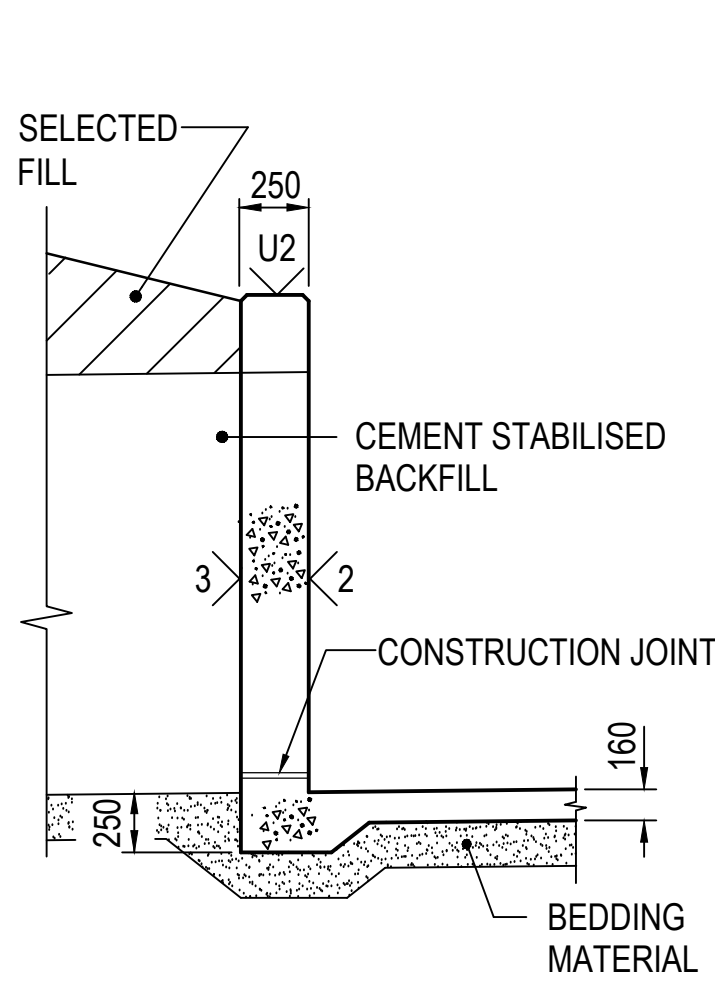
CULVERT DIA.	APRON LENGTH
≤450	1800
600	2400
750	3000
900	3600
1050	4200
1200	4800
1350	5400
1500	6000



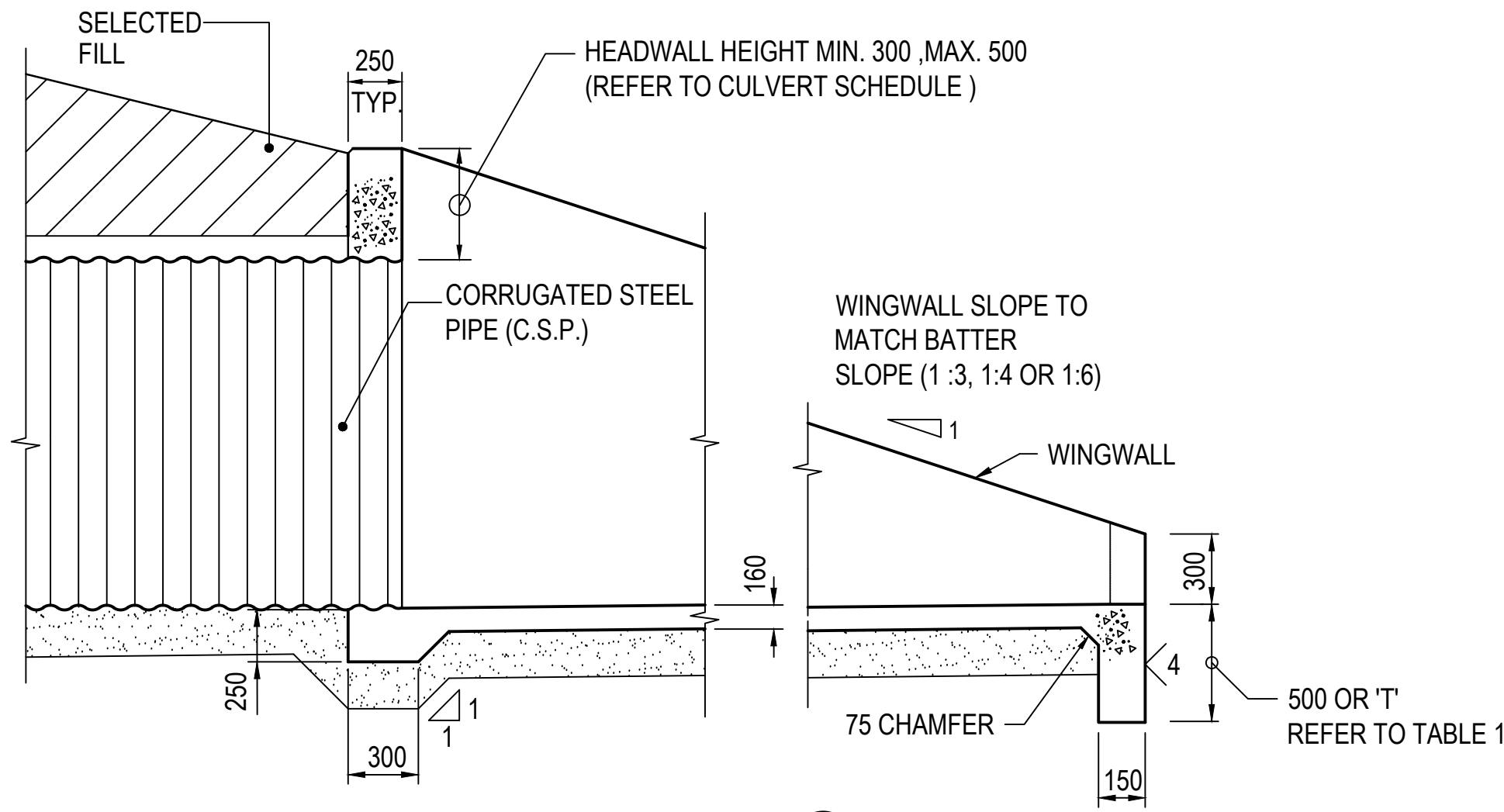
CUT-OFF WALL
END ELEVATION
N.T.S.



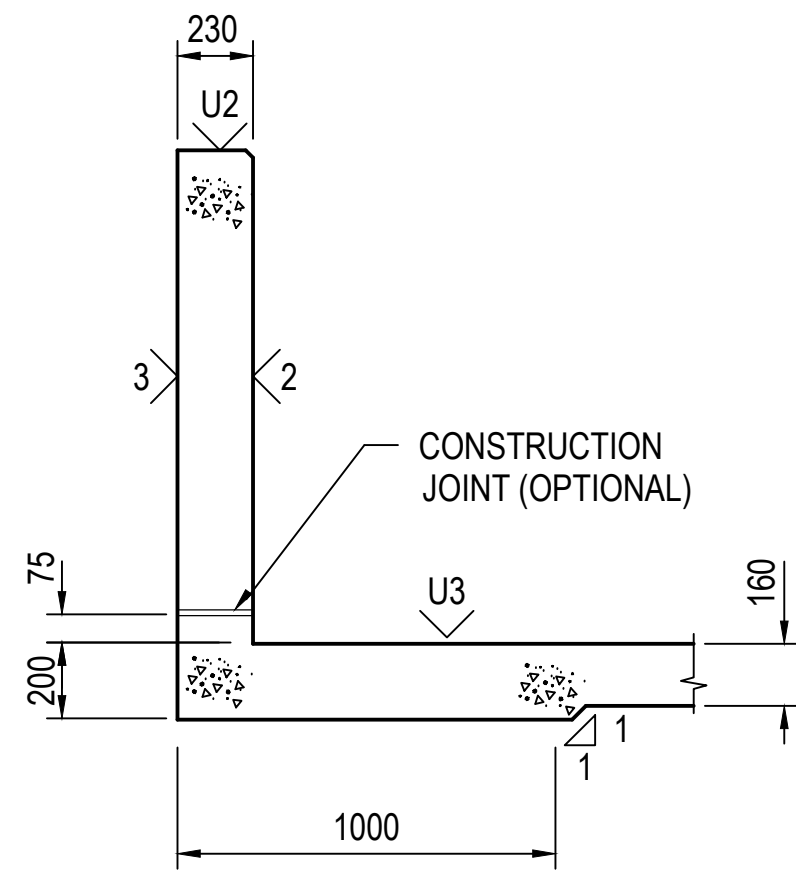
PLAN (SKEW)
N.T.S.



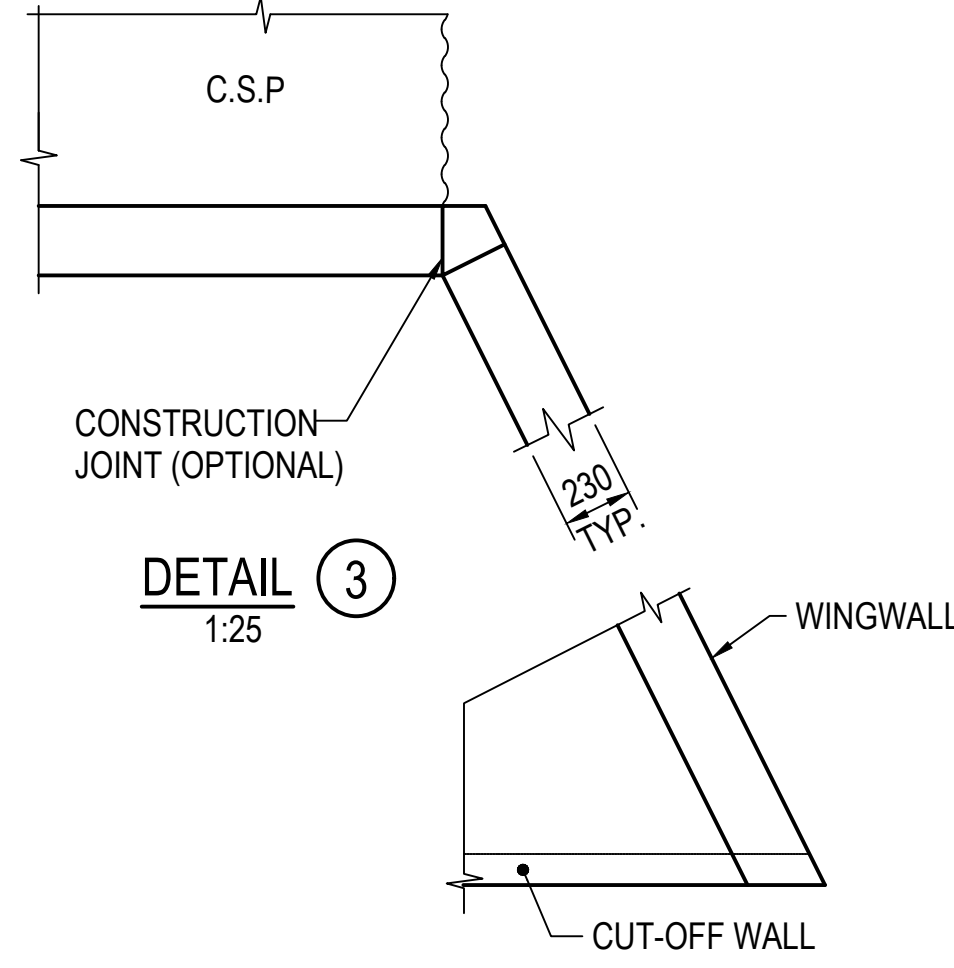
SECTION (B)
N.T.S.



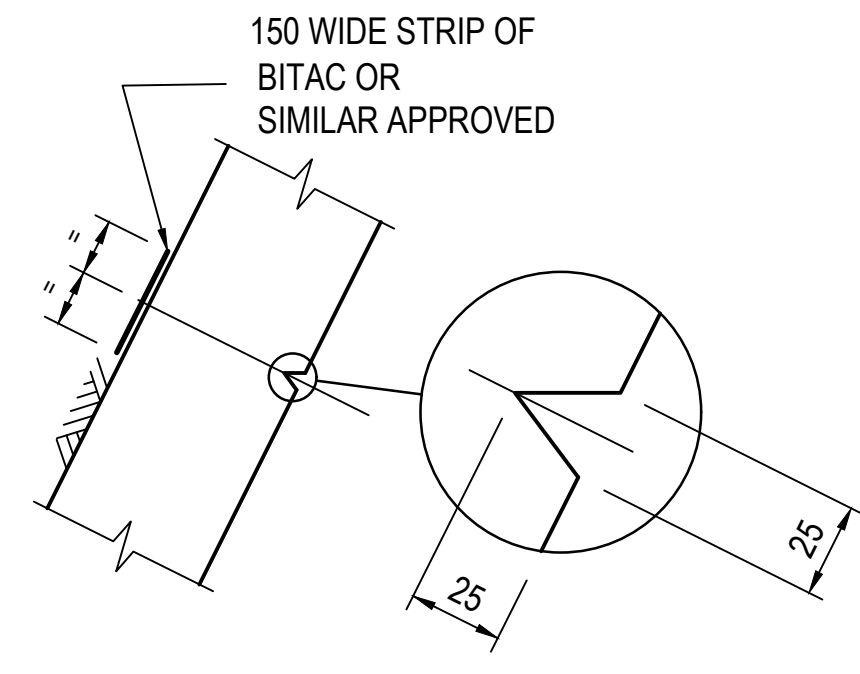
SECTIONAL ELEVATION (C)



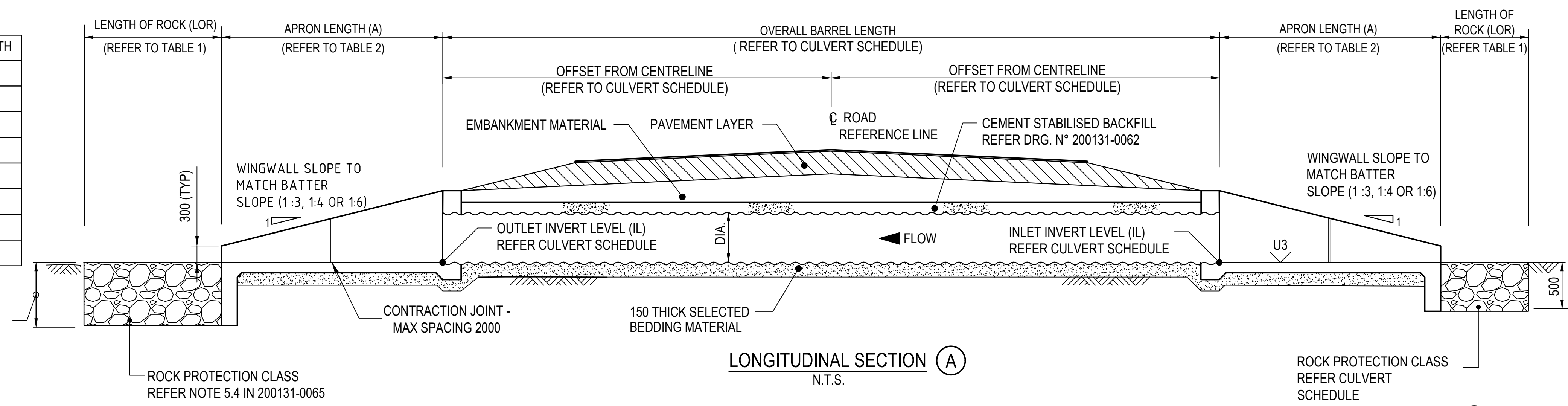
SECTION (D)
1:20



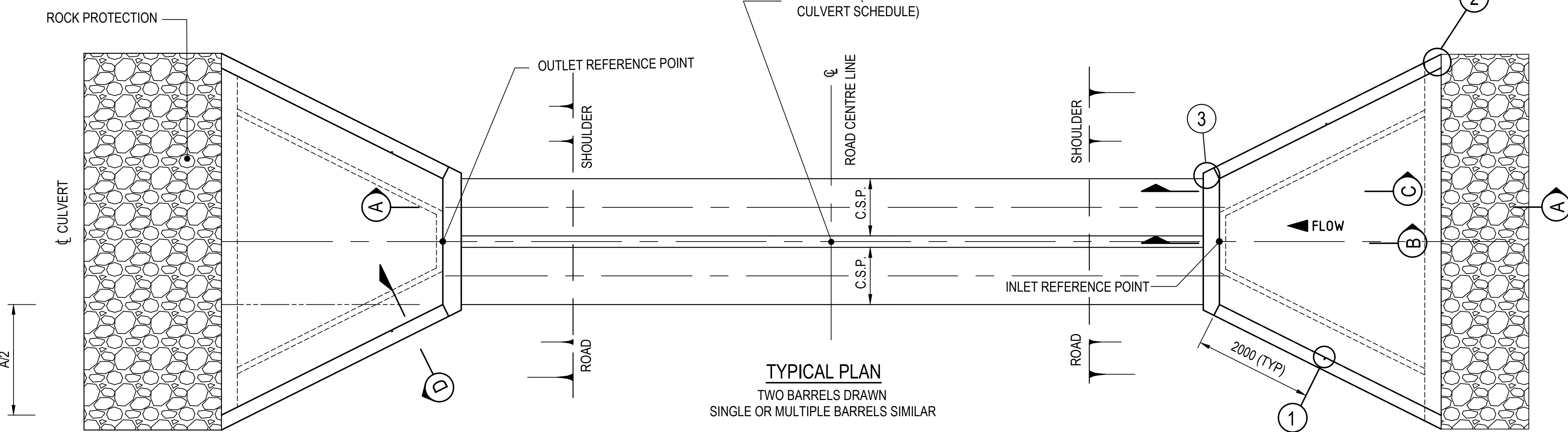
DETAIL (3)
1:25



DETAIL (1) CONTRACTION JOINT
1:10



LONGITUDINAL SECTION (A)
N.T.S.



TYPICAL PLAN
TWO BARRELS DRAWN
SINGLE OR MULTIPLE BARRELS SIMILAR

THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRG. No. 201631-0065 AND 200131-0066

5	TITLE BLOCK AND FILE No. UPDATED.	C.M. 19/09/2025
4	MAXIMUM PIPE SIZE LIMITED TO 1500 DIA. ROAD SECTION AMENDED. WINGWALL SLOPE & SPLAY VALUE AMENDED. ROCK PROTECTION TABLE ADDED. TITLE OF DRAWING AMENDED.	Z. BATEN 18.01.18 T.A. FREEMAN 4.2.15
3	BATTER AND WINGWALL SLOPE AMENDED TO 1:4	
No.	DESCRIPTION	APPROVED & DATE
AMENDMENTS		

PLANNING AND TECHNICAL SERVICES DIRECTORATE
ROAD AND TRAFFIC ENGINEERING BRANCH
WATERLOO CRESCENT
Telephone 138 138

DRAWN J. COOK/ K. KASIRI
DESIGNED G. DE SILVA
VERIFIED J. KARPINSKI 19.12.02
APPROVED R. GROVE 19.12.02
FILE NO. 13/4330

STANDARD DRAWING
C.S.P. CULVERT DETAILS
MAXIMUM PIPE DIAMETER 1500
GENERAL ARRANGEMENT WITH ENDWALLS SHEET 1 OF 3

MRWA DRAWING NUMBER
200131-0064-5

