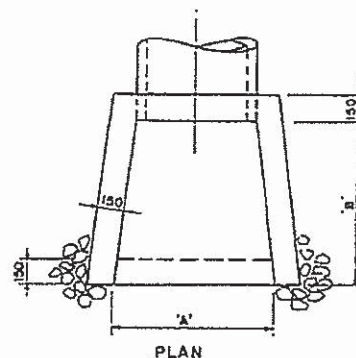


NOTES ON ENDWALLS FOR R.C. PIPES

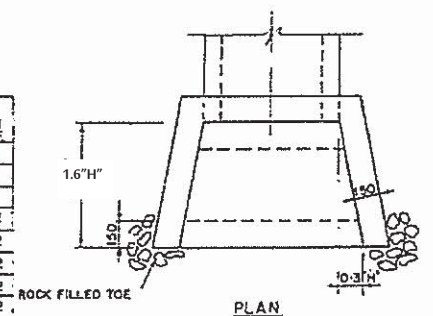
1. SINGLE AND DOUBLE ENDWALLS FOR 600mm TO 1800mm DIA. PIPES TO BE REINFORCED WITH 10mm DIA. BARS AT 150mm CRS. PLACED CENTRALLY THROUGHOUT (OR WITH EQUIVALENT AREA OF STEEL FABRIC TO AS1304) FOR 1950mm DIA. USE 15mm DIA. BARS AT 150mm CRS.
2. SINGLE ENDWALLS UNDER 675mm DIA. TO BE REINFORCED BY 2No. 10mm DIA. BARS AT 150mm CRS. WITH TOP BAR 75mm BELOW TOP OF ENDWALL.
3. WHERE SPECIFIED, THE DOWNSTREAM END IS TO BE PROTECTED BY STONE PITCHING. 200mm MIN. DEPTH GROUTED.
4. PLAIN ENDWALL ONLY SHALL BE PROVIDED FOR 300mm TO 450mm DIA. PIPES UNLESS OTHERWISE SPECIFIED. (SEE DETAIL BELOW)



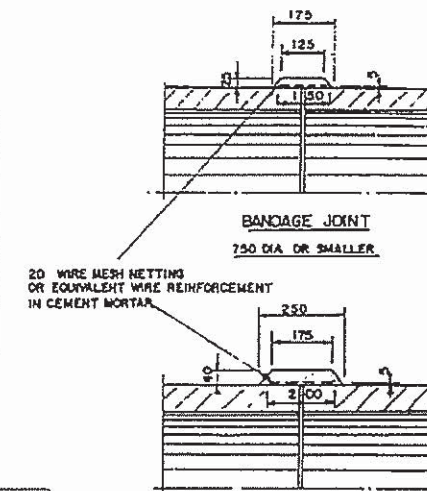
CONCRETE ENDWALLS FOR R.C. PIPES
FOR PIPES 525 TO 1950 DIA.
SCALE - 1:20

DIA OF PIPE	B	H	SINGLE ENDWALL		DOUBLE ENDWALL		ALT. MESH REINF.
			A	E	A	E	
300	480	650	480	1140	300		
375	600	740	600	1348	300		
450	720	820	720	1550	300		
525	840	900	840	1755	300	SL42	
600	960	980	960	1960	300	SL42	
675	1080	1040	1080	2240	375	SL42	
750	1200	1120	1200	2445	375	SL52	
900	1440	1280	1440	2930	450	SL82	
1050	1680	1440	1680	3415	525	SL82	
1200	1920	1600	1920	3900	600	SL72	
1350	2160	1760	2160	4385	675	SL72	
1500	2400	1920	2400	4870	750	SL82	
1650	2640	2100	2640	5355	825	SL92	
1800	2880	2260	2880	5840	900	SL102	
1950	3120	2420	3120	6250	900		

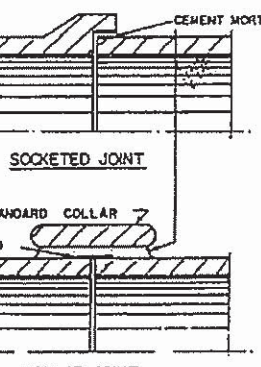
TABLE OF DIMENSIONS



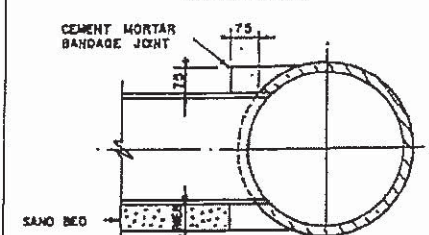
NOMINAL CULVERT SIZE		FLOOR
S	H	THICKNESS
750	300	115
750	450	115
750	600	115
900	300	115
900	450	115
900	600	115



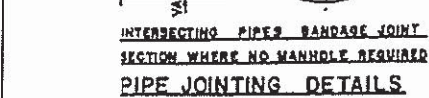
BANDAGE JOINT
750 DIA. OR SMALLER



SOCKETED JOINT



STANDARD COLLAR
100 WIDE MALTHOLD



INTERSECTING PIPES BANDAGE JOINT
SECTION WHERE NO MANHOLE REQUIRED

PIPE JOINING DETAILS
SCALE - 1:10

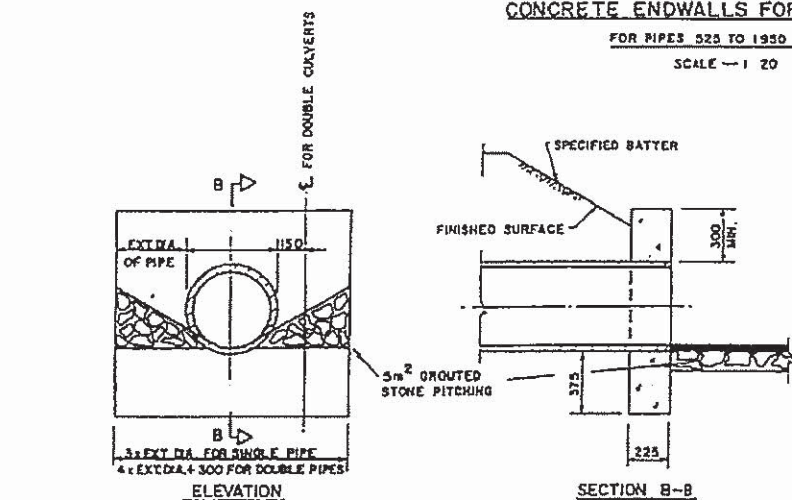
NOTES

BACKFILL

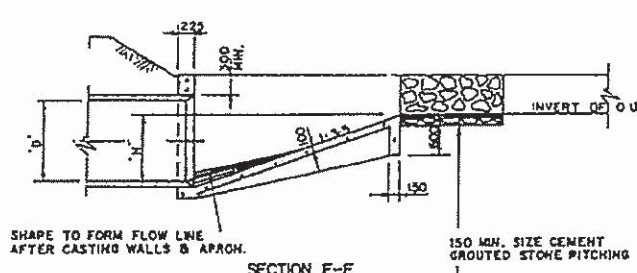
1. BACKFILL AROUND THE CULVERT FOR THE FULL WIDTH OF THE TRENCH, AND FOR A MINIMUM 300mm ABOVE THE TOP OF THE CULVERT, OR TO SUBGRADE SURFACE IF LESS, WITH SELECT FILL.
2. BACKFILL THE REMAINDER OF THE TRENCH WITH STANDARD FILL.
3. STABILISE ALL BACKFILL WITH 2% CEMENT BY MASS AND COMPACT TO 95% MMDD.

ENDWALLS FOR CULVERTS

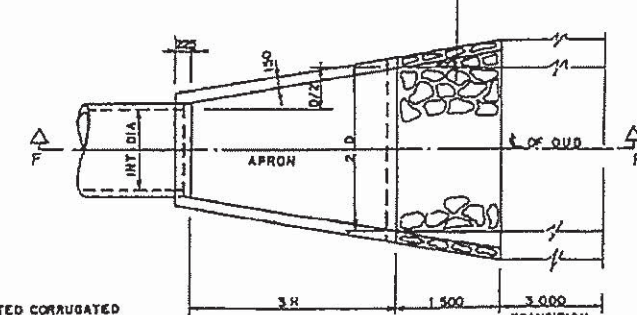
1. STRUCTURE REINFORCED THROUGHOUT WITH N10 BARS AT 150mm CRS. BOTH WAYS CENTRALLY PLACED.
2. WHERE SPECIFIED, DOWNSTREAM END TO BE PROTECTED BY CEMENT GROUTED STONE PITCHING. 200mm MIN. DEPTH.
3. FOR MULTIPLE BOX CULVERTS, APRON AND INVERT SLAB TO BE CONTINUOUS.
4. USE N25 CONCRETE, COMPLY WITH AS3600, AS3610 AND AS1379.
5. PLAIN ENDWALL ONLY TO BE PROVIDED FOR BOX CULVERTS UP TO AND INCLUDING 600 x 450 (REFER STD. DRAWING C(S)1104-3)
6. FLOOR REINFORCING IS RL1118 MESH. MAIN REINFORCING LAID IN DIRECTION OF TRAFFIC FLOW. MIN. COVER 45mm TOP SURFACE.
7. MESH DENOTED "SLXX" SHALL BE "D500SLXX" MESH TO AS4671 TYPICAL.
8. MESH DENOTED "RLXX" SHALL BE "D500RLXX" MESH TO AS4671 TYPICAL.
9. BARS NOTED "N10" SHALL BE "D500N10" TO AS4571.



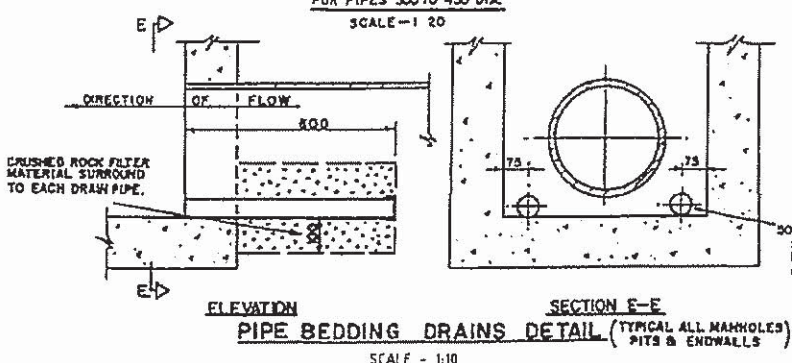
PLAIN ENDWALLS
FOR PIPES 300 TO 450 DIA.
SCALE - 1:20



SECTION F-F



CULVERT ENDWALL - SLOPING INLET
SCALE - 1:50



ELEVATION
PIPE BEDDING DRAIN DETAIL (TYPICAL ALL MANHOLES) PITS & ENDWALLS
SCALE - 1:10

REVISED
REVISED
REVISED

No.	DESCRIPTION	DATE	INIT.
6.	CULVERT SIZES ABOVE 900 x 600 REMOVED FROM DRAWING. REFER CS1123-0 FOR THESE SIZES.	07/2010	K.S.
5.	DIMENSIONS & NOTES UPDATED.	03/2004	K.S.
4.	DRAWING CONVERTED TO ELECTRONIC FORMAT & DEPARTMENT LOGO CHANGED	02/2003	K.S.
3.	STABILISED BACKFILL NOTES ADDED.	25/2/97	
2.	PLAIN ENDWALLS TO BOX CULVERTS DELETED.	02/2003	
1.	CONCRETE STRENGTH ALTERED.	01/1981	

DESIGN PROJECT LEADER	PROJECT OFFICER
SEARCH	P. J. TEE
DATE 1/4/2004	DATE 1/4/2004

DRAWN	CHECKED
K.A.C. JAN. 1979	R.G.V. JAN. 1979
DESIGNED	CHECKED
	S.LACEY 23 JAN. 1979



Department of Construction and Infrastructure

STANDARD DRAWING				
STORMWATER CULVERT ENDWALLS AND PIPE LAYING DETAILS				
FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.
		OF	CS1100 - 6	A3