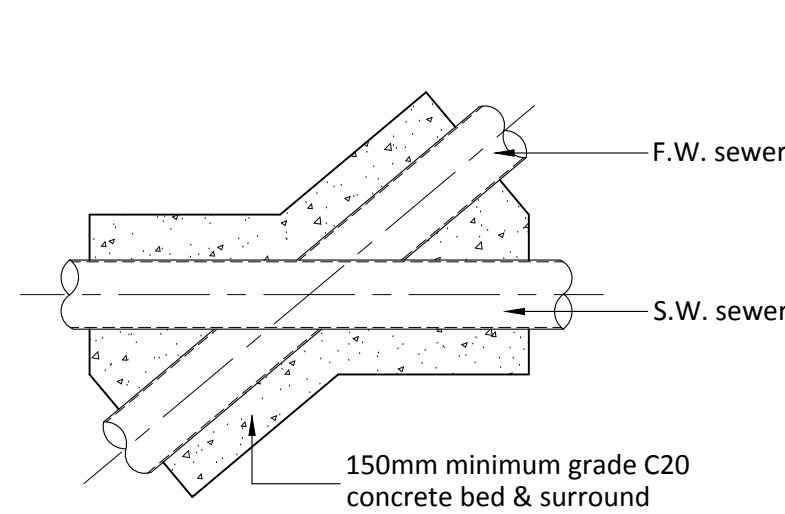
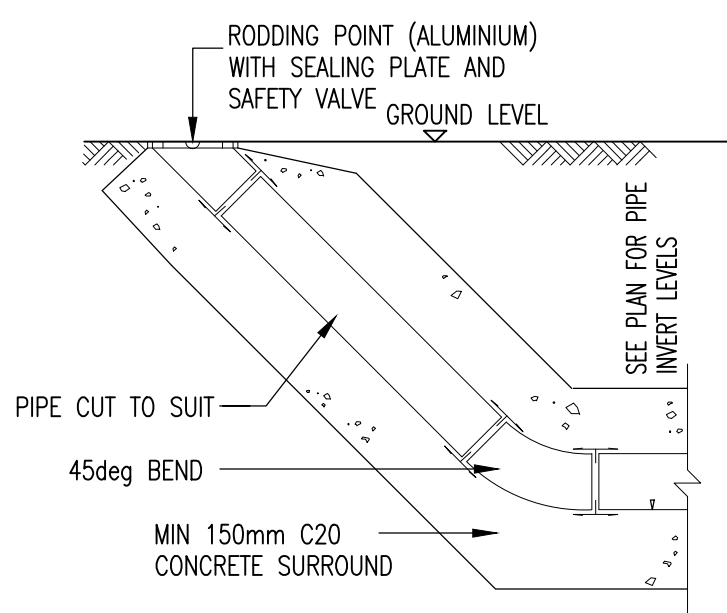
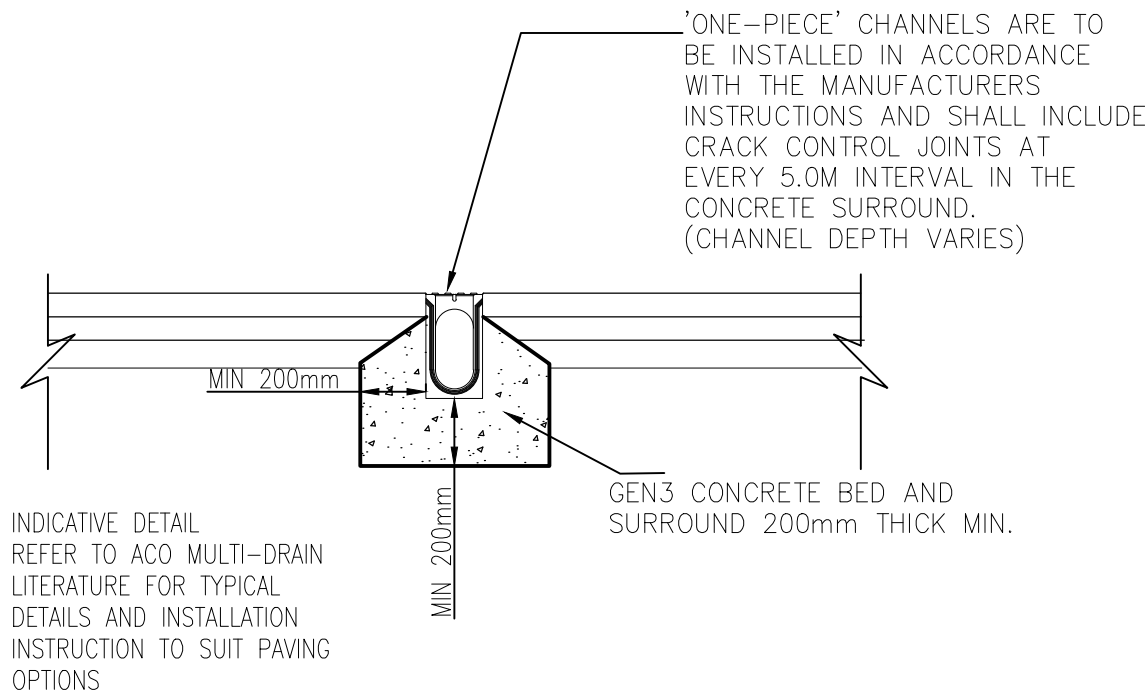




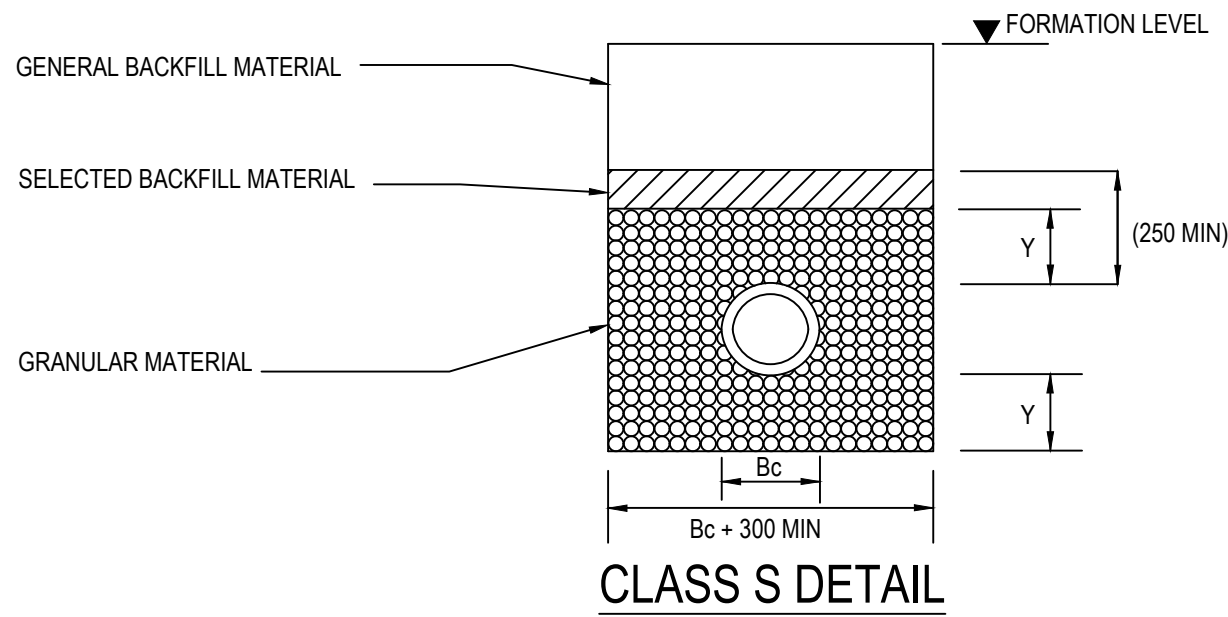
TYPICAL CROSS-OVER DETAIL TO FOUL AND SURFACE WATER SEWERS



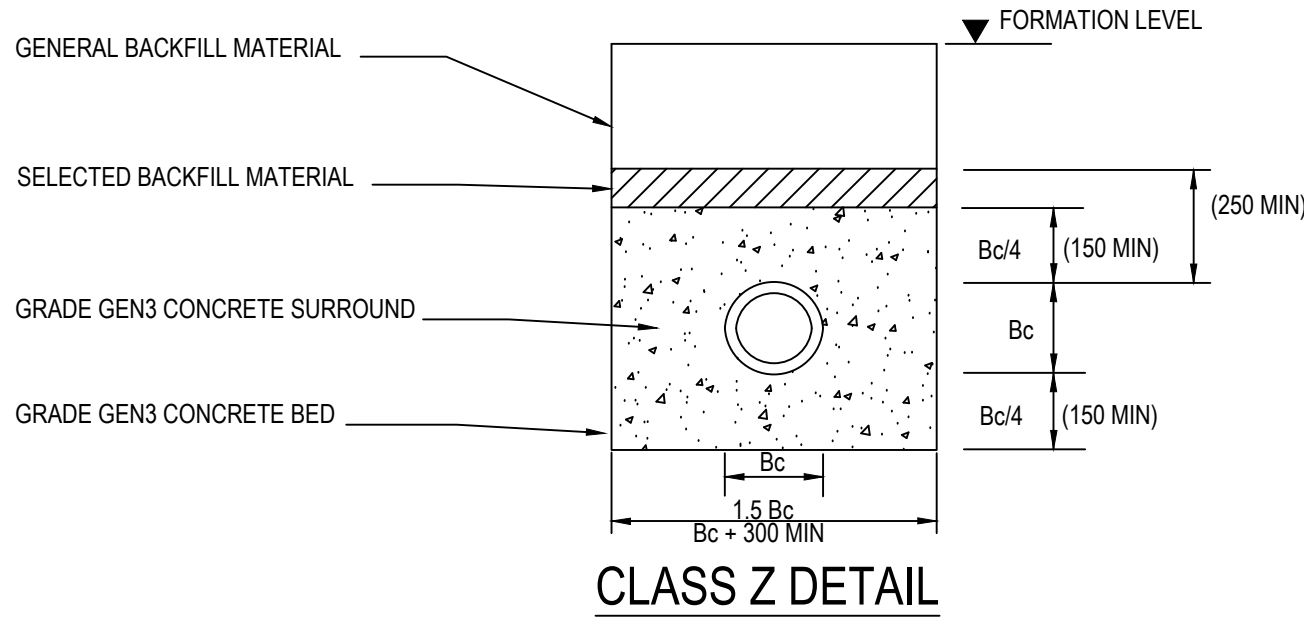
RODDING EYE DETAIL



ACO CHANNEL DETAIL



CLASS S DETAIL



CLASS Z DETAIL

NOMINAL PIPE DIA. (mm)	SINGLE SIZED. (mm)	GRADED. (mm)
150 200 TO 300 375 TO 525 GREATER THAN 525	10 OR 14 10,14 OR 20 14 OR 20 14,20 OR 40	14 TO 5 14 TO 5 OR 20 TO 5 14 TO 5 OR 20 TO 5 14 TO 5,20 TO 5 OR 40 TO 5

GRANULAR BEDDING MATERIAL

(ALL AGGREGATES TO TABLE 4 OF BS 882 :1983)

NOTES:

A) Bc = OUTSIDE DIAMETER OF PIPE BARREL

B) Y = FOR UNIFORM SOILS: SLEEVE JOINTED PIPES, MIN. 50mm OR 1/6Bc, WHICHEVER IS THE GREATER. SOCKETED PIPE, MIN. 100mm OR 1/6Bc, WHICHEVER IS THE GREATER UNDER BARRELS AND NOT LESS THAN 50mm UNDER SOCKETS. FOR ROCK OR MIXED SOILS CONTAINING ROCK BANDS, BOULDERS, STONES OR OTHER IRREGULAR HARD SPOTS: SLEEVE JOINTED PIPES, MIN. 150mm OR 1/4Bc, WHICHEVER IS THE GREATER. SOCKETED PIPE, MIN. 200mm OR 1/4Bc, WHICHEVER IS THE GREATER UNDER.

SUITABLE FILL:- THE SUITABLE FILL SHALL BE SUITABLE FOR THE LOCATION AND SHALL BE CAREFULLY COMPACTED TO PROVIDE STABILITY WITHOUT DAMAGING THE PIPE. FILL UNDER CAR PARKING AREAS AND PRIVATE ROADS TO BE WELL COMPACTED GRADED MATERIAL. FILL UNDER ADOPTED ROADS TO BE TYPE 1 GRANULAR SUB-BASE.

WHERE THE PIPES ARE TO BE ADOPTED CLASS S BEDDING TO BE USED FOR EITHER RIGID OR FLEXIBLE PIPES

SIZE OF BEDDING MATERIAL - ALL GRANULAR MATERIAL TO BE SINGLE SIZED OR GRADED IN ACCORDANCE WITH BS 882.BS1047.BS3797

PIPE DIAMETER	NOMINAL SINGLE SIZED	GRADED
UP TO 100mm	10mm	
OVER 100mm TO 150mm	10mm or 14mm	5mm to 14mm
OVER 150mm TO 300mm	10mm,14mm or 20mm	5mm to 14mm or 5mm to 20mm
OVER 300mm TO 550mm	14mm or 20mm	5mm to 14mm or 5mm to 20mm
OVER 550mm	14mm, 20mm or 40mm	5mm to 14mm or 5mm to 20mm or 5mm to 40mm

Trench widths	
Dia. of drain	Width
100	450
150	600
225	700
300	750
375	1050
450	1150
525	1200
600	1350
675	1450
750	1500
825	1600
900	1900
975	2000
1050	2300
1200	2300
Over 1200	Dia. + 1000

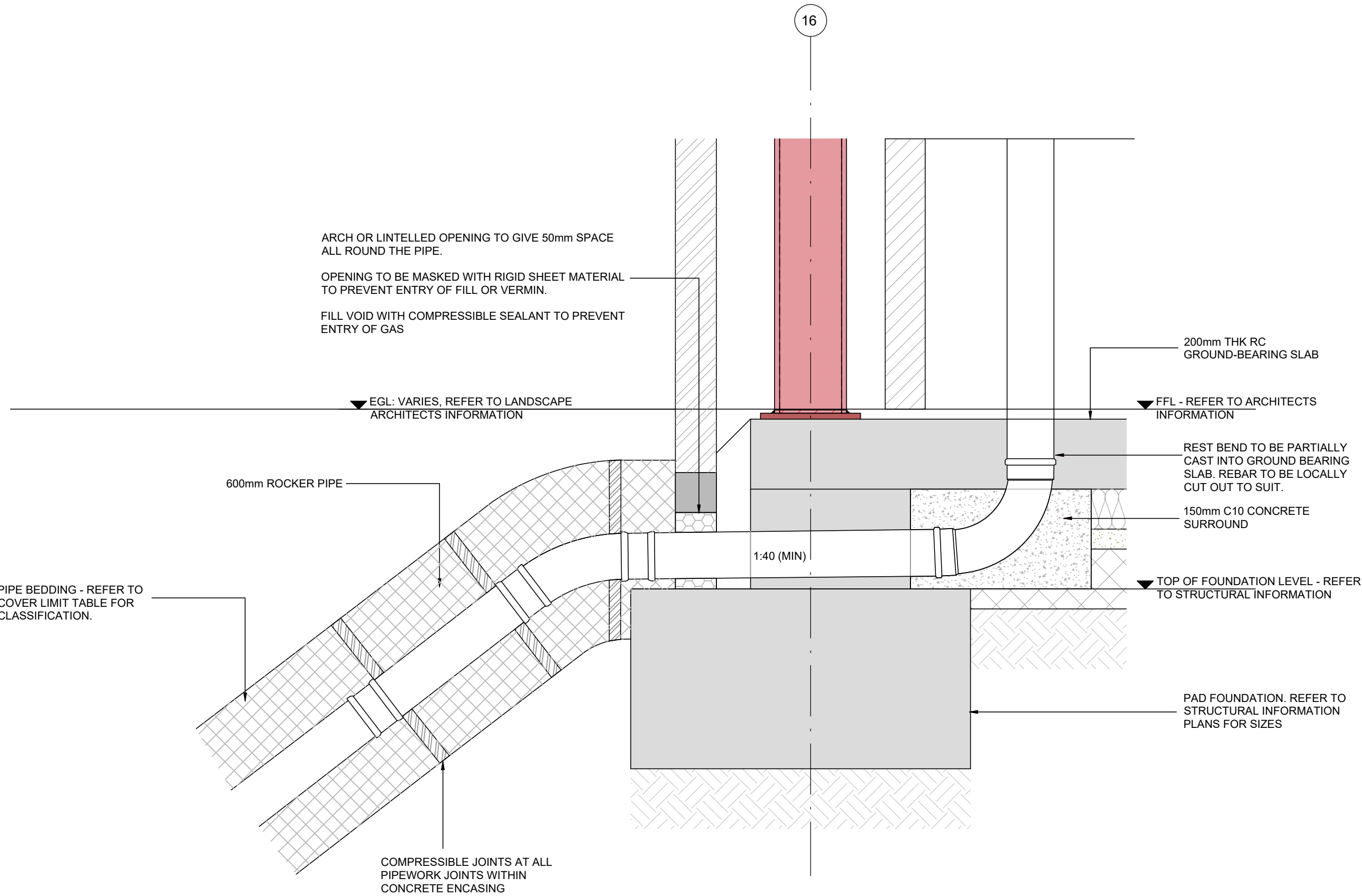
LIMITS OF COVER IN ANY WIDTH OF TRENCH			
NOMINAL SIZE	LAID IN FIELDS	LAID IN LIGHT ROADS	LAID IN MAIN ROADS
CLASS 120 CLAYWARE PIPES (CLASS B BEDDING)			
100-150mm	0.6m - 8.0m	1.2m - 8.0m	1.2m - 8.0m
225mm	0.6m - 5.0m	1.2m - 5.0m	1.2m - 4.5m
400mm	0.6m - 4.5m	1.2m - 4.5m	1.2m - 4.0m
600mm	0.6m - 4.5m	1.2m - 4.5m	1.2m - 4.0m
CLASS M CONCRETE PIPES (CLASS B BEDDING)			
300mm	0.6m - 3.0m	1.2m - 3.0m	1.2m - 2.5m
450mm	0.6m - 3.5m	1.2m - 3.5m	1.2m - 2.5m
600mm	0.6m - 3.5m	1.2m - 3.5m	1.2m - 3.0m
THERMOPLASTIC PIPES (CLASS S BEDDING)			
100 - 300mm	0.6m - 7.0m	0.9m - 7.0m	0.9m - 7.0m

WHERE COVER IS LESS THAN THE ALLOWABLE DEPTH PIPES TO HAVE A CLASS Z CONCRETE SURROUND OR CONCRETE COVER SLAB PROTECTION

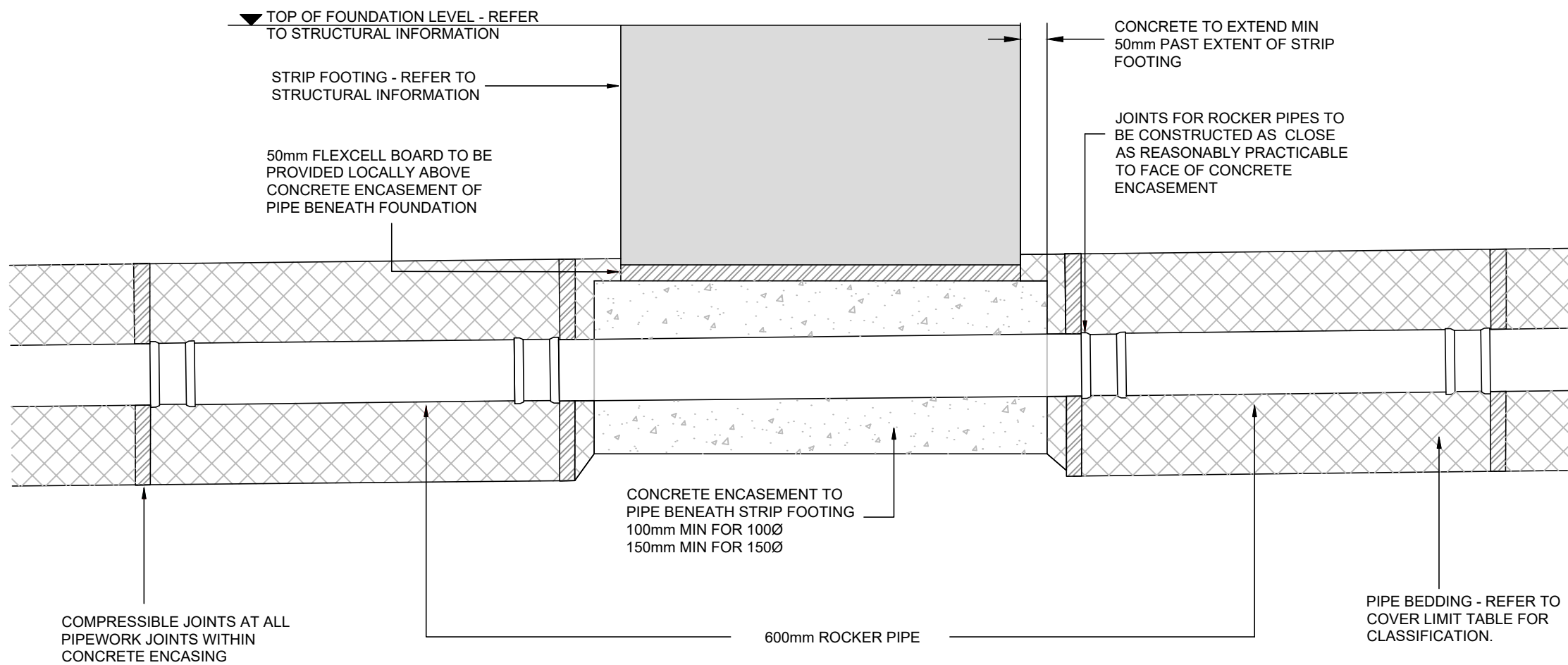
CONCRETE PROTECTION	
CLASS 1 SULPHATE CONDITIONS	
ADOPTABLE STANDARDS AND AREAS SUBJECT TO HEAVY LOADING	GEN3 OR GEN 3
AREAS SUBJECT TO LIGHT LOADING eg. PRIVATE DRIVES, SMALL CAR PARKS	GEN1 OR ST2
FOR BURIED CONCRETE EXPOSED TO SULPHATE CONDITIONS	
CLASS 2	FND 2
CLASS 3	FND 3
CLASS 4A	FND 4A
CLASS 4B	FND 4B

PRODUCT NAME	DIAMETER (mm)	MANUFACTURER	MATERIAL
Superseve	100&150 (I.D)	Hepworth	Vitrified Clay
Superseal	100&225 (I.D)	Hepworth	Vitrified Clay
Densleeve	100,150&225 (I.D)	Naylor	Vitrified Clay
Denseal	100,150&225 (I.D)	Naylor	Vitrified Clay
Ultra-Drain	110&160 (O.D)	Uponor	uPVC
Plastidrain	110&160 (O.D)	Hepworth	uPVC
OsmaDrain	110&160 (O.D)	Wavin	uPVC
Osma UltraTran	150&225 (I.D)	Wavin	uPVC
Solid Wall	110&160 (O.D)	Marley	uPVC
Quantum	150&225 (I.D)	Marley	uPVC
Underground Drain	110&160 (O.D)	Polypipe	uPVC
Ridgisewer	150&225 (I.D)	Polypipe	uPVC

MANUFACTURER	PRODUCT NAME	MATERIAL	MAX DEPTH
Naylor	Plastic Inspection Chamber	Polypropylene	Up to 1200mm
Hepworth	PPIC	Polypropylene	Up to 1200mm
Uponor	Inspection Chamber (450mmØ)	Polypropylene	Up to 1200mm
Marshalls	Inspection Chamber To BS5911 pt2	Precast concrete	Up to 1000mm
Wavin	Osma UltraTran Inspection Chamber	Polypropylene	Up to 1200mm
Wavin	OsmaDrain Universal Inspection Chamber	Polypropylene	Up to 1200mm
Wavin	Non Entry Inspection Chamber	Polypropylene	Up to 2000mm
Marley	Inspection Chamber (450mmØ)	Polypropylene	Up to 1200mm
Polypipe	110mm Inspection Chamber (460mmØ)	Polypropylene	Up to 1200mm



TYPICAL PIPE DETAIL OVER FOUNDATION



TYPICAL PIPE DETAIL BENEATH STRIP FOOTING

NOTES:

- FOR GENERAL NOTES REFER TO RENAISSANCE DRAWING FS1013-REN-01-00-D-CC-5210 . FOR DRAINAGE NOTES REFER TO FS1013-RAN-01-XX-D-C-5301.
- DO NOT SCALE FROM THIS DRAWING. ANY AMBIGUITIES OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS TO BE CHECKED/ VERIFIED ON SITE.

C02	REVISION NUMBER AMENDED	12.05.25	HW	PW
C01	STAGE 5 ISSUE	09.05.25	HW	PW
Rev:	Description:	Date:	By:	Chkd:



Renaissance Associates Ltd
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

Project:

STAR RADCLIFFE ACADEMY, BURY

Drawing Title:

BELOW GROUND DRAINAGE DETAILS SHEET 4

Status:

STAGE 5

Size:	Date:	Drawn by:	Designed by:	Checked by:
A1	MAY 25	HW	--	PW

Scale:	NTS	Project No:	2303-02
Project - Originator - Volume - Level - Type - Role - Number:			Revision:

FS1013-REN-EX-XX-D-C-5304 C02