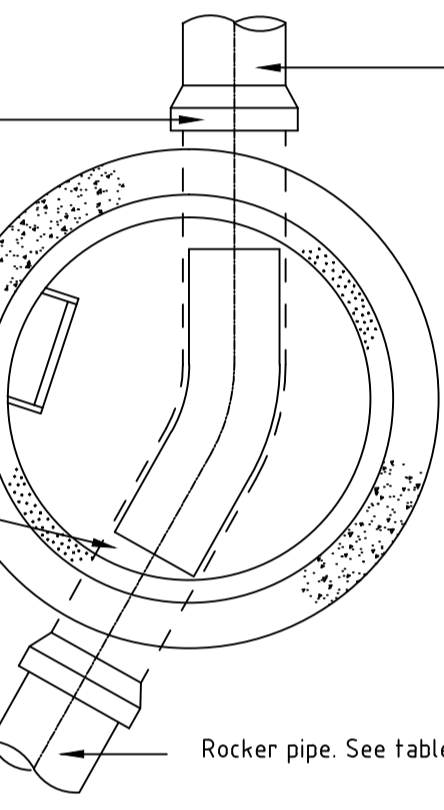
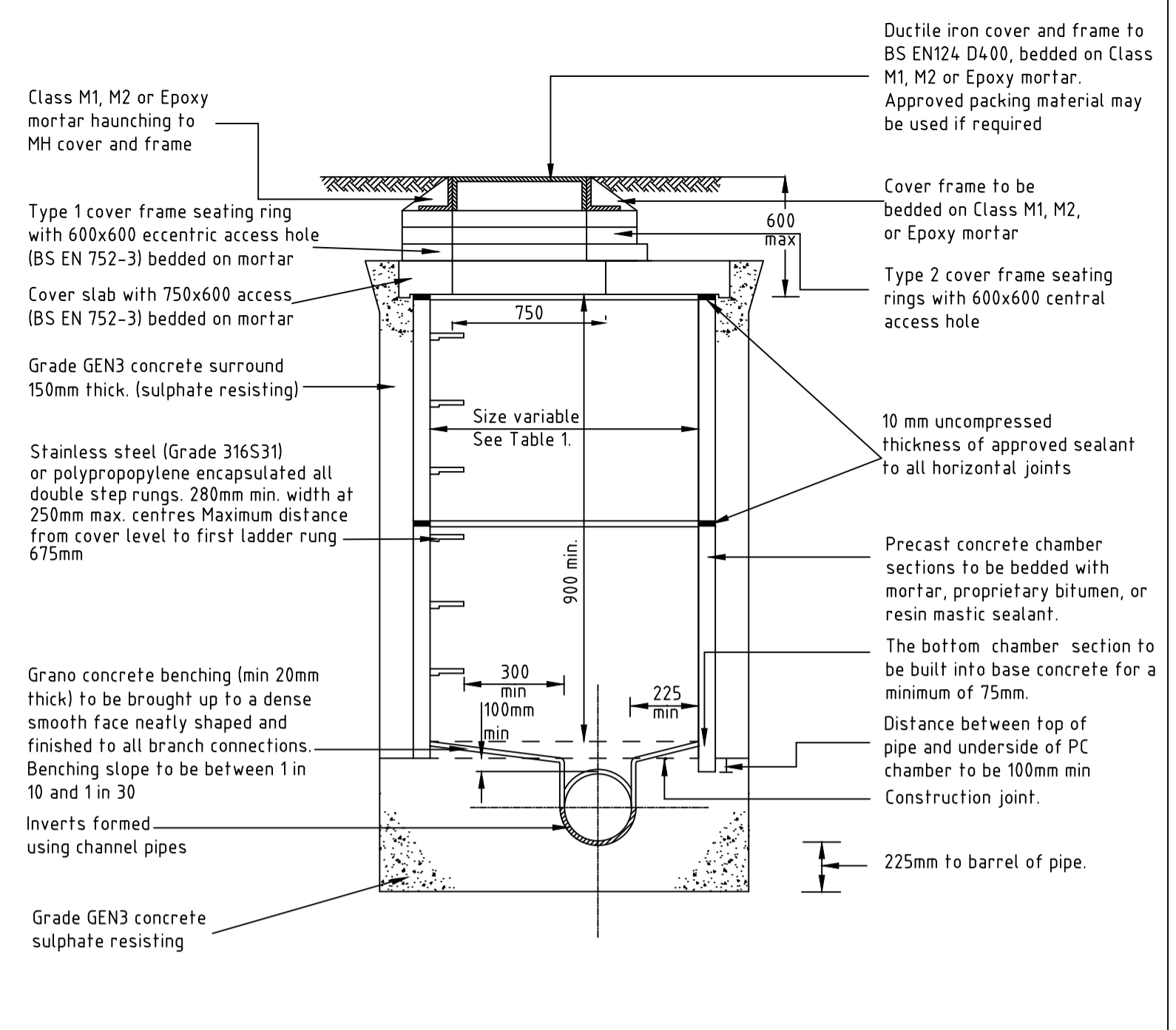
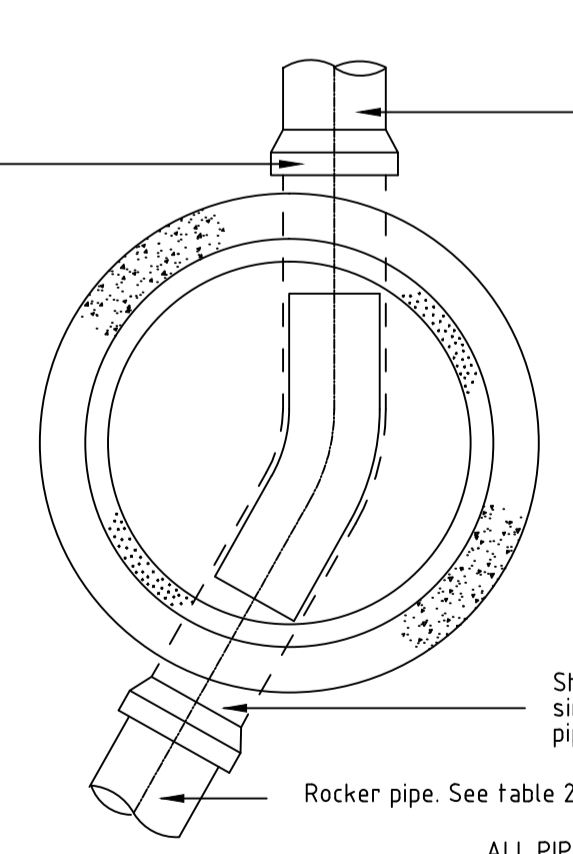
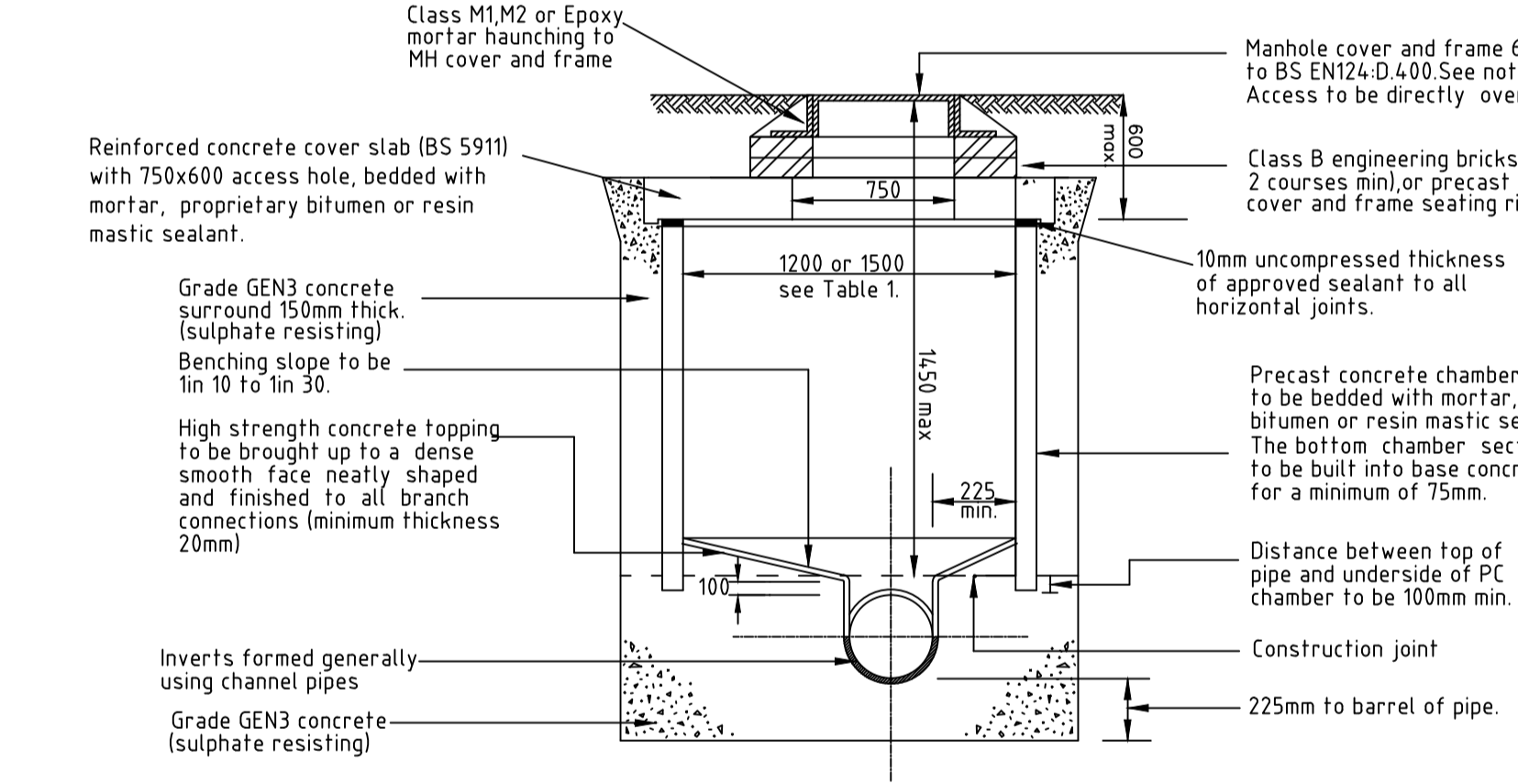
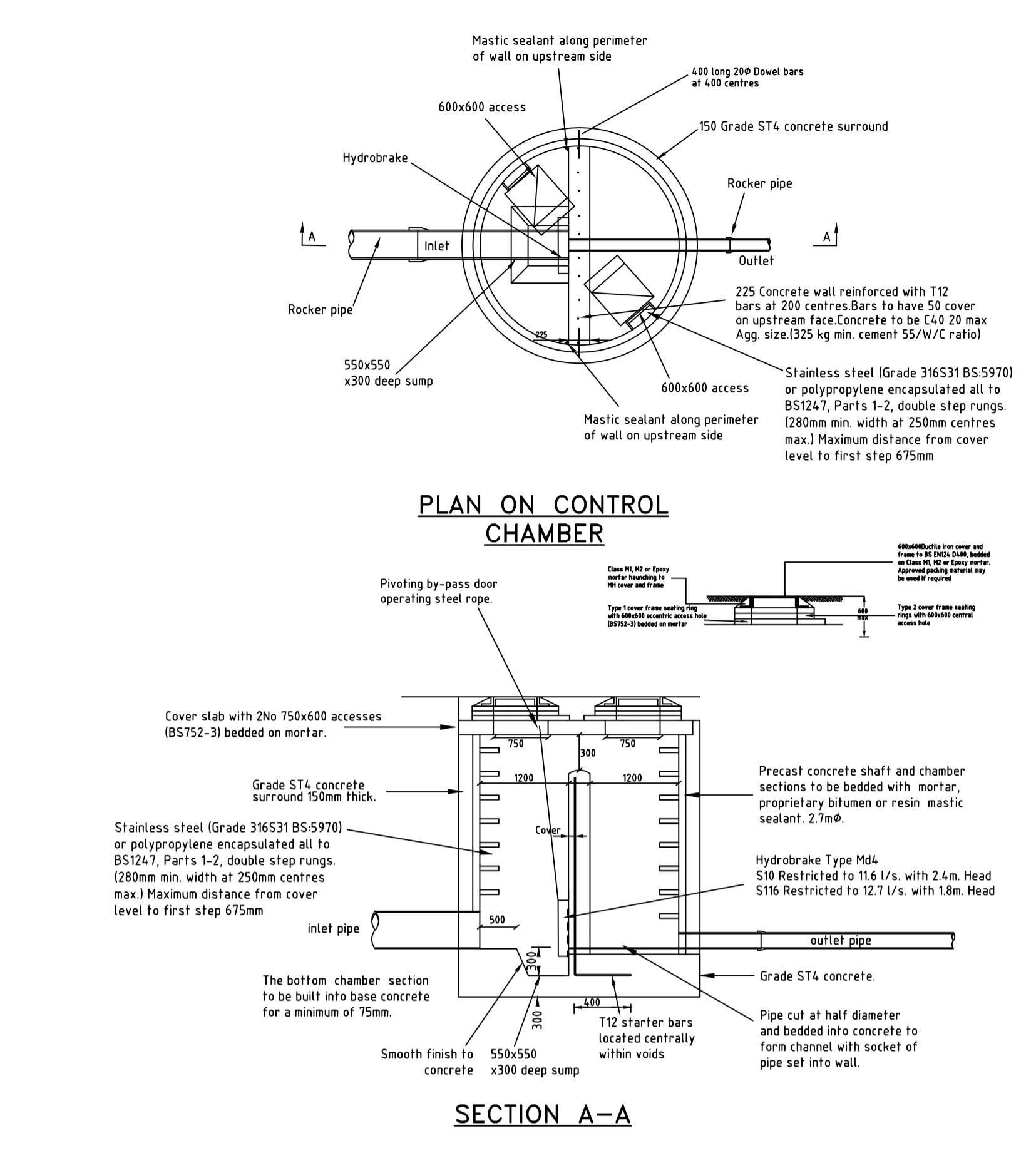


TYPE A MANHOLE
depth to soffit 3 to 6m

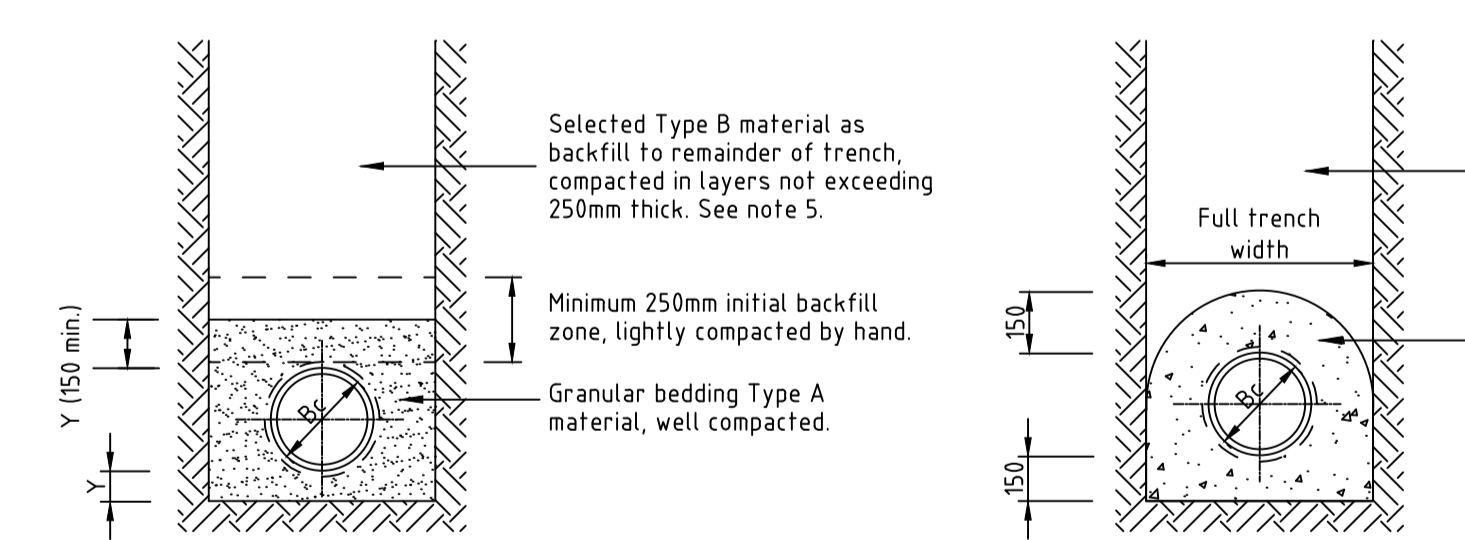


TYPE B MANHOLE
maximum depth to soffit 3.0m.



TYPE X MANHOLE
depth to soffit 1.45m

RIGID PIPES (Clay, concrete).



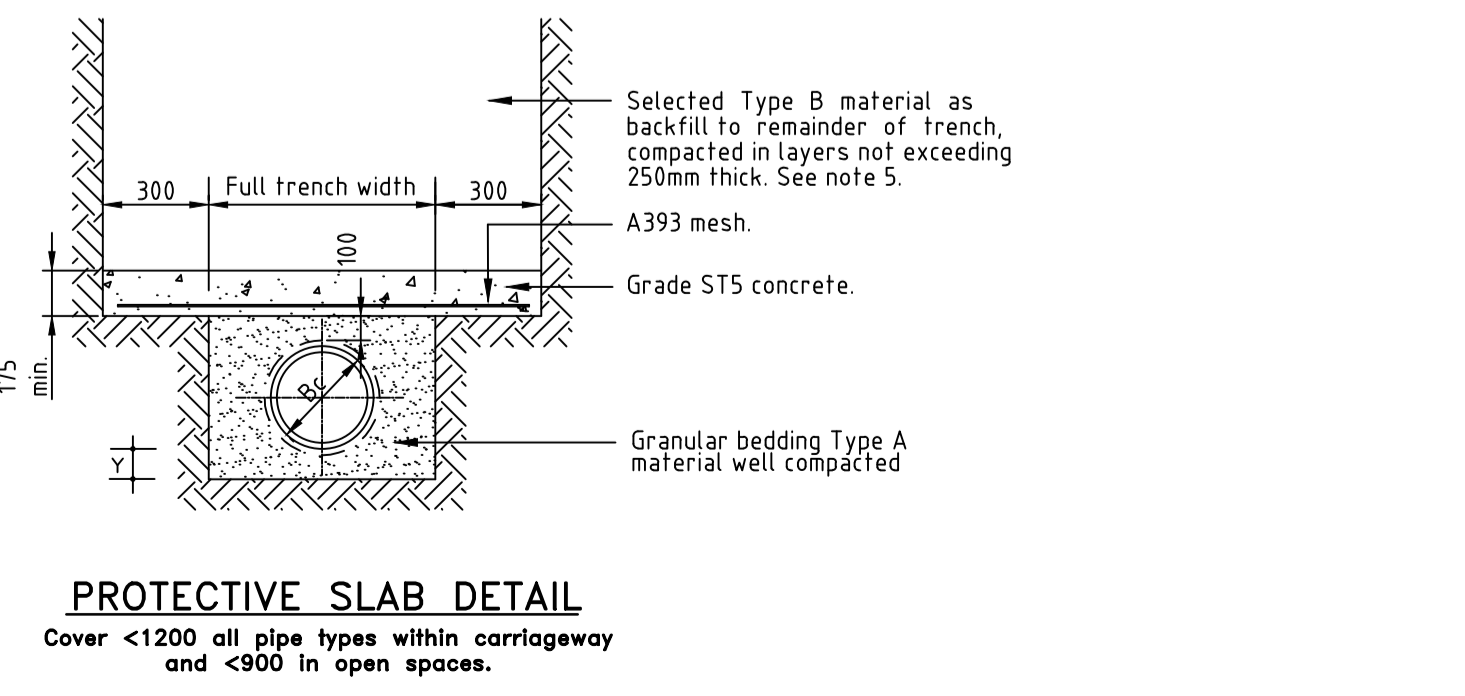
Pipe dia. (mm)	Trench width (maximum)	Dimension Y (minimum)			
		Uniform soils		Rock or variable material	
		Barrels	Sockets	Barrels	Sockets
150	600	100	50	200	150
225	700	100	50	200	150
300	850	100	50	200	150
375	1050	100	50	200	150
450	1150	100	50	200	150
525	1200	115	50	200	150
600	1350	130	50	200	150
675	1450	150	50	215	150
750	1500	160	50	230	150
825	1600	170	50	250	150
900	1900	200	50	275	150

Nominal bore of pipe.	Alternative aggregate sizes.	
	Rigid pipes.	
	Single sized.	Graded.
150		10 to 5
225		14 to 5 or 20 to 5
300		14 to 5 or 20 to 5
375		14 to 5 or 20 to 5
450		14 to 5 or 20 to 5
525		14 to 5 or 20 to 5 or 40 to 5
600		14 to 5 or 20 to 5 or 40 to 5
Over 600		14 to 5 or 20 to 5 or 40 to 5

Granular bedding Type A
For pipes and backfilling material for temporary drains (trench sub-drains). Shall consist of aggregate s from natural sources to BS EN 1242 and BS EN 1744-1 or sintered pulverised fuel ash complying with the relevant provisions of BS 3892.

Selected fill Type B
Whether selected from locally excavated material or imported, shall consist of uniform, readily compactable material, free from vegetable matter, building rubbish and frozen material or materials susceptible to spontaneous combustion and excluding clay of liquid limit greater than 80 and or plastic limit greater than 55 and materials of excessively high moisture content. Clay lumps and stones shall be retained on 75mm and 37.5mm sieves respectively.

Compacted fill Type 1
Type 1 granular backfill material to Specification for Highway Works.



Chamber diameters are to be in accordance with the table below. (Table 1) :-

Diameter of largest pipe in manhole (mm)	Chamber section diameter (mm)
Less than 375mm	1200
375 - 700	1500
750 - 900	1800

unless otherwise stated and contained in the manhole schedule for the works.

CHAMBER SIZE

Rocker pipe. (Table 2).

Pipe Dia.	Rocker Pipe Length
150-600	600
675-750	1000
825 and over	1250

ROCKER PIPE LENGTH

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- Notes
- This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.
 - If received electronically it is the recipient's responsibility to print to correct scale. Only written dimensions should be used.
 - This drawing should be read in conjunction with all other relevant drawings and specifications.
- Notes:
- Details and Specifications are to be in accordance with "Sewers for Adoption 6th Edition".
 - Manhole covers and frames to be ductile iron heavy duty to BS EN124-D:400. Types A, B and X manholes to have double triangular covers 600x600 opening. Covers to be bedded on class M1, M2 or epoxy mortar. All manhole covers to be non rocking and to be marked SW or FW as appropriate, clearly readable and kite marked. Private manhole covers not to be bagged. The minimum frame depth shall be 100mm and in situations where traffic loading is anticipated to be heavier than on typical residential estate distributor roads the frame depth shall be increased to 150mm and a high specification (formerly 'M Way') used. Where block paving is used the depth of the frame shall be 150mm.
 - All pipes entering manholes with soffits level.
 - Exposed reinforcing steel in cut pipes to be painted with Mulseal or similar approved.
 - Trench backfill, Type B material is to be Type 1 granular backfill under adoptable paved areas or within 45° envelope of the kerb foundation.
 - Brick arches in brickwork manholes are required for pipes 225 dia. and greater.
 - Brickwork to be corbelled a maximum of 30mm per course.
 - Instead of corbels to brickwork manholes, a heavy duty precast or insitu concrete cover slab may be used with cover and frame on one or two courses of engineering brickwork (Class B).
 - Minimum 150 step between joints in precast concrete ring and insitu concrete surround. Maximum insitu concrete pour height - 2000.
 - Sulphate resisting concrete shall be used in accordance with BRE Special Digest 1, parts 1 - 4.
 - All pipes entering manholes to be a minimum of 150 dia.
 - Insitu concrete grade to be in accordance with BS 8500 and BS EN 206 Part 1.
 - Concrete pipes and fittings to be in accordance with BS EN 1916 and BS EN 1917. Clay pipes to be in accordance with BS EN 295. Plastic pipes not permitted.

A FIRST ISSUE TD KMc 15/07/13

Rev	Description	By	Ckd	Date

For guidance only. Do not scale off this drawing



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Project **KINGSMERE, BICESTER.**

Title **ADOPTABLE DRAINAGE DETAILS**

Status Preliminary Scale NTS @A1 Date Created 15/07/13
Project Leader KMc Drawn By TD Checked by KMc

Drawing Number **JKK6647 _110** Rev **A**