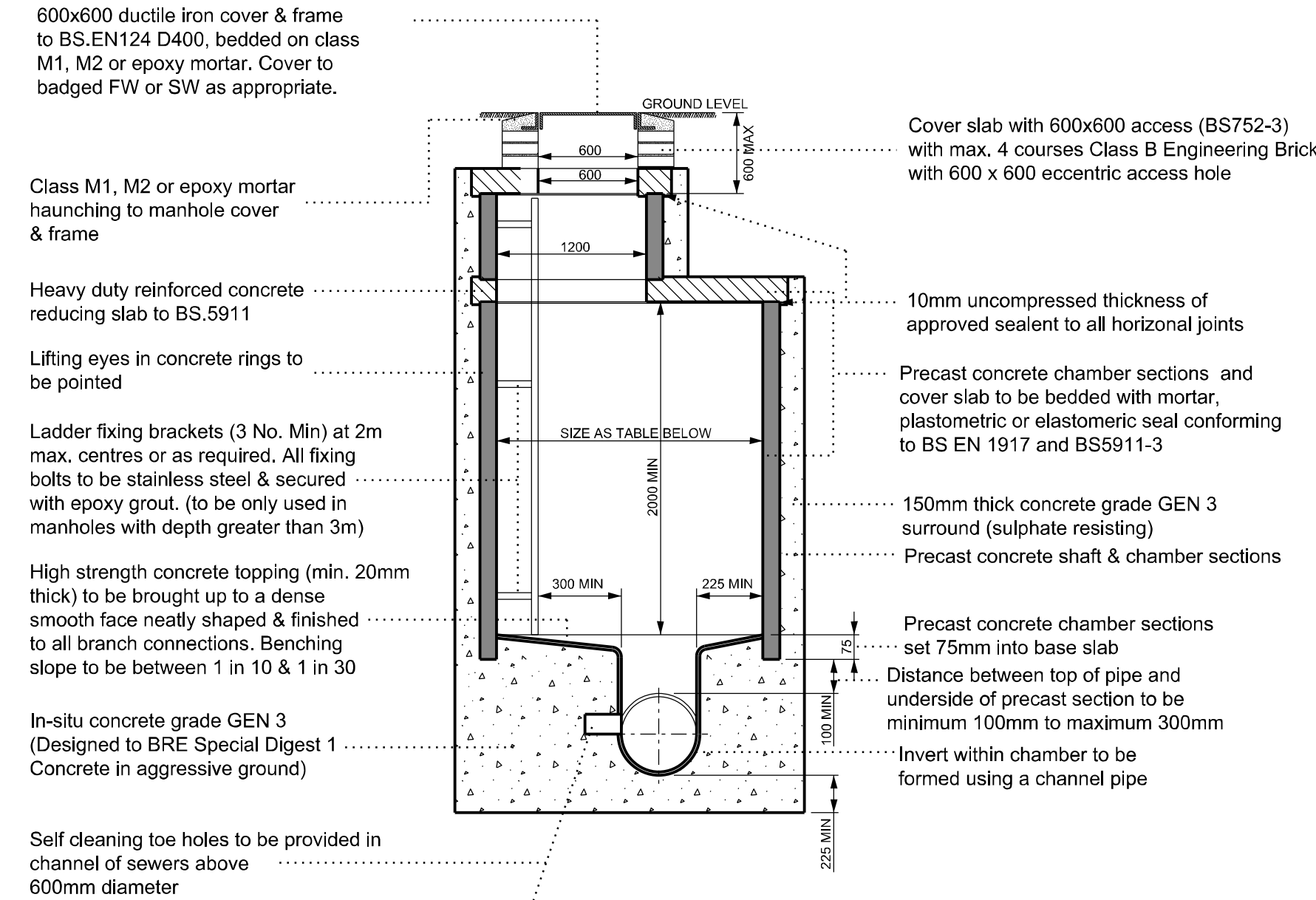


TYPICAL MANHOLE DETAIL TYPE 1A

(DEPTH TO SOFFIT 3m - 6m)



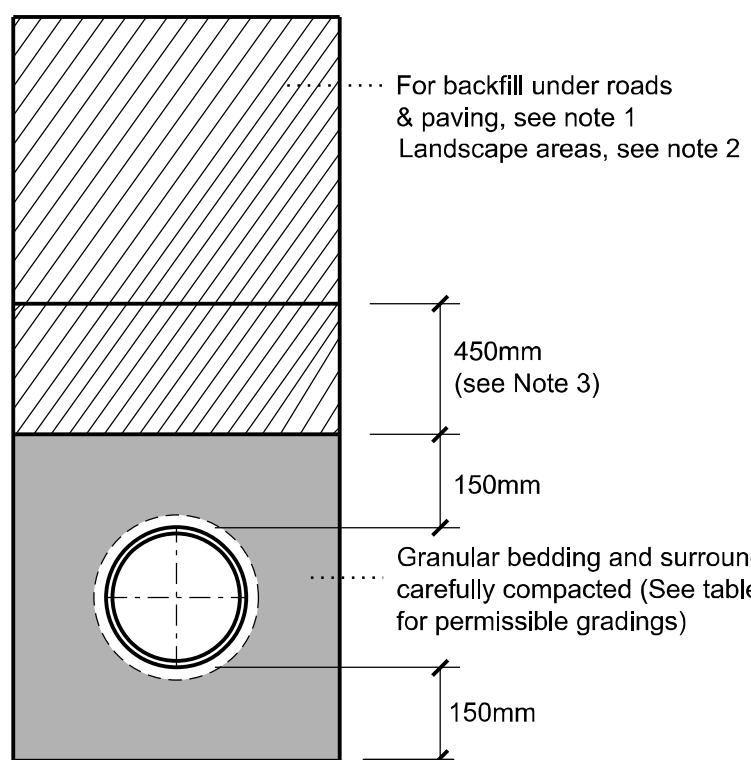
CHAMBER DIAMETERS	
DIA. OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIAMETER OF MANHOLE (mm)
LESS THAN 375	1200
375 TO 700	1500
750 TO 900	1800

Chambers with outgoing pipes greater than 600mm diameter shall be fitted with removable stainless steel (Grade 316) safety chains or polypropylene rope teathered to the side of the pipes. Chains to be hung across the pipes in manholes when outgoing pipe is 9000 or larger. Manholes greater than 6m depth shall be subject to specific design

Minimum width of benching to be 500mm

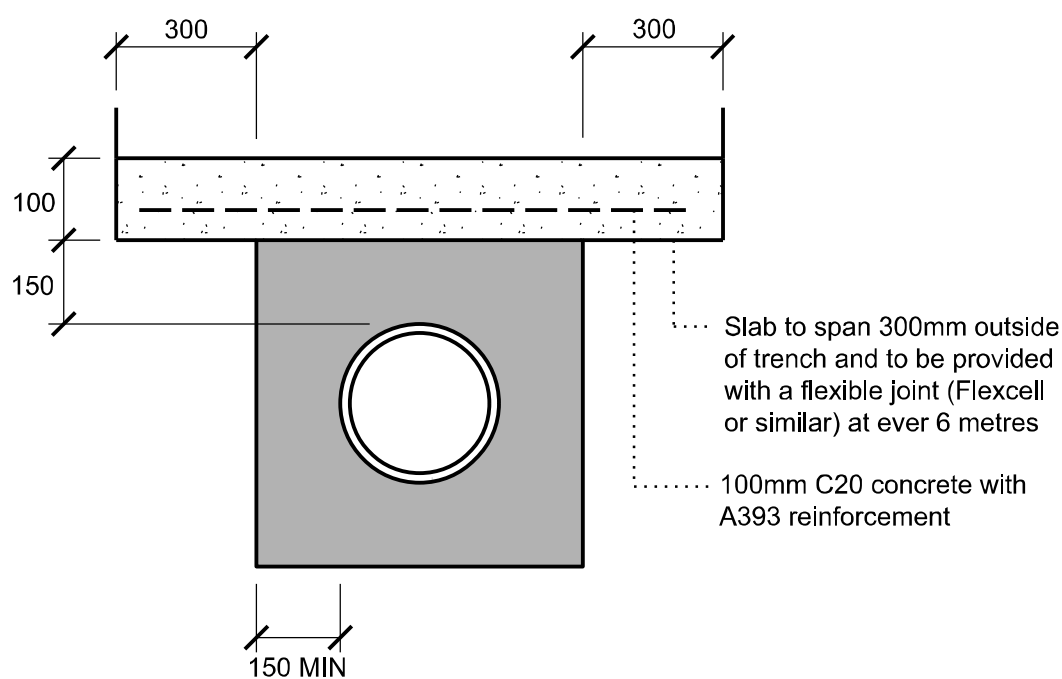
Joint to be as close as possible to face of manhole to permit satisfactory joint and subsequent movement

For manholes of 1800 dia of larger. Below 1800 dia chamber rings continue to cover slab (no shaft)



CLASS S BEDDING DETAIL

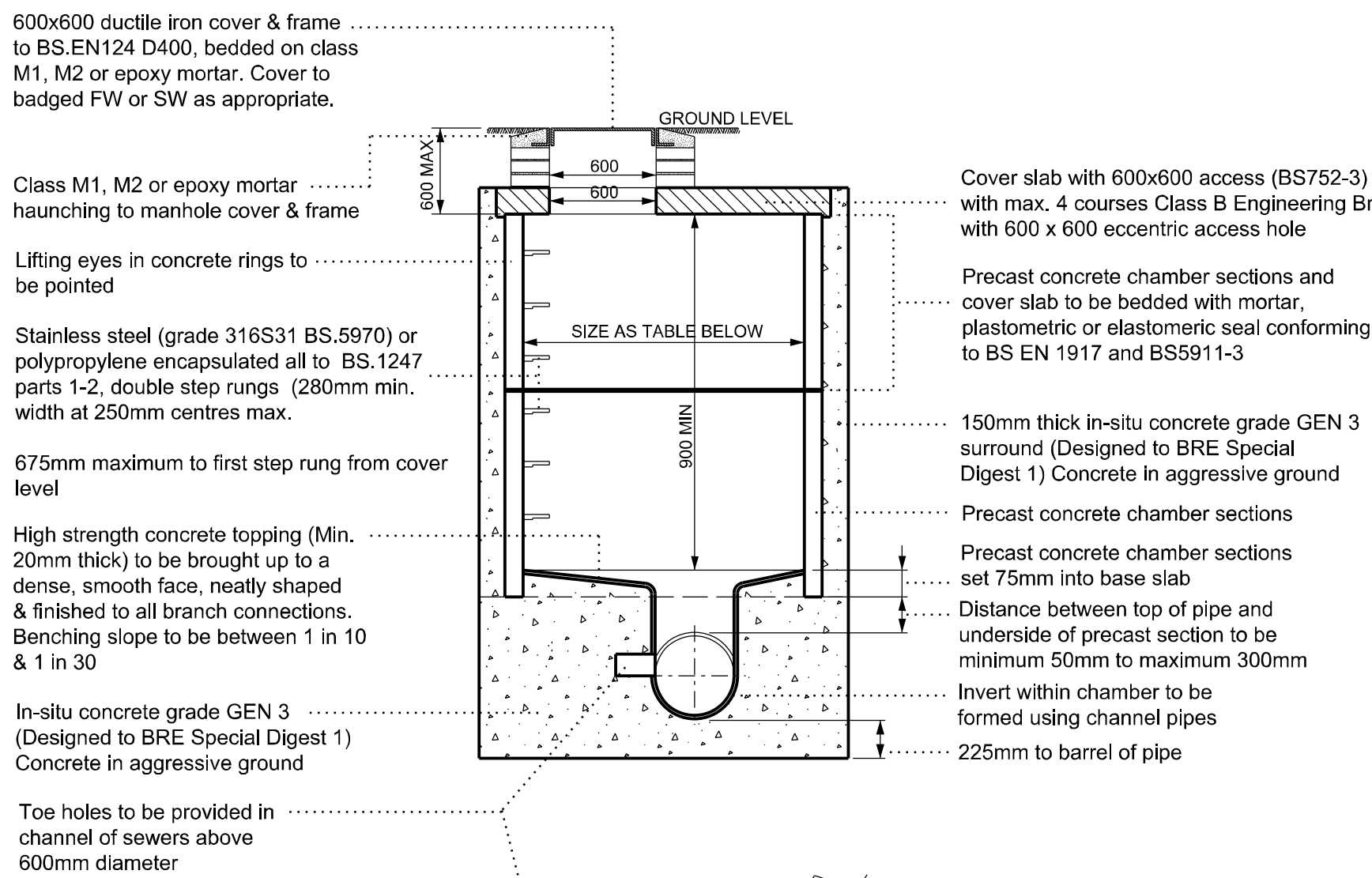
(Rigid Pipes)



CONCRETE PROTECTION

TYPICAL MANHOLE DETAIL TYPE 2

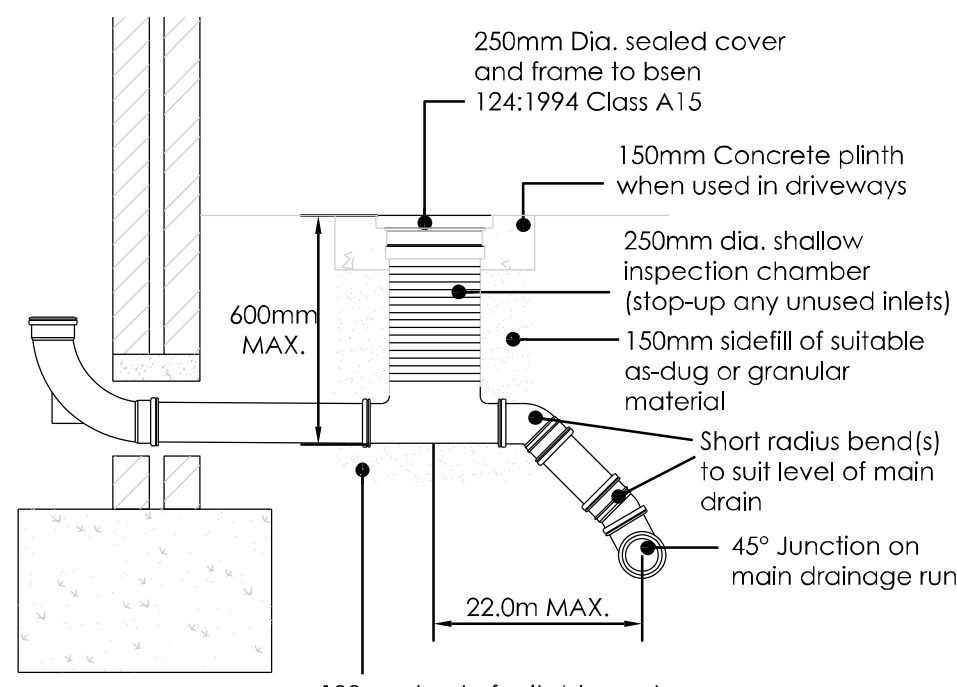
(Maximum depth from cover level to soffit of pipe 3m)



CHAMBER DIAMETERS	
DIA. OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIAMETER OF MANHOLE (mm)
LESS THAN 375	1200
375 TO 700	1500
750 TO 900	1800

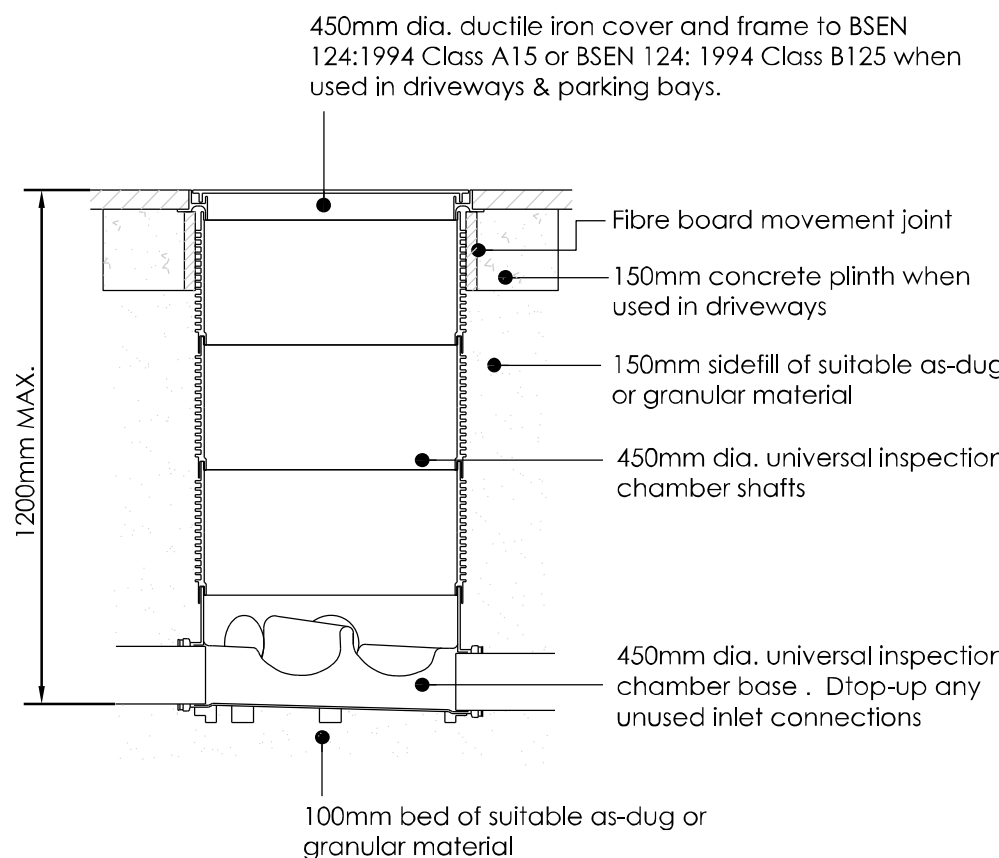
Minimum width of benching to be 500mm

Chambers with outgoing pipes greater than 600mm diameter shall be fitted with removable stainless steel (Grade 316) safety chains or polypropylene rope teathered to the side of the pipes. Chains to be hung across the pipes in manholes when outgoing pipe is 9000 or larger



SHALLOW INSPECTION CHAMBER

For use in soft areas & driveways only

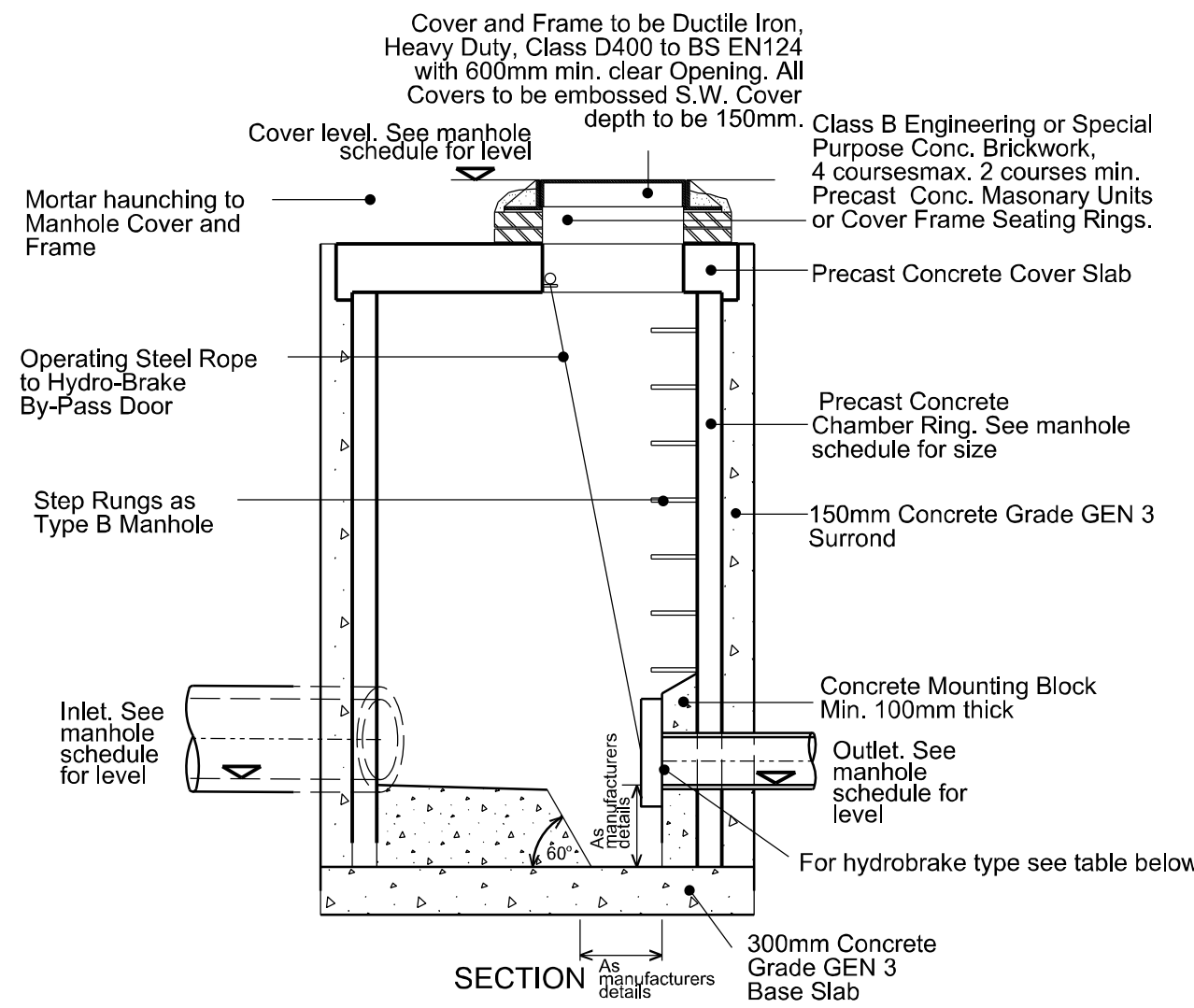


TYPICAL INSPECTION CHAMBER

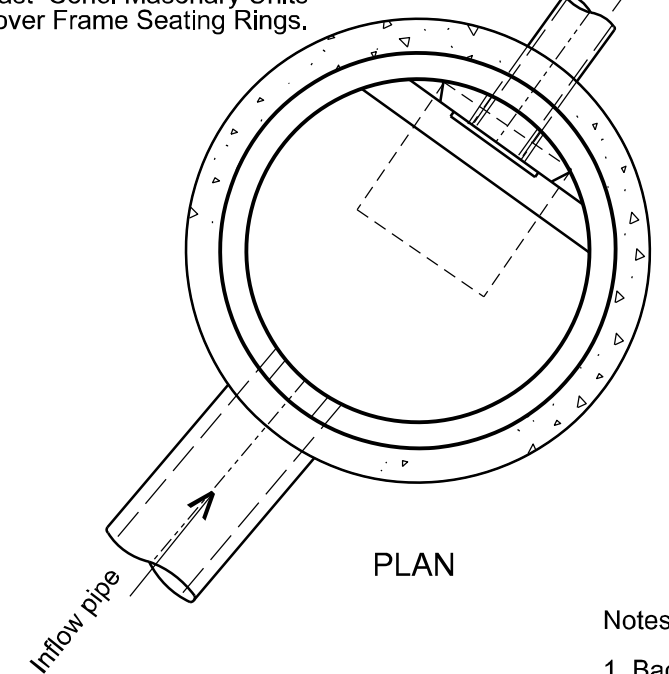
For use in soft areas, driveways and parking bays only

TYPICAL FLOW CONTROL CHAMBER DETAIL

INDIVIDUAL FLOW CONTROL CHAMBER DETAILS
SUBJECT TO STRUCTURAL ENGINEERS DESIGNS.



Class B Engineering or Special Purpose Conc. Brickwork, 4 coursesmax. 2 courses min. Precast Conc. Masonary Units or Cover Frame Seating Rings.



Manhole Ref	Hydrobrake type	Design head	Permitted flow	Hydrobrake size
S15	MD6	1.6m	92,0 l/s	337mm

INDIVIDUAL WEIR WALLS AND COVER SLABS SUBJECT TO DESIGN BY STRUCTURAL ENGINEER

Notes.

- Backfilling under roads and paving: Backfill from top of granular bedding up to formation level with Granular Subbase Material Type 1 to Highways Agency specification for Highway Works 1998 Clause 803, laid and compacted in 150mm layers.
- Backfilling under landscaped areas: Backfill from top of granular bedding up to underside of topsoil with selected Class 1B material. Class 1B fill whether selected from locally excavated material or imported, shall consist of uniform readily compactible 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 retained on 75mm and 37.5mm sieves respectively shall be excluded from the fill material. Laid and compacted in layers not exceeding 300mm.
- Do not use heavy compactors before there is 600mm of material over pipe.

Table - Granular bedding and sidefill materials for rigid pipes				
Pipe Nominal Bore (DN)	Maximum Particle Size (mm)	Class of Bedding	Suitable materials	
			Imported granular materials (Note a)	Maximum CF value for as-dug granular material (Note b)
100	10	S	10mm nominal single- size	0.15
		B		0.30 (Note c)
		F		0.15
		N		
Over 100 to 150	15	S	14mm to 5mm graded	0.15
		B		0.30 (Note c)
		F		0.15
		N		
Over 150 to 500	20	S	14mm to 5mm graded or 20mm to 5mm graded	0.15
		B		0.30 (Note c)
		F		0.15
		N		
Over 500 (Note d)	40	S	14mm to 5mm graded or 20mm to 5mm graded or 40mm to 5mm graded	0.15
		B		0.30 (Note c)
		F		0.15
		N		

Notes

- Imported granular materials to include aggregates to BS 882, air- cooled blast furnace slag to BS 1047 and sintered pulverized- fuel ash to BS 3797
- Compaction fraction value, See Appendix A
- The higher the CF value for as dug bedding and sidefill materials the greater the required effort for adequate compaction
- Angular materials should be chosen to ensure sufficient support is provided to these heavier pipes. Crushed rock aggregates to BS 882 are recommended. Air- cooled blast furnace slag to BS 3797 or other granular materials may be used if they show a similar degree of angularity

Revision	Description	AT	JF	16.12.14
B	Hydrobrake detail added	AT	JF	16.12.14
A	Type 1A detail added	AT	JF	05.11.14
Revision	Description	Drawn	Checked	Date
Preliminary	Information	Tender	Construction	As Built

Woods Hardwick
Architects, Engineers and Development Consultants

Title: UPPER HEYFORD PARCEL D5a

Details: TYPICAL DRAINAGE DETAILS

Scale: N.T.S @ A1 Date: OCTOBER 2014 Drawn: AT Chk: JF

15-17 Goldington Road Bedford MK40 3NH United Kingdom T. +44 (0)1234 268862 F. +44 (0)1234 353034 mail@woodsardwick.com www.woodsardwick.com

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HEYF/5/919 B

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