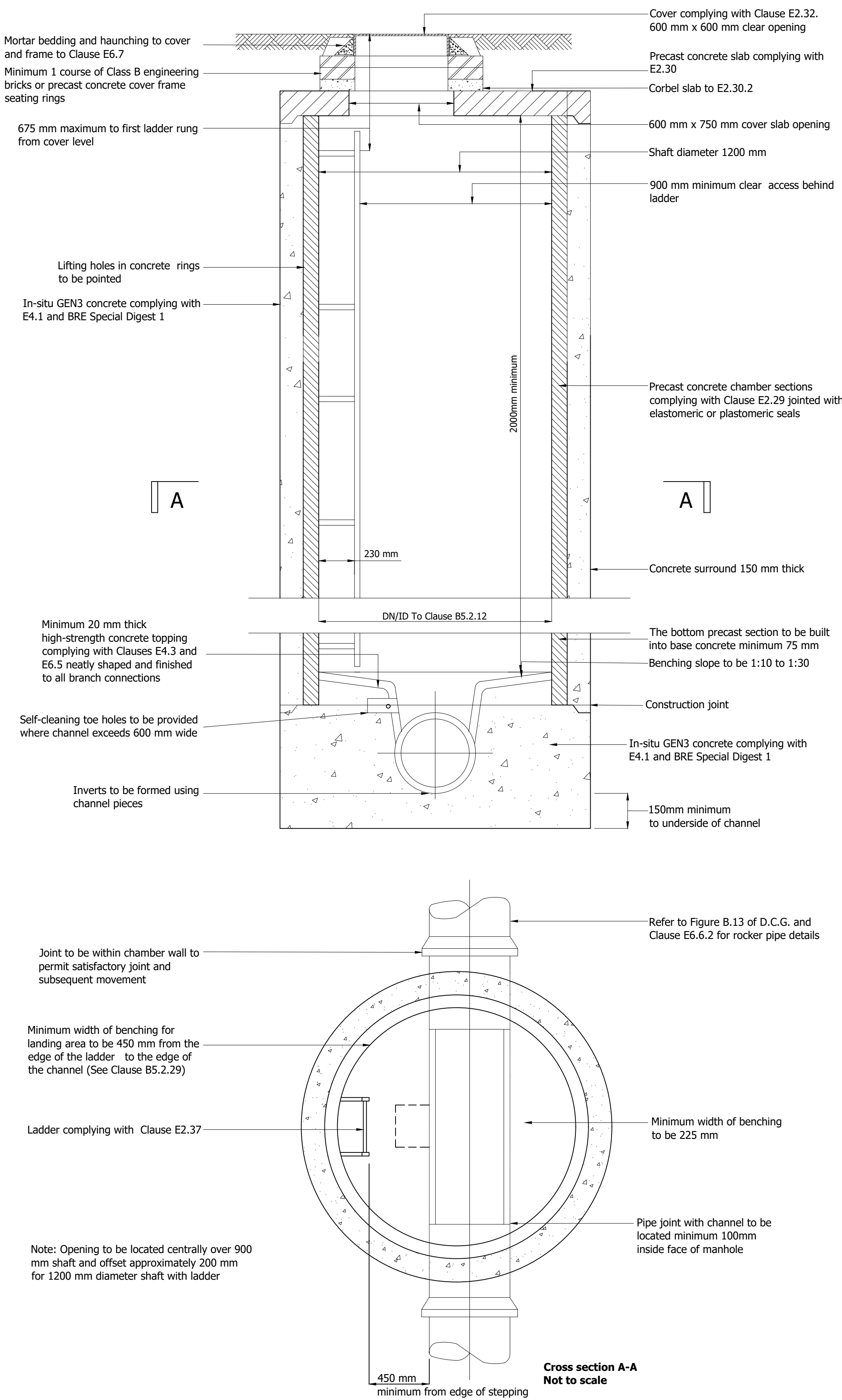


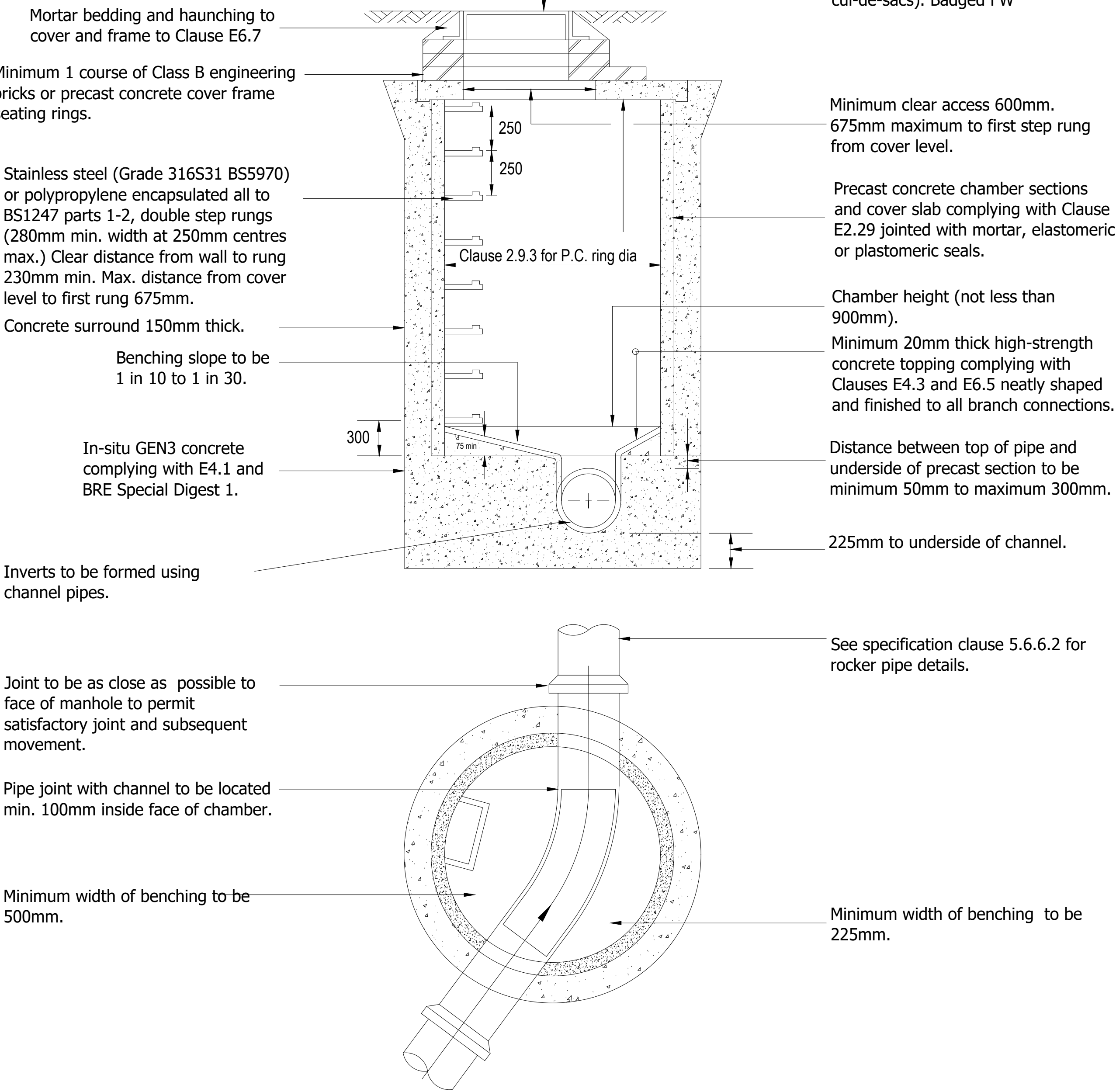
Typical manhole detail – Type A2

Depth from cover level to soffit of pipe 3 m to 6 m with ladder
Alternative rigid material construction with concrete surround



Manhole Type B

Max depth from ground level to soffit of pipe 3.0m

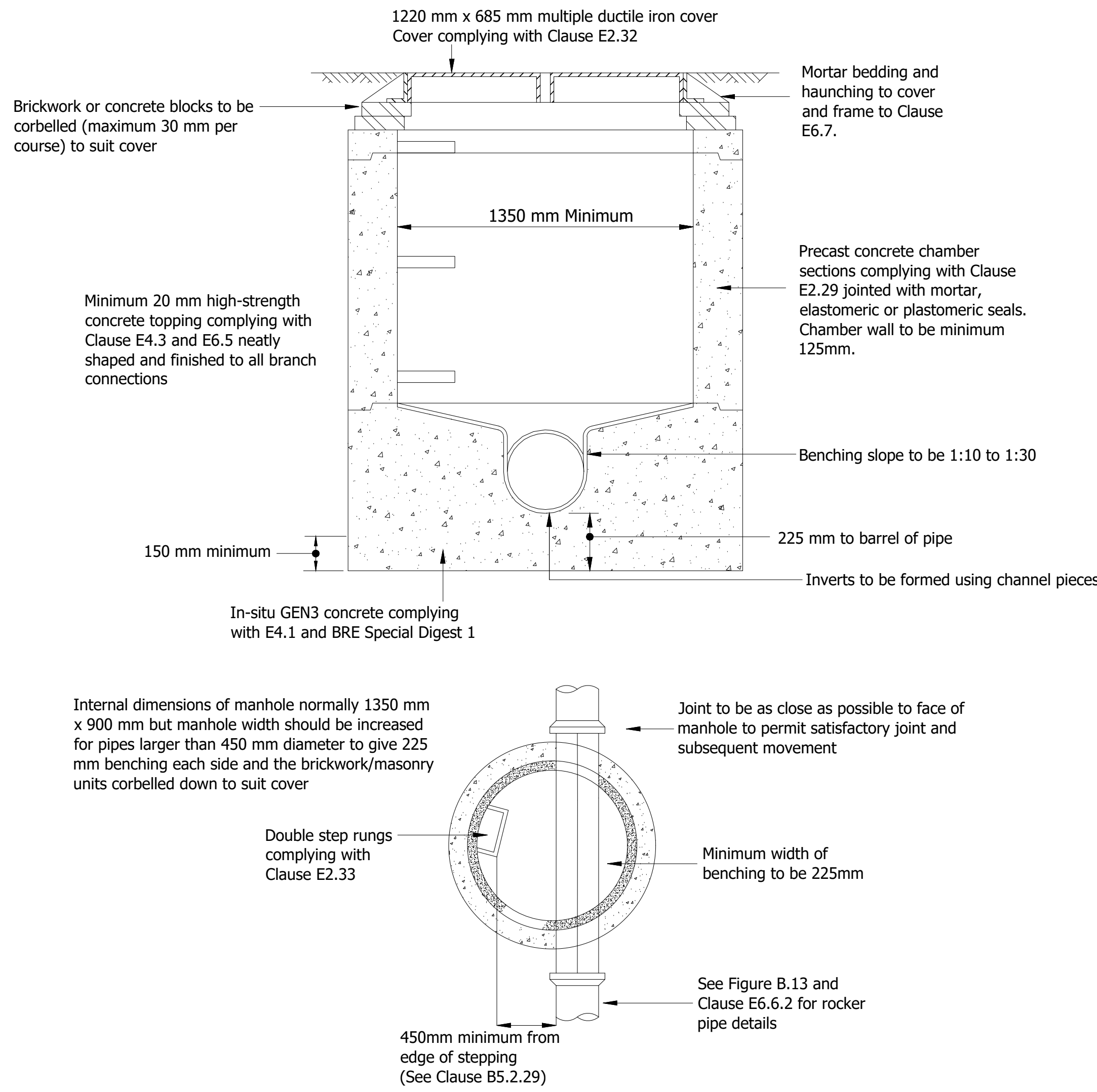


Typical manhole detail - Type C (For Manholes with 1500mm diameter)

Depth from cover level to soffit of pipe less than 1.5 m

Maximum pipe size 450 mm diameter

Rigid material construction



1. DO NOT SCALE FROM THIS DRAWING. IF IN DOUBT CONTACT TRAVIS BAKER LIMITED.
2. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS RELATING TO THIS PROJECT.
4. ALL DIMENSIONS SHOULD BE CHECKED ON SITE PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHOULD BE IMMEDIATELY NOTIFIED IN WRITING TO TRAVIS BAKER LIMITED.
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ALL ADAPTABLE SEWERS TO BE IN ACCORDANCE WITH - SEWER SECTOR GUIDANCE CODE OF ADOPTION

- 1) All concrete pipes to be strength class H. Min crushing strength 36kN/m Concrete pipes to BS 5911.
- 2) Concrete pipes above 225mm dia shall be spigot and socket jointed.
- 3) When using type A bedding, flexible joints shall be maintained by incorporating compressible fibreboard at each joint.
- 4) Manhole covers and frames are to be double triangular to class D400, 150mm deep and Kite marked to BS EN 124.
- 5) Manholes constructed in the carriageway shall be at least 0.5m from the outside of the chamber to the kerb line, the manhole cover and pipes shall be at least 1m from the kerb.
- 6) Private inspection chambers shall not be situated within adoptable areas.
- 7) The benching on downstream manhole to be left out to form a catchpit and a temporary Grille to be fitted over the outgoing pipe during construction to prevent debris from entering the public sewer system.
- 8) Saddles are not to be fixed to the top of the sewer. They should be fixed in the 10 or 2 o'clock position.
- 9) The holes of the saddles are to be core drilled only, fixed to the existing sewer pipe with epoxy mortar (resin hardener base with coarse sand mixture). A 20 N/sq mm sulphate resisting concrete surround are to be placed around the saddle connections after their curing time. Backfilling of the trenches should not take place until the saddles are fixed firmly and will not be dislodged by back filling and has been inspected and approved by the Severn Trent Water Clerk of Works.

Buried pipework up to and including 150mm dia. to be 28kN/m strength clayware to BS EN 295; 1991.

Buried pipework above 150mm dia. and up to and including 225mm dia. to be 36kN/m strength clayware to BS EN 295; 1991.

Buried Buried pipework above 225mm dia. to be Class 120 (SRPC) concrete pipes to BS 5911 with spigot and socket flexible joints.

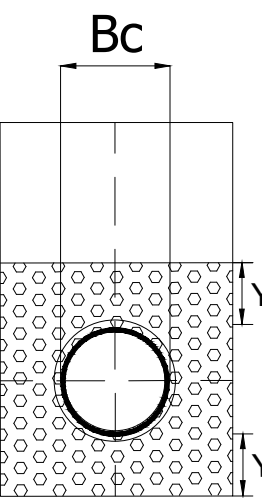
CONCRETE PIPE STRENGTH TABLE [to EN 1916/BS 5911-1:2002]	
diameter [mm]	Minimum crush load (Fr) [kN/m]
300	36
375	45
450	54
525	63
600	72
675	81
750	90

ALL ADAPTABLE DRAINAGE MUST COMPLY THE DESIGN CODE FOR ADOPTION AND SEVERN TRENT WATER REQUIREMENTS

PRELIMINARY
SUBJECT TO SECTION
104 APPROVAL

Pipe Bedding Sections

Type 2 Bedding Match Style



Class S
Fm = 2.2

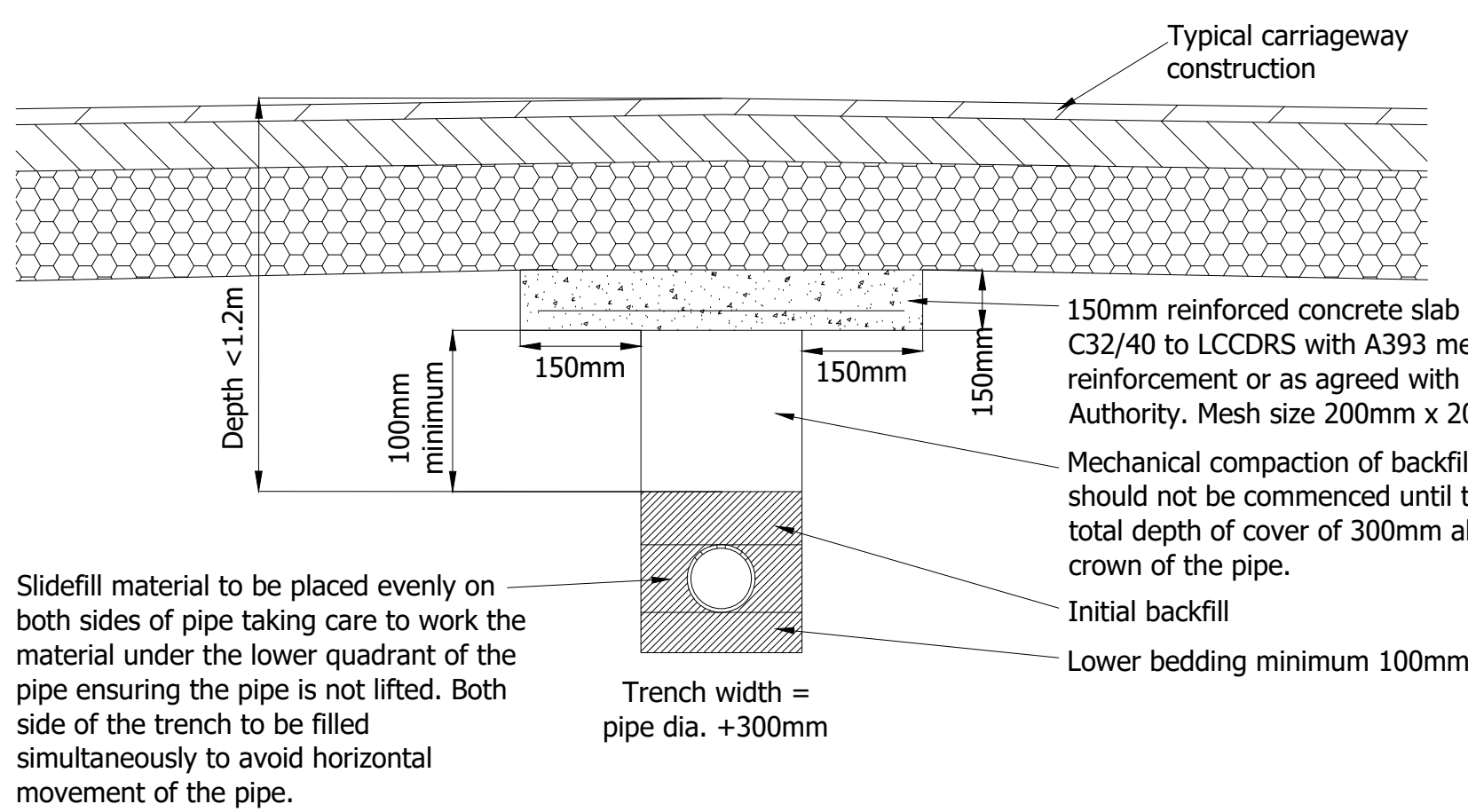
Key

Granular fill

Bc = external diameter over socket

Notes

- 1) Bedding beneath and at the sides of pipe to be well compacted.
- 2) Bedding / back fill directly above pipe to be lightly compacted.
- 3) Dimension Y = 1/6 Bc or 150mm under barrels, and 150mm min under sockets, whichever is greater(400mm max) Rock etc. 1/4 Bc and 150mm under sockets (400mm max)
- 4) Geotextiles may be used to contain bedding material in running sand etc.
- 5) Concrete cradles may extend to sides of trench.
- 6) Transverse steel at minimum of 0.4% of concrete at X-X gives Fm = 3.4
- 7) Transverse steel at minimum of 1% of the concrete at X-Xgives Fm = 4.8



Concrete Protection Detail - NTS

ONLY TO BE REQUIRED WHERE LESS THAN 1.2m COVER, FROM SOFFIT OF PIPE, IN TRAFFICKED AREAS AND 0.9m IN LANDSCAPED AREAS.

Clause 5.6.6.2	
PIPE DIA.	ROCKER PIPE LENGTH
150 to 300	0.6
Over 300 to 750	1.0
Over 750	1.25

Rocker Pipe Length

DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIAMETER OF MANHOLE (mm)
Less than 375	1200
375 - 700	1500
750 - 900	1800
Greater than 900	Consult Undertaker

Manhole Diameters

Table AG1	
Nominal pipe size mm DN	Pipe bedding requirement Size of aggregate mm
150mm	10 or 14 nominal single size or 14 to 5 graded
225mm - 525mm	10, 14 or 20 nominal size or 14 to 5 graded or 20 to 5 graded
525mm and above	10, 14, 20 or 40 nominal single crushed rock or 14 to 5 graded or 20 to 5 graded or 40 to 5 graded

Bedding Details

Typical manhole detail - Type C (For Manholes with 1200mm diameter)

Depth from cover level to soffit of pipe less than 1.5 m

Maximum pipe size 450 mm diameter

Rigid material construction

