

Yorkshire Water Notes

- All adaptable sewer works and material to be in accordance with "Code for Adoption", the Relevant British/European and Yorkshire Water's Standards/Requirements/Addendum to the Mechanical and Electrical Specification and Kitemarked.
- Manhole covers shall have a clear opening of 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
- Filled ground must be filled and consolidated under the supervision and to the satisfaction of Yorkshire Water before any sewer works are carried out.
- Yorkshire Water is not obliged to accept filter drain/land drainage run-off into the public sewer network or adaptable drainage system (directly or in-directly). An alternative method of disposal of the land drainage run-off will therefore be required and you will have to liaise with the Local Authority, Land Drainage Section regarding the disposal of the filter drain/land drainage run-off.
- The adaptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service margins.
- Sewers must have 5 metres clearance from trees and hedges or the width of the canopy at mature height.
- Sewers to be laid in Class "S" Bedding (150mm granular bed and surround). Where depth of cover to top of the sewer is less than 1.2m in highways and verges (or less than 900mm in nonvehicular access areas) then a concrete slab should be provided above granular bed and surround.
- Bedding and backfill material to conform to the requirement of Water Industry Specification 4-08-02 (Table A2).
- Yorkshire Water policy is that Type "C" brick manholes and 1050mm diameter manhole rings are not preferred. Instead, it is preferred that you use a type "B" manhole with 1200mm diameter or 1500mm diameter rings, with the opening sited over the channel where depth of cover to pipe soffit is 1 - 1.5m.
- Adaptable plastic sewer pipes to be BS1 Kitemarked (certified to WS 4-35-01 and BS EN13476). Adaptable plastic sewer pipes to be laid in maximum 3 metre lengths unless there is a specific operational need to lay longer lengths. Plastic channel sections in manholes are not acceptable and Yorkshire Water will require clay ware channel in manholes.
- The minimum crushing strength for clay pipes should be as follows: 100mm dia. 40KN/m, 150mm dia. 40KN/m, 225mm dia. 45KN/m and 300mm dia. 72KN/m. The minimum crushing strength for concrete pipes should be - (Class 120 to EN 1916/BS5911-1:2002). Plastic pipes should conform to WS 4-35-01 and BS EN13476.
- Where a B125 cover and frame has been approved, this must not be coated in plastic and must have lifting eyes suitably sized to accommodate standard lifting keys. Screw down covers are not acceptable.
- There must be enough clearance at crossovers to accommodate bedding to both pipes, approx. 300mm - if crossover is near the rocker then the clearance needed may need to be increased.

- General Notes**
- Precast concrete manhole units shall comply with the relevant provisions of BS EN 1917 and BS 5911-3 and shall be manufactured from concrete with a Design Chemical Class DC-4 unless the sewerage company can be satisfied that a lower class will resist attack from soils and groundwater. Units which bed into bases shall be manufactured so that imposed vertical loads are transmitted directly via the full wall thickness of the unit. The profiles of joints between units and the underside of slabs shall be capable of withstanding applied loadings from such slabs and spigot-ended sections shall only be used where the soffit of the slab is recessed to receive them.
 - All levels of existing drainage to be confirmed prior to work commencing on site.
 - The contractor must allow for any fees required for road and sewer opening permits, sewer connections and make the appropriate applications.

- KMC Structures AP - For MH chambers of 1500mm diameter and above.**
- Technical approval for the design of circular RC cover slabs up to and including 3.0m (internal diameter) will not be required subject to the following conditions:
- Proof that the circular RC cover slabs units to be used at this site are marked with 'BS EN 1917' & 'BS 5911-3' R to confirm that the product represents a manufacturer's declaration that the product meets the requirement of the standards.
 - Confirmation of Design Chemical Class (DC-Class) of concrete in the cover slab units.
 - Submission of a satisfactory Design & Check Certificate (Category 0) in compliance with BD2/12-Technical Approval of Highway Structures.
 - Submission of a satisfactory Construction Compliance Certificate in accordance with BD2/12 upon the completion of works.

B	MD	17.12.24	Revised to suit latest S104 Comments	MD	MI
A	MB	04.11.21	REVISED TO SUIT SECTION 104 COMMENTS	RJ	RJ
/	BHB	13.04.21	PRELIMINARY	MI	MI
Rev	By	Date	Revision	Chk	Apvd

ARP ASSOCIATES
Chartered Consulting Engineers

Northwest House • 5 & 6 Northwest Business Park • Servia Hill, Leeds • LS6 2QH
0113 245 6498 • 0113 244 3864 • Leeds@arpassociates.co.uk • www.arpassociates.co.uk

ARP Associates is a trading division of ARP Geotechnical Ltd, a company registered in England and Wales with company number 377833, whose registered office is at 5/6 Northwest Business Park, Servia Hill, Leeds LS6 2QH

TITLE
TYPICAL DRAINAGE DETAILS SHEET 1 OF 3

PROJECT
PLANE STREET, HUDDERSFIELD

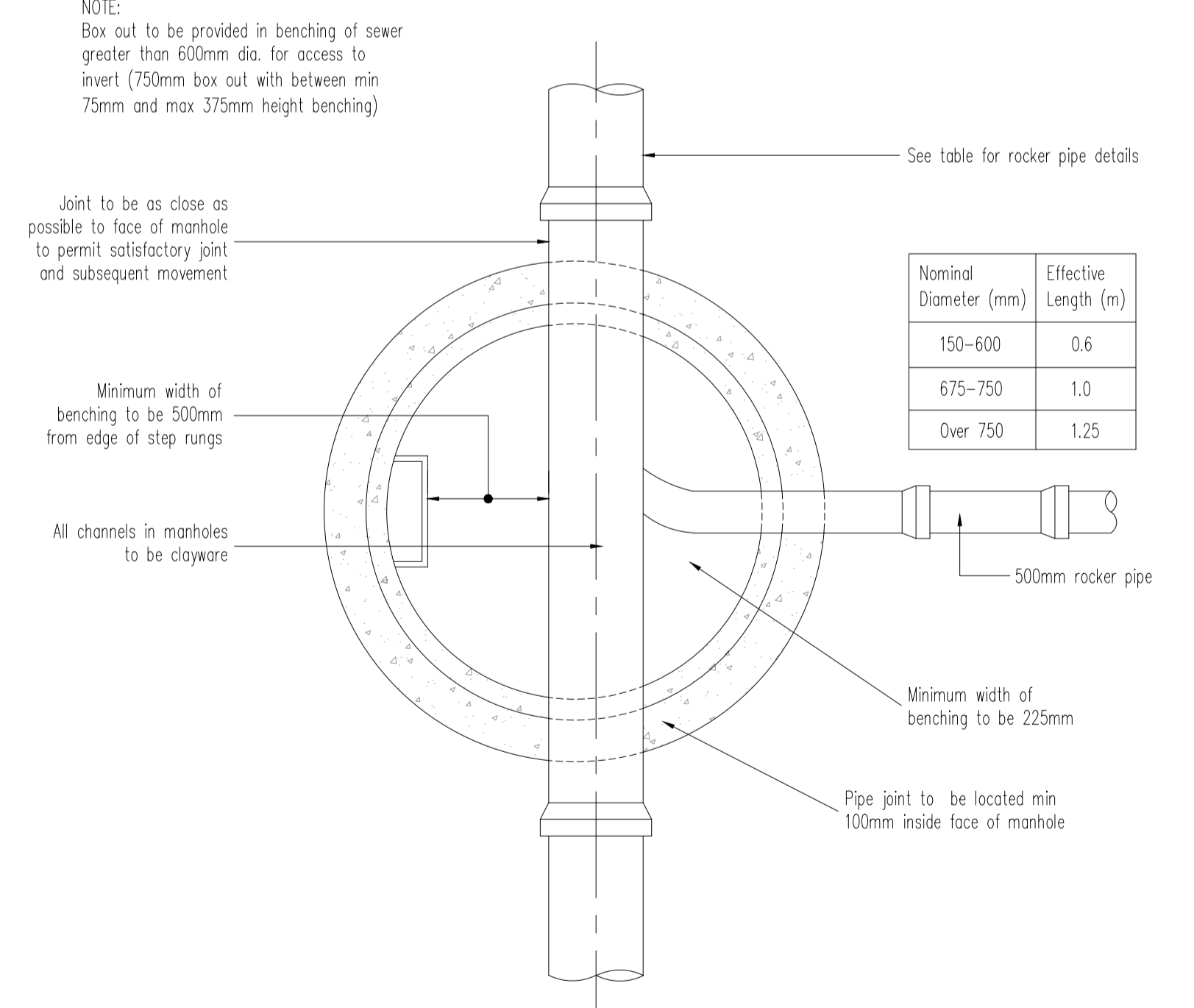
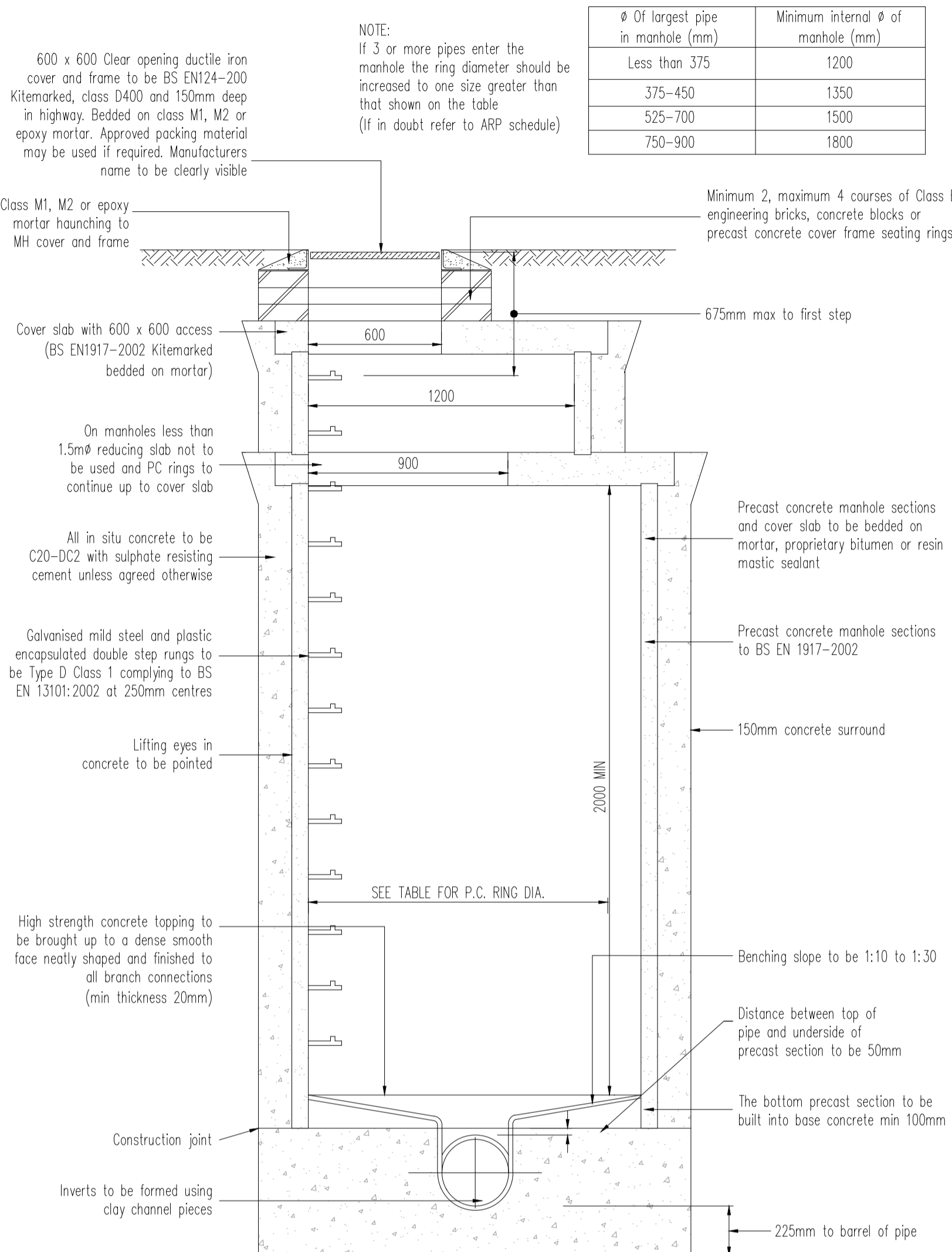
CLIENT
UNITY HOUSING ASSOCIATION

DRAWING STATUS
APPROVAL

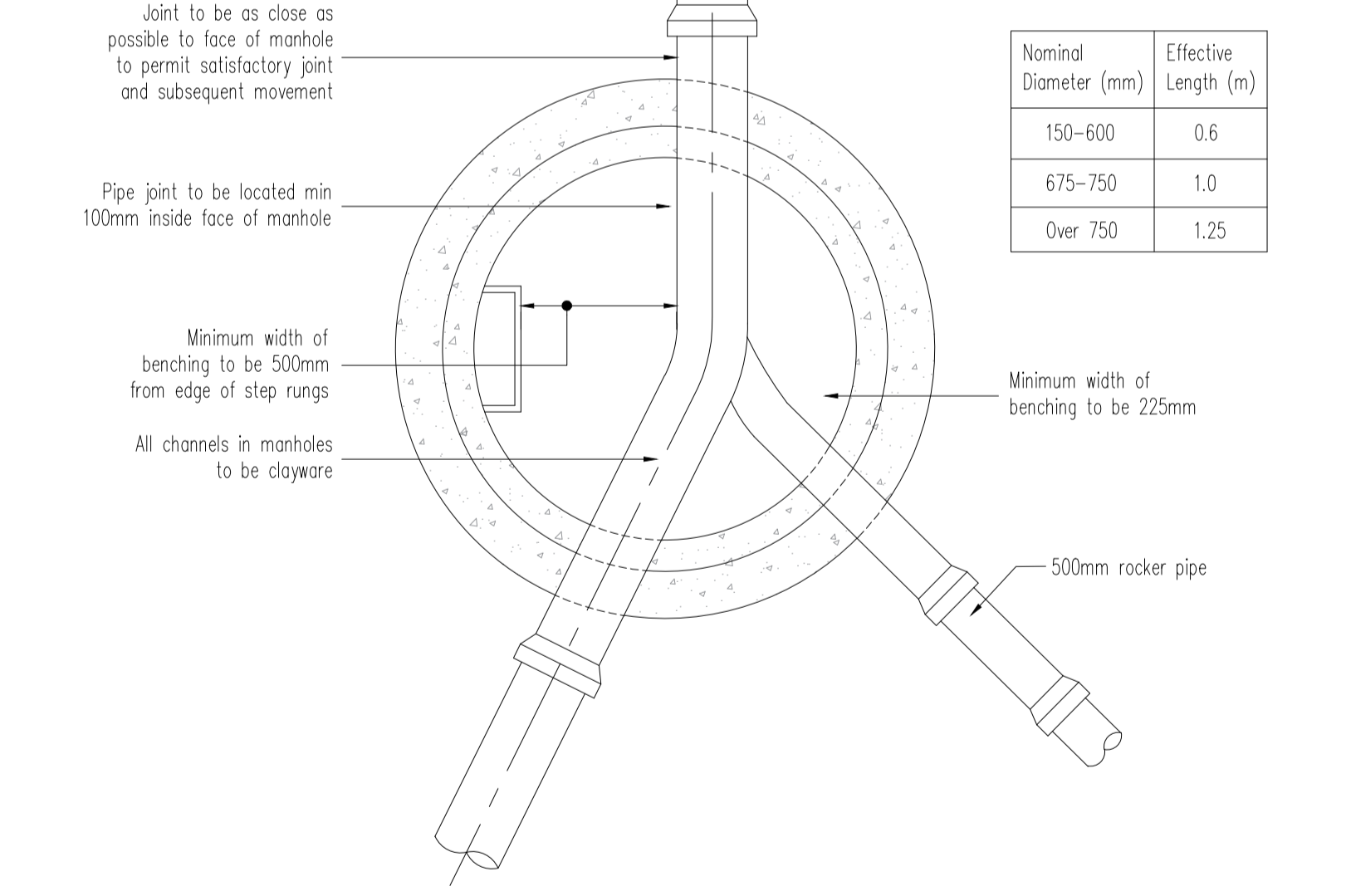
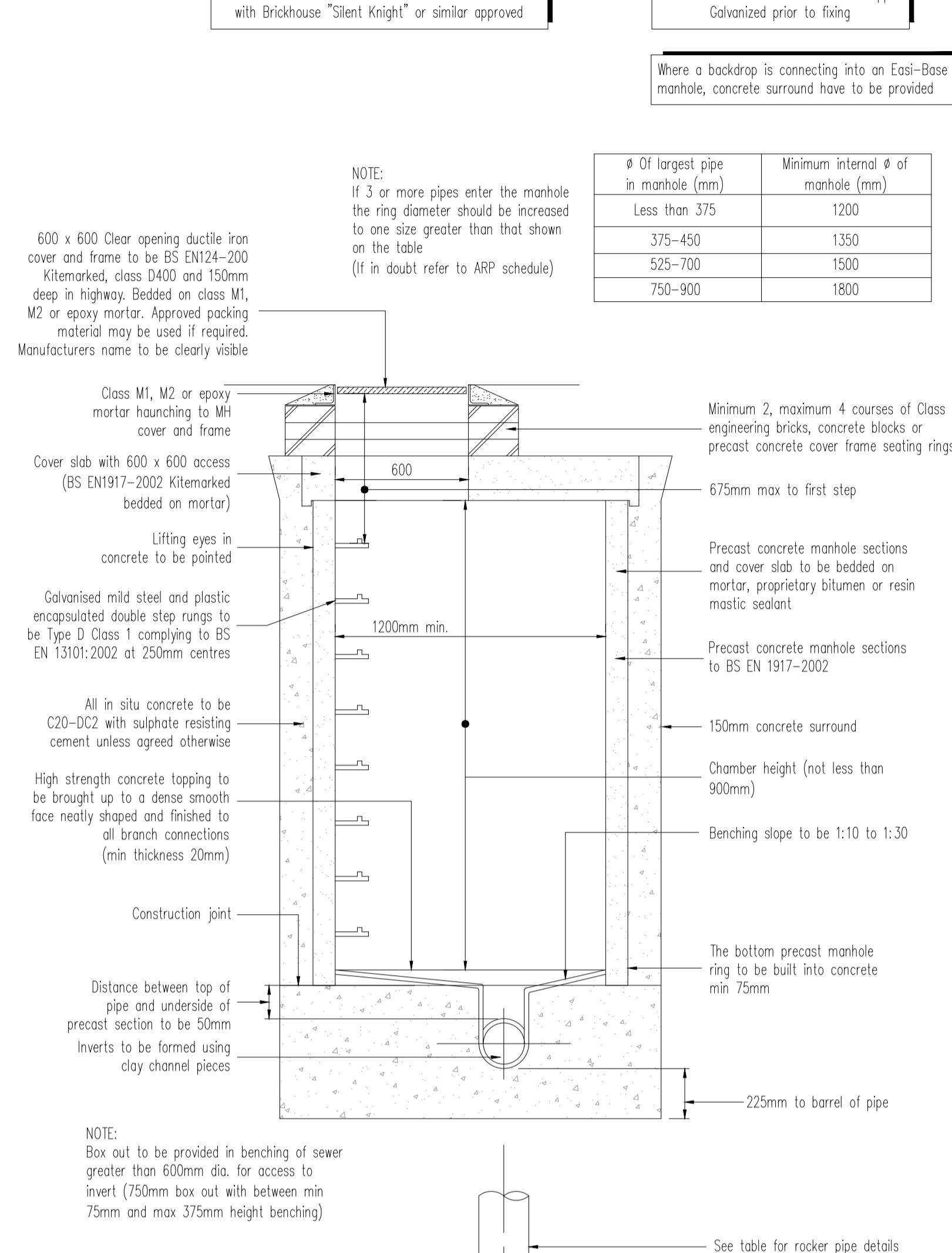
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Dwg. No. 0257/05/07.01 Rev B

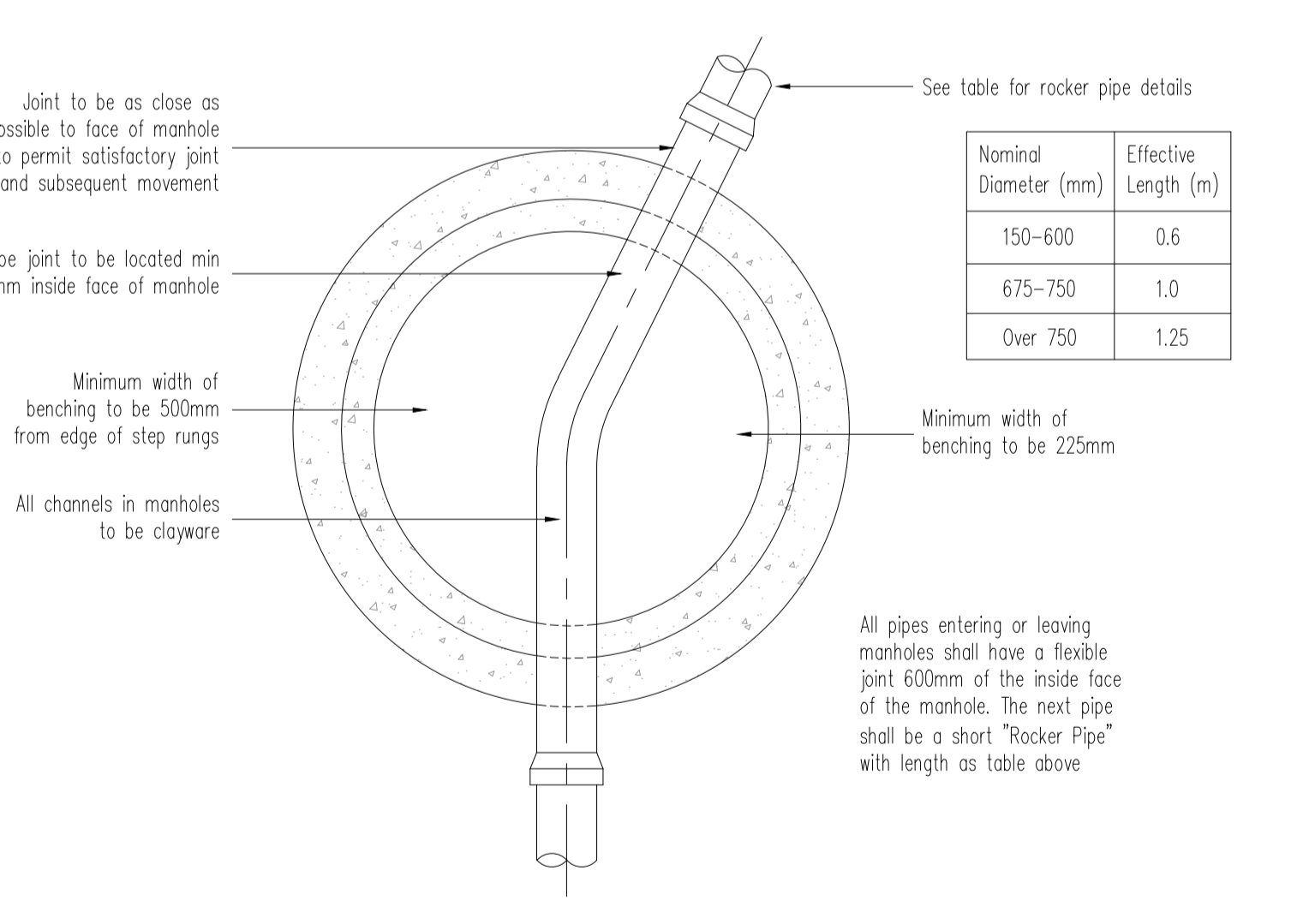
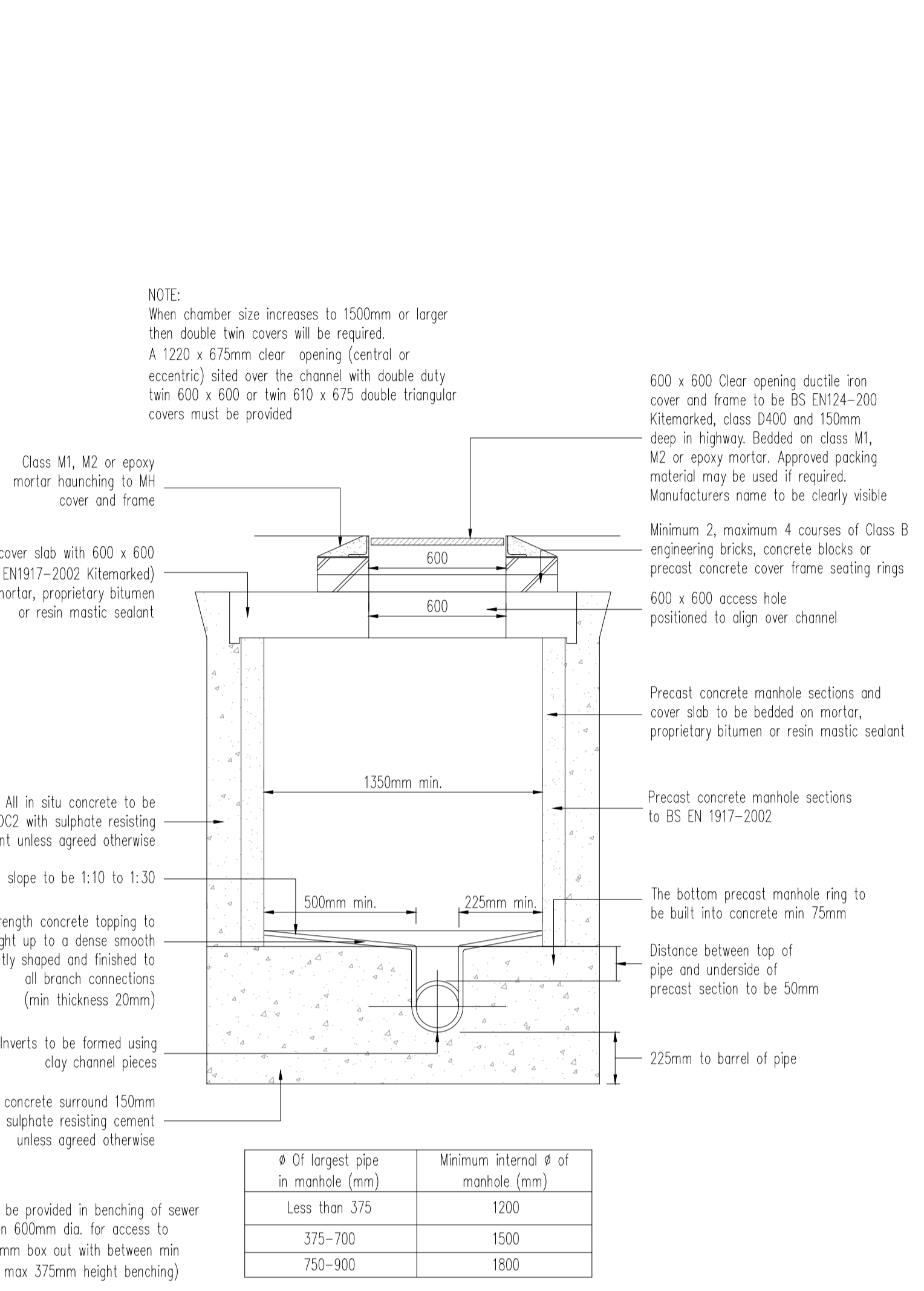
SUBJECT TO THE APPROVAL OF ALL RELEVANT AUTHORITIES



TYPICAL MANHOLE DETAIL-TYPE A
CODE FOR ADOPTION (2020)
Max depth from ground level to soffit of pipe 3.0m to 6.0
The design of the manhole will need to comply with the undertakers safety policy



TYPICAL MANHOLE DETAIL-TYPE B
CODE FOR ADOPTION (2020)
Max depth from ground level to soffit of pipe 3.0m
The design of the manhole will need to comply with the undertakers safety policy



TYPICAL MANHOLE DETAIL-TYPE C SHALLOW MANHOLE
CODE FOR ADOPTION (2020)
Max depth from ground level to soffit of pipe less than 1.5m
The design of the manhole will need to comply with the undertakers safety policy

The manholes cover and frame should be in accordance with Brickhouse "Silent Knight" or similar approved

All custom built ironwork to be Hot Dipped Galvanized prior to fixing

Where a backdrop is connecting into an East-Base manhole, concrete surround have to be provided

NOTE: When chamber size increases to 1500mm or larger then double twin covers will be required. A 1220 x 675mm clear opening (central or eccentric) sited over the channel with double duty twin 600 x 600 or twin 610 x 675 double triangular covers must be provided

NOTE: If 3 or more pipes enter the manhole the ring diameter should be increased to one size greater than that shown on the table (If in doubt refer to ARP schedule)

Ø Of largest pipe in manhole (mm)	Minimum internal Ø of manhole (mm)
Less than 375	1200
375-450	1350
525-700	1500
750-900	1800

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