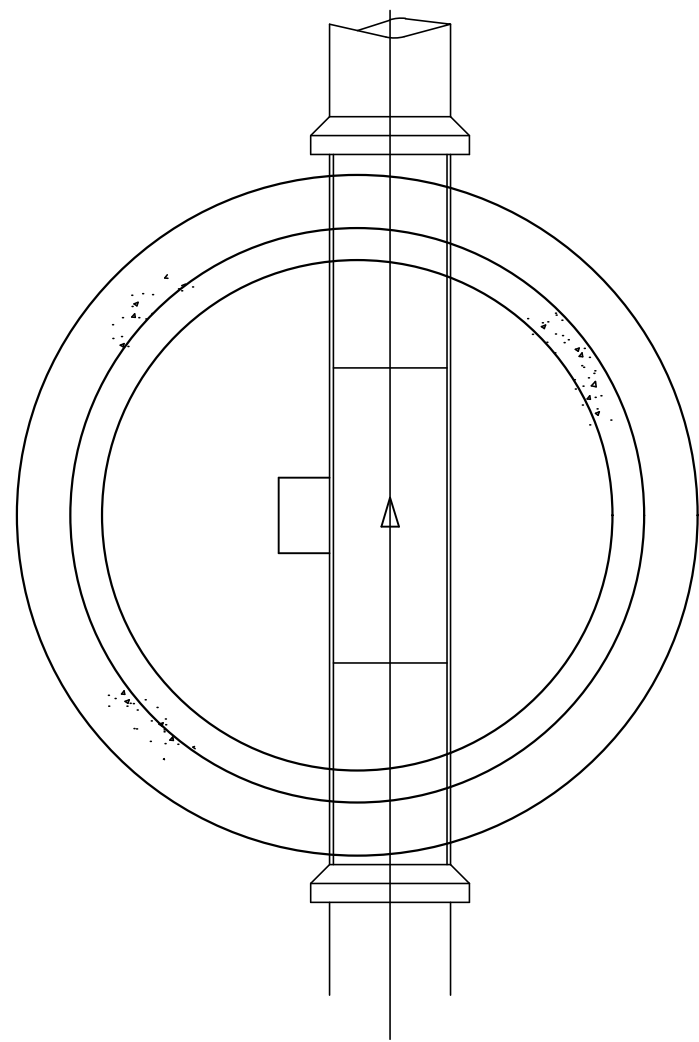
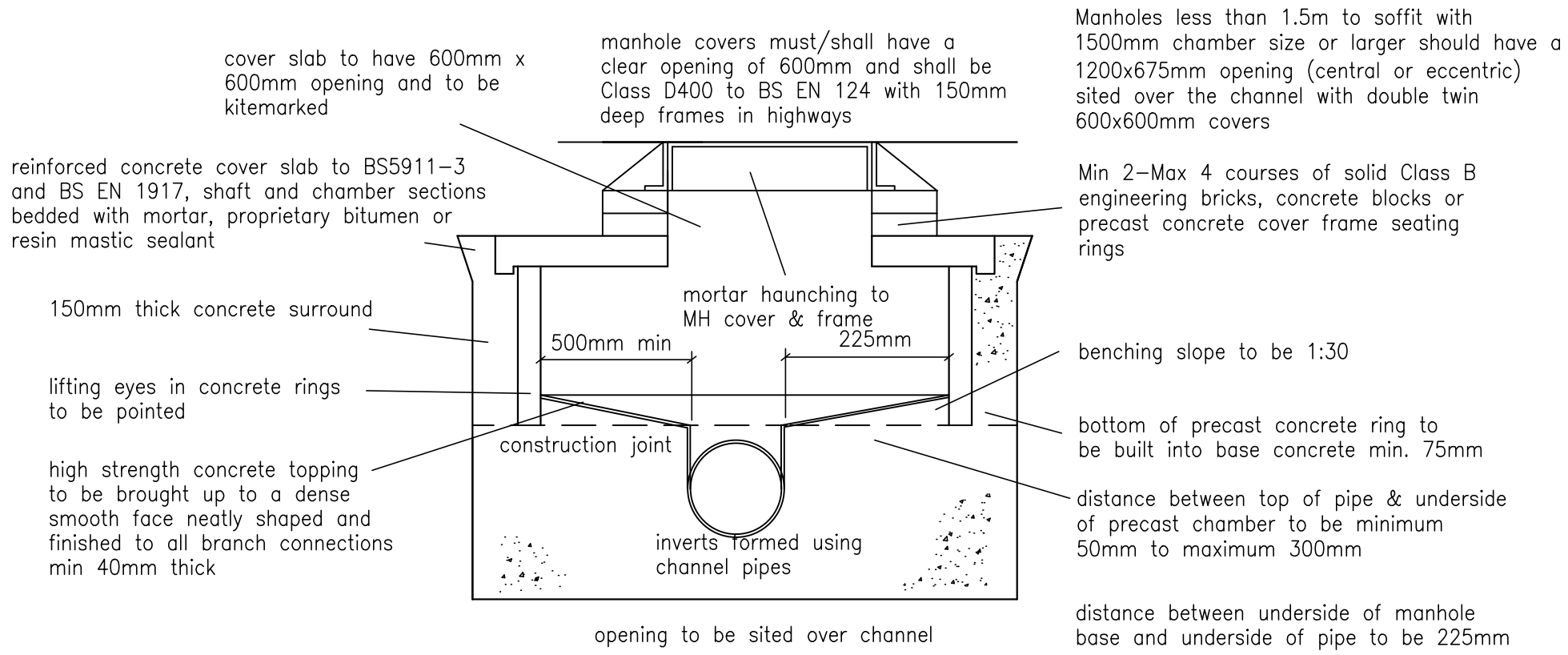




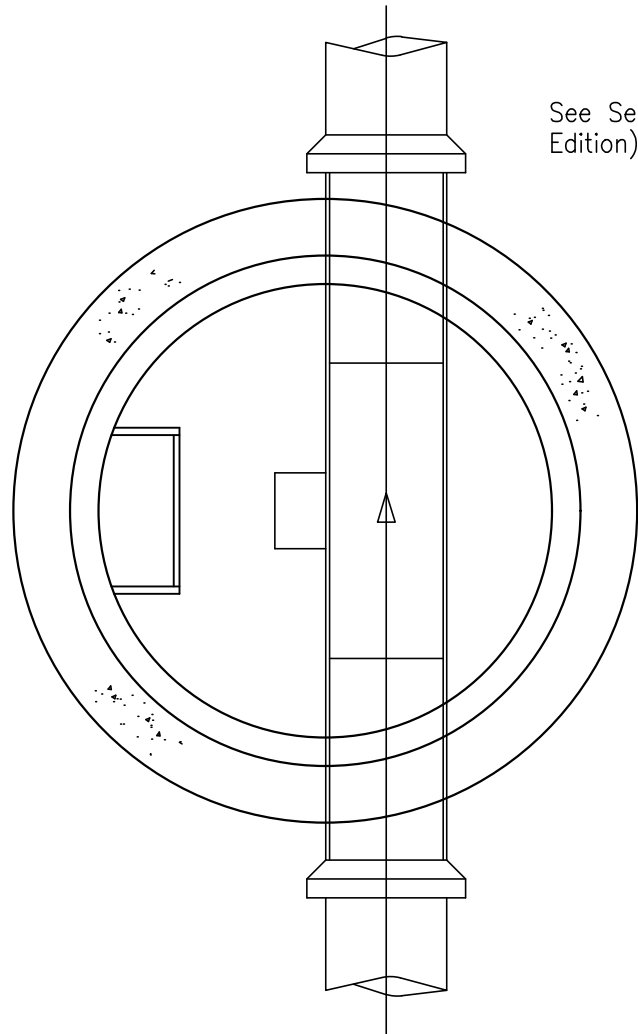
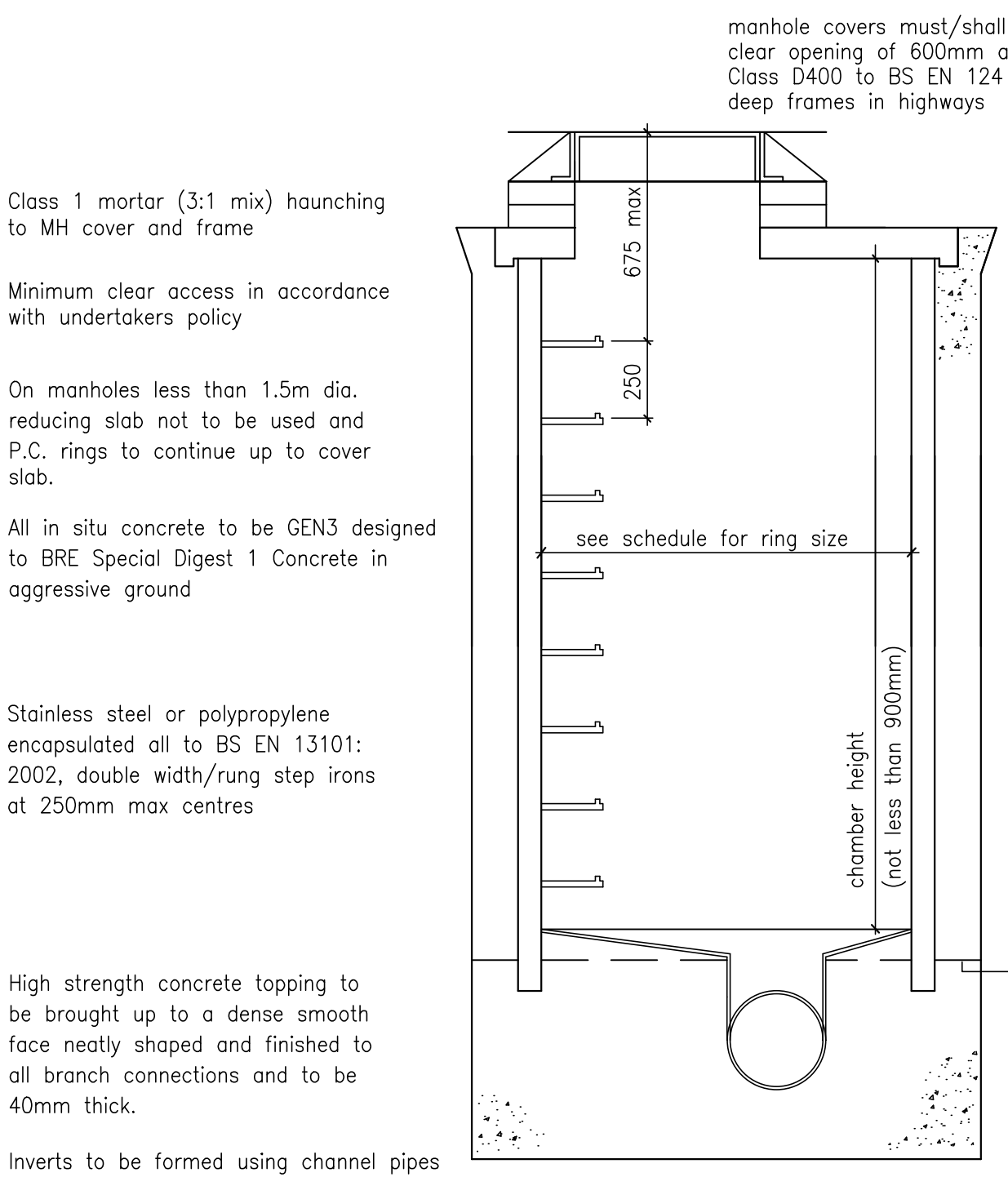
Typical manhole Type B1/E

SPECIFIC TO SW MANHOLES WHERE DEPTH TO CROWN IS 1.0M APPROX

NOTE THAT ALL COVER SLABS ARE TO BE KITEMARKED AND TO COMPLY WITH THE REQUIREMENTS OF THE RELEVANT BRITISH STANDARD AND THE CONCRETE PIPE ASSOCIATION TECHNICAL BULLETIN ISSUED SEPTEMBER 2004

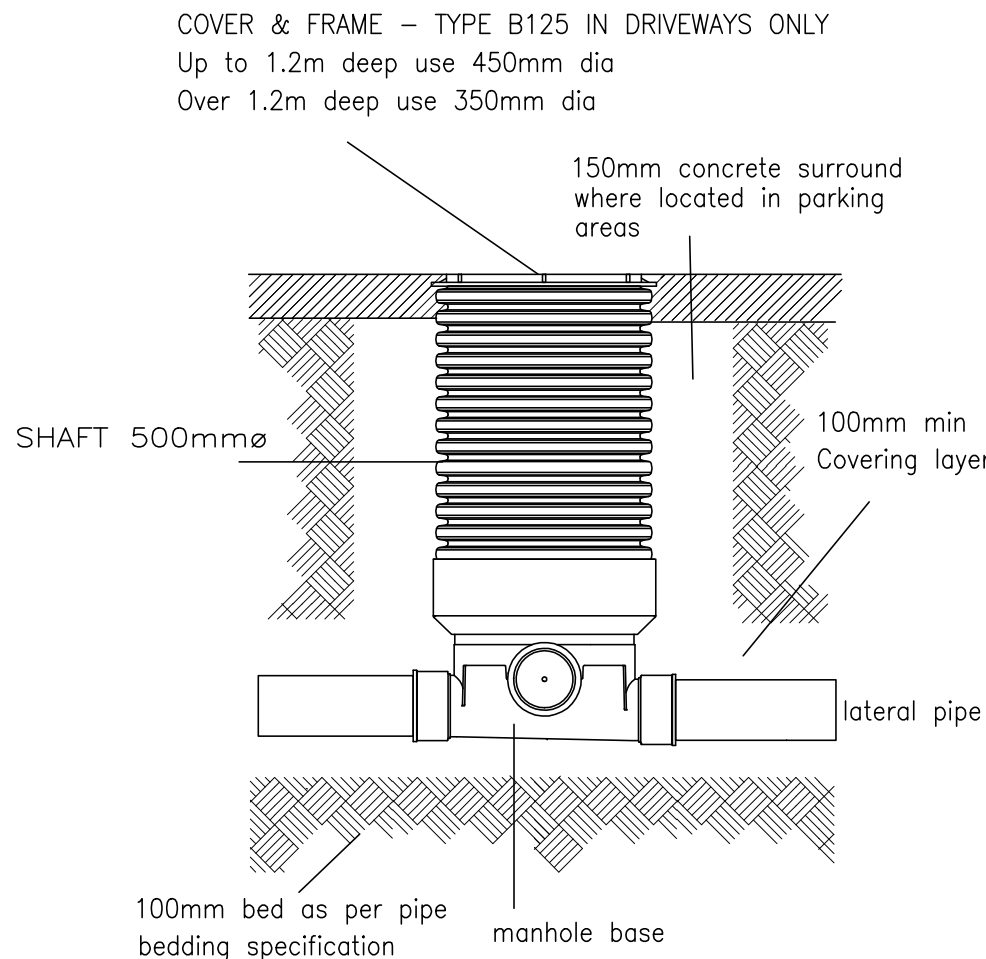
NOTES TO MEET YORKSHIRE WATER REQUIREMENTS

- All adoptable sewer works and material to be in accordance with Sewers for Adoption 6th Edition, The Relevant British/European and Yorkshire Water's Standards/Requirements/Addendum to the Mechanical and Electrical Specification and Kitemarked.
- Manhole covers shall/must 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 adoptable 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 with regard to the disposal of the filter drain/land drainage run-off.
- Cover slabs must carry the BSI Kitemark or will be rejected by Yorkshire Water Inspector. Where the clear opening of the Kitemarked product is different to that of the cover and frame, a loading bearing slab should be fitted above the cover slab to bring the size down to 600mm x 600mm for the Yorkshire Water specified cover size. Please refer to Concrete Pipe Systems Association (CPSA), 'Technical Bulletin' issued Autumn 2004 for Kitemarked cover slab opening sizes.
- Sulphate resistant cement (C20-DC2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
- The adoptable 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 (please also refer to Figure 2.3 on page 33 in Sewers for Adoption 6th Edition for restrictions on tree planting adjacent to sewers).
- 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 none vehicular access areas) then a concrete slab should be provide above granular bed and surround.
- Bedding and backfill material to conform to the requirement of Water Industry Specification 4-08-02 (Table A2).
- The chamber size of manholes with more than one connection in them may need to be increased an increment to accommodate the connections and bends.
- Yorkshire Water policy is not to accept Type C brick manholes and 1050mm dia manhole rings. Instead it is preferred that you use a type B manhole with 1200mm dia or 1500mm dia rings, with the opening sited over the channel where depth of cover to pipe soffit is 1-1.5m.
- Adoptable plastic sewer pipes to be BSI Kitemarked (certified to WIS 4-35-01 and BS/EN13476). Adoptable 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 would prefer 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 WIS 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.



Typical manhole Type B

GL to pipe soffit 1.5m-3.0m



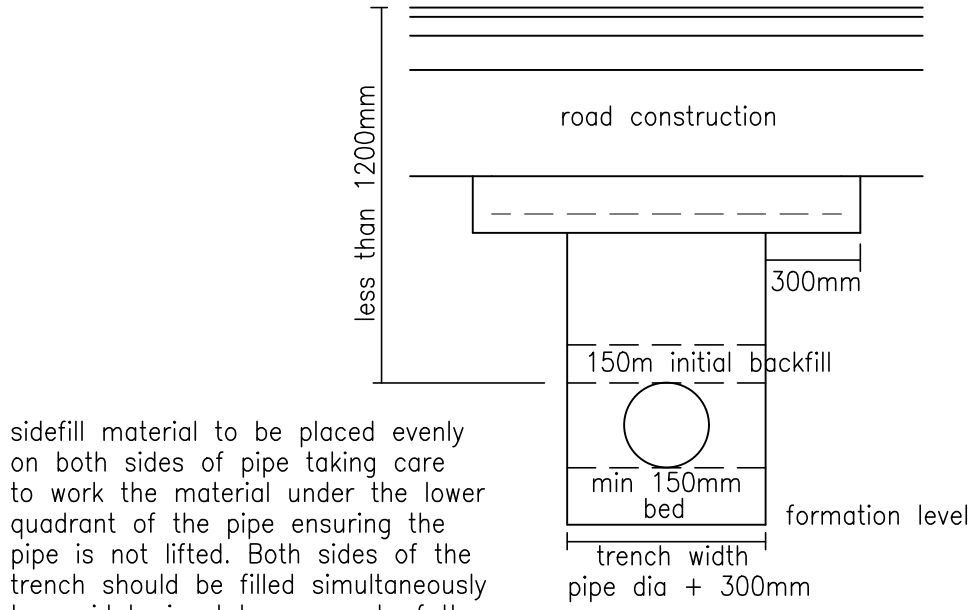
Typical PRIVATE non entry chamber detail
(TO CONFORM TO BS7158:2001 AND BE KITEMARKED)

NOTE THAT MANHOLE COVER SLABS TO COMPLY WITH BS5911 PART 3/ BE EN 1917:2002 AND BE KITEMARKED

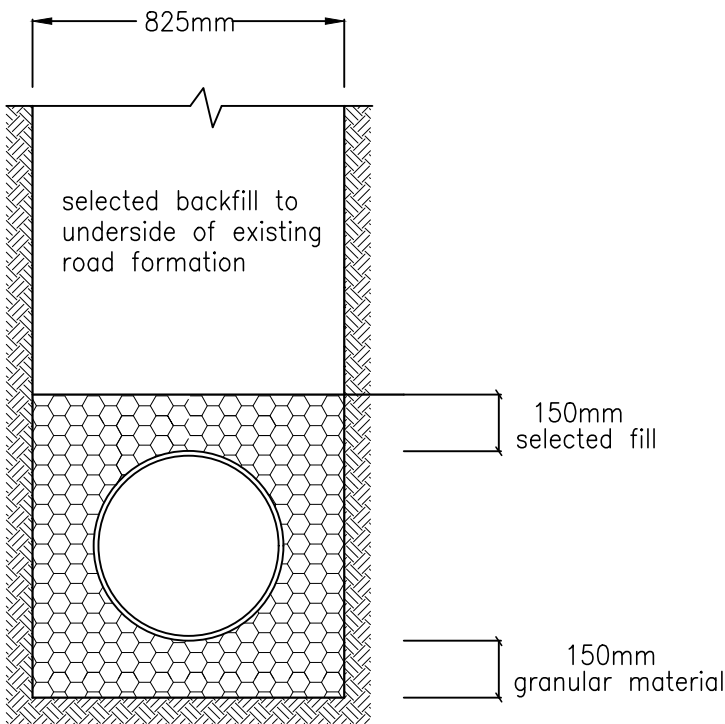
NOTE THAT IN THE ABSENCE OF COMPLIANCE TO BS5911/KITEMARKING, STRUCTURAL CALCULATIONS AND ACCOMPANYING DETAILED SHOULD BE PROVIDED

CERTAIN MANHOLE PRODUCTS INCLUDING COVER SLABS HAVE BEEN WITHDRAWN AND WILL NO LONGER COMPLY WITH THE STANDARD AND WILL NOT BE KITEMARKED. SUCH PRODUCTS WILL BE REJECTED BY YORKSHIRE WATER

NOTE THAT ANY SOFT SPOTS IN THE TRENCH FORMATION SHOULD BE REMOVED AND REPLACED BY ADDITIONAL GRANULAR BEDDING



Concrete slab protection
Typical detail



Class S Bedding
Typical detail

Revision.

James Eaton Design Ltd

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A1

Client.

Persimmon Homes

Site.

**Lundhill Road,
Wombwell.**

Title.

Manhole Construction :
Types B & B1/E.

Date.

Apr 2018

Scales.

1/20

Drawing No.

18/692/9048