YW REF :H-3-264-305

Medium duty ductile iron cover and frame 4D.942 to BS EN 124 - B125 .

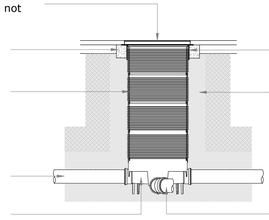
B125 covers must be ductile iron, not coated in plastic, and have lifting eyes suitably sized to accommodate standard lifting keys. Screw down covers are not acceptable.

150mm Gen3 concrete plinth.

4D.925 450mm dia. inspection chamber shaft.

110/160mm OsmaDrain.

6D.928 universal inspection chamber base.



Shuttered external ribs.

150mm sidefill and base to be 'as-dug' or granualar material.

Polypropylene inspection chamber and fittings to be to BS EN 13598-1:2003.

Typical 45 degree Bend.

NOTE:
Wavin/Osma chambers are kitemarked to BS EN 13598-1:2010

WAVIN OSMA-DRAIN UNIVERSAL INSPECTION CHAMBER.

Depth from ground level to invert of pipe not greater than 1.2m

Dutile Iron Cover & Frame BSEN 124 B125 or D400

B125 covers must be ductile iron, not coated in plastic, and have lifting eyes suitably sized to accommodate standard lifting keys. Screw down covers are not acceptable.

150mm Gen3 concrete plinth.

4D.975 600mm dia. inspection chamber shaft.

110/160mm OsmaDrain.

6D.928 universal inspection chamber base.

Class B Engineering bricks (2 no. courses min., 4 courses max.) set in class 1 mortar

150mm sidefill and base to be 'as-dug' or granualar material.

Typical 45 degree Bend.

NOTE:
Wavin/Osma chambers are kitemarked to BS EN 13598-1:2010

WAVIN NON ENTRY INSPECTION CHAMBER.

Depth from ground level to invert of pipe not greater than 2m

LATERAL DRAIN SPECIFICATION.

The pipes detailed below can be used when laying a lateral drain or sewer under a public highway subject to acceptable minimum gradients of 1:150 for surface water and 1:80 for foul in a 150mm diam. pipe.

1. Vitrified Clay pipes to BS EN 295 Kitemarked.
2. Unplasticised PVC pipes to BS 4660:2000 & BS EN 1401-1 Kitemarked.
3. Structured Wall Unplasticised PVC pipes to WIS 4-35-01 Kitemarked. (See below)

PRODUCT NAME	DIAMETER (mm)	MANUFACTURER	MATERIAL
Supersleve	100 & 150 (I.D)	Hepworth	vitrified Clay
Superseal	150 (I.D.)	Hepworth	vitrified Clay
Densleve	100 & 150 (I.D)	Naylor	vitrified Clay
Denseal	100 & 150 (I.D)	Naylor	vitrified Clay
Ultra Fortis	150 to 300	Uponor	uPVC
Ultra-drain	110 - 160 (O.D.)	Uponor	uPVC
Plastidrain	110 - 160 (O.D.)	Hepworth	uPVC
OsmaDrain	110 - 160 (O.D.)	Wavin	uPVC
Osma UltraRib	150 (I.D.)	Wavin	uPVC
Solid Wall	110 - 160 (O.D.)	Marley	uPVC
Quantum	150 (I.D.)	Marley	uPVC
Underground Drain	110 - 160 (O.D.)	Polypipe	uPVC
Ridgisewer	150 (I.D.)	Polypipe	uPVC

DEMARCATION CHAMBER SPECIFICATION.

1. Precast Concrete to BS 5911:Part 2 and BS8301 kitemarked, up to 1.0mdeep.
2. Polypropylene Inspection Chambers to BS 7158:2001 kitemarked, min 450mm diameter, up to 2.0m deep.

MANUFACTURER	PRODUCT NAME	MATERIAL	MAX. Depth	Cover Type
Naylor	Plastic Inspection Chamber	Polypropylene	Up to 1200mm	Class B125
Hepworth	Polypropylene Inspection Chamber	Polypropylene	Up to 1200mm	Class B125
Uponor	Inspection Chamber (450mmØ)	Polypropylene	Up to 1200mm	Class B125
Marshalls	Inspection Chamber min. 1200mmØ to BS5911 pt2	Precast Concrete	Up to 3000mm	Class B125
Wavin	Osma UltraRib Inspection Chamber	Polypropylene	Up to 1200mm	Class B125
Wavin	OsmaDrain Universal Inspection Chamber	Polypropylene	Up to 1200mm	Class B125
Wavin	Non entry Inspection Chamber	Polypropylene	Up to 2000mm	Class B125
Marley	Inspection Chamber (450mmØ)	Polypropylene	Up to 1200mm	Class B125
Polypipe	110mm Inspection Chamber (450mmØ)	Polypropylene	Up to 1200mm	Class B125
Polypipe	Non man entry Inspection Chamber system	Polypropylene	Up to 2000mm	Class B125

Concrete surround shall be provided to demarcation chamber where subject to vehicle loadings (eg. driveways). For depths in excess of 1.2m a restricted access opening 350mm diameter (or 300mm x 300mm) should be used.

Alternatively, precast concrete ring manhole to "Sewers for Adoption 6th Edition Specification may be used as demarcation chamber. Chamber covers shall be ductile iron and appropriate strength for area situated (minimum classification B125).

ADOPTABLE DRAINAGE (YORKSHIRE WATER) NOTES

1. No work should commence on site until written approval is received from Yorkshire Water/Adopting Highway Authority or any relevant Authority. Works undertaken prior to approval are at the Developers risk and iD Civils Design will not be held responsible for subsequent delays in approvals, remedial costs or construction programme delays.
2. All adoptable sewer works and materials 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".
3. Manhole covers shall/must have a clear opening of 600 x 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
4. Bedding and Backfill material to conform to the requirement of Water Industry Specification 4-08-02 (Table A2).
5. The adoptable sewers should be a minimum of 1.0m and manholes 0.5m from kerb faces and service margins.
6. Sewers must have 5 metres clearance from trees and hedges (refer to Figure 2.3 page 33 "Sewers for Adoption" 6th Edition for restrictions on tree planting adjacent to sewers).
7. Sewers to be laid in Class S Bedding (150mm granular bed and surround). Where depth of cover to top of sewer is less than 1.2m in highways and verges (or 900mm in non-vehicular access areas) then a reinforced concrete slab should be provided above the granular bed and surround.
8. Prior to the commencement of on site works the contractor is to check the location, invert levels, sizes and conditions of manholes, pipes, and any ditches or watercourses in which it is intended to outfall. Any discrepancy is to be reported immediately to iD Civils Design.
9. Prior to construction the actual position and depth of services likely to be affected by the work should be established by means of a hand dig in close liaison with the statutory service authorities. The contractor shall immediately inform iD Civils Design of any services exposed that may affect the design.
10. The Local Authority and statutory service providers are to be notified prior to the commencement of work on site.
11. Filled ground must be filled and consolidated under the supervision and satisfaction of Yorkshire Water before any sewer works are carried out.
12. Yorkshire Water is not obliged to accept filter drain/land drainage runoff into the public sewer network or adoptable drainage system (directly or indirectly). An alternative method of disposal of the land drainage runoff will therefore be required and you will have to liaise with the Local Authority, Land Drainage Section wiht regard to the disposal of the filter drain/land drainage runoff.
13. Manhole cover slabs must carry the BSI Kitemark or will be rejected by the Yorkshire Water Inspector. Where the clear opening of the kitemarked product is different to that of the cover and frame, a load 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.
14. Sulphate resistant cement (C20-DC2) and precast concrete products must be used unless a laboratory report is provided proving these precautions are not necessary.
15. The minimum crushing strength for clay pipes should be as follows: 100mmØ - 40KN/m, 150mmØ - 40KN/m, 225mmØ - 45KN/m, 300mmØ - 72Kn/m.
16. The minimum crushing strength for concrete pipes should be (Class 120 to EN1916/BS5911-1 2002). Plastic pipes to conform to WIS 4-35-01 and BS EN 13476.
17. 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 3.0m lengths unless there is a specific operational need to lay longer lengths. plastic channel sections in manholes are not accepatable and Yorkshire Water would prefer clayware channels in manholes. They have found that plastic channels are difficult to set in concrete because they float and a satisfactory finish cannot be achieved on the benching.
18. All new connections to adopted sewers to be covered by a Section 106 Agreement with Yorkshire Water. The application form to be completed by the Main Contractor and accompanied by the relevant fee.
19. Prior to commencement, the Main Contractor is to provide Yorkshire Water with documentary evidence from the manufacturer that any plastic pipes used are suitable for the ground conditions.
20. The chamber size of manholes with more than one connection in may need to be increased an increment to accommodate the connections and bends.
21. Yorkshire Water policy is not to accept Type "C" brick manholes and 1050mmØ manhole rings. Instead it is preferred that you use a Type "B" manhole with 1200mmØ or 1500mmØ rings, with the opening sited over the channel where depth of cover to pipe soffit is 1.0m - 1.5m.
22. 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.

Mortar haunching to M.H cover and frame.

Reinforced concrete cover slab to be kitemarked and to BS 1917:2002 bedded with mortar, proprietary bitumen or resin mastic sealant.

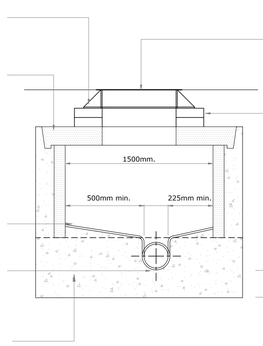
GEN 3 concrete surround 150mm thick with Sulphate Resistant Cement unless otherwise agreed.

Benching slope to be 1 in 10 to 1 in 30.

High strength concrete topping to be brought up to a dense smooth face neatly shaped and finished to all branch connections (minimum thickness 20mm).

Inverts formed using clay channel pipes.

All insitu concrete to be GEN 3 with Sulphate Resisting Cement unless otherwise agreed.



Cover and frame to be CLASS D400 to BS EN 124 with 150mm deep frame in roads having a 1200 x 600mm clear opening. Cover to be positioned over channel.

Min 2 No type 1 cover seating rings reducing clear opening to 1200x600. Total no of seating rings = 4 max, 2 min.

Precast concrete shaft, chamber sections and cover slab to be bedded with mortar, proprietary bitumen or resin mastic sealant.

Bottom chamber section to be built into base concrete min. 75mm.

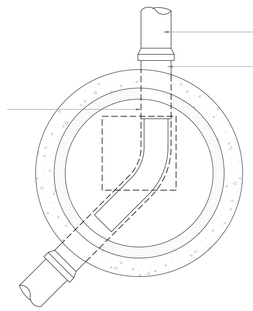
Distance between top of pipe and underside of PC chamber to be 50mm.

225mm to barrel of pipe from base.

Lifting eyes to be pointed.

Pipe joint with channel to be located minimum 100mm inside face of manhole.

It is presumed that due to shallow depths, man-entry is not required via step irons. It is therfore recommended that the cover is positioned over the channel/outgoing pipe as shown.



See SFA6 clause 5.6.6.2 for Rocker pipe details.

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

NOTE:
Manholes less than 1.5m to soffit with 1500mm dia. chamber size or larger should have a 1220x675mm opening (central or eccentric) sited over channel with double twin 600x600mm covers.

TYPE B1/E SHALLOW MANHOLE.

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

Health and Safety Notes/CDM Regulations 2015

In line with the above regulations we are obliged to inform the Contractor of the abnormal risks that may be encountered in the construction of these works. As part of the design process all the salient health & safety aspects are given full consideration and these are observed within the designs viewed on this document. Although considerable effort is undertaken to eliminate risks, the very nature of the project gives rise to some hazards and risks.

Significant risks that cannot be eliminated by design and could not be foreseen by a competent contractor are noted in the risk assessment boxes on the drawings.

NOTES

1. All existing drainage levels are to be checked prior to commencement of any works on site and iD Civils Design informed of any discrepancies to the design drawings.
2. All adoptable drainage works are to be in accordance with "Sewers for Adoption" 6th Edition. The relevant British/European and Yorkshire Water's Standards/Requirements/ Addendum and "Kitemarked".
3. Manhole covers shall have a minimum clear opening of 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
4. All adoptable sewers should be a minimum of 1m and manholes 0.5 metres from kerb lines and service margins.
5. Sewers must have 5 metre clearance from trees and hedges. Where it is not possible to schieve this clearance concrete bed and surround is required.
6. Where depth of cover to the top of the sewer is less than 1.2 metres in highways and verges then 150mm concrete bed and surround is required.
7. The chamber size of manholes with more than one connection in them may need to be increased an increment to accommodate connections and bends.
8. Bedding and Backfill material to conform to the requirement of Water Industry Specification 4-08-02 (Table A2).

Rev	Description	By	Date
A	Updated following YW comments	CR	08.08.19

Client:

Rouse Homes

Project Title:

New Road
Tankersly

Drawing Title:

Drainage Construction Details Sheet 2

Scale	Date
N.T.S. @ A1	21.05.19

Drawing No	Revision	Status
4759-C-D4-02	A	A

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