

Manhole Number	Cover Level	Pipe			Diam	Type	
	Depth to invert	Inverts	Diams	Length Gradient		Cover	Manhole
PS1		181.60	150		450	B125 450 x 450 with 350 Dia reducing ring	Polypropylene Inspection Chamber (PPIC)
	183.50			L= 11.0			
	1.50			1/44			
PS2		176.80	150		1200	B125 600x600	Type A
	181.00			L= 5.50			
	4.20			1/80			
PS3		179.60	150		450	B125 450 x 450 with 350 Dia reducing ring	Polypropylene Inspection Chamber (PPIC)
	181.65			L=4.50			
	2.05			1/10			
PS4		180.40	150		450	B125 450 x 450 with 350 Dia reducing ring	Polypropylene Inspection Chamber (PPIC)
	182.65			L= 8.00			
	2.25			1/10			
PS5		173.60	150		2100	B125 600x600	Specialist Manhole - Refer to drwg 7567/012-03 for construction details
	180.90			L= 6.00			
	7.30			1/50			
PS6		179.05 (BD) 176.80	150		1200	B125 600x600	Type A
	180.80			L= 5.50			
	4.00			1/10			
PS7		174.75	150		1200	B125 600x600	Type A
	179.00			L= 5.50			
	4.25			1/55			

Adoptable Connection (Laterals) - Pipes.

Vitrified Clay Pipes to BS EN 295 kitemarked.

Unplasticised PVC pipes to BS 4660:2000
& BS EN 1401-1 kitemarked.

Structured Wall Unplasticised PVC pipes to WIS 4-35-01 kitemarked.

Product Name	Diameter (mm)	Manufacturer	Material
SuperSleve	100 & 150 (I.D.)	Hepworth	Vitrified Clay
Superseal	150 (I.D.)	Hepworth	Vitrified Clay
Densleeve	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

Adoptable Connection (Laterals) - Pipe Bedding.

Pipes shall be provided with single size full granular bed and surround (class S). Pipes in highway with less than 1.2 metres cover shall not be plastic and shall be protected by reinforced concrete slab placed above.

Adoptable Connection (Laterals) - Size and Gradients.

Foul: 100mm less than 10 properties min gradient 1:80
150mm greater than 10 properties min gradient 1:80

Surface Water: Minimum diameter is 150mm at min gradient 1:80

Manhole Number	Cover Level	Pipe			Diam	Type	
	Depth to invert	Inverts	Diams	Length Gradient		Cover	Manhole
PF1		181.30	150		450	B125 450 x 450 with 350 Dia reducing ring	Polypropylene Inspection Chamber (PPIC)
	183.50			L=11.00			
	1.80			1/20			
PF3		179.35	150		450	B125 450 x 450 with 350 Dia reducing ring	Polypropylene Inspection Chamber (PPIC)
	181.70			L= 6.00			
	2.35			1/10			
PF4		180.10	150		450	B125 450 x 450 with 350 Dia reducing ring	Polypropylene Inspection Chamber (PPIC)
	182.55			L= 9.00			
	2.45			1/10			
PF5		172.80	150		2100	B125 600x600	Specialist Manhole - Refer to drwg 7567/012-03 for construction details
	180.90			L= 3.00			
	8.10			1/15			
PF6		174.65	150		450	B125 450 x 450	Polypropylene Inspection Chamber (PPIC)
	175.85			L= 4.50			
	1.200			1/45			

Adoptable Connection (Laterals) - Demarcation Chambers.

Polypropylene Inspection chambers to BS 7158:2001 kitemarked, min. 450mm diameter, up to 2.0 metres deep.

Codes for Adoption Type B manhole, 1200mm diameter, greater than 2m deep.

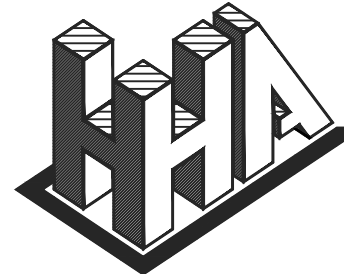
Manufacturer	Product Name	Material	Max. Depth	Cover Type
Naylor	Plastic Inspection Chamber	Polypropylene	Up to 1200mm	Class B125
Hepworth	PPIC	Polypropylene	Up to 1200mm	Class B125
Uponor	Inspection Chamber (450mm Ø)	Polypropylene	Up to 1200mm	Class B125
Marshalls	Inspection Chamber To BS5911 pt 2	Precast Concrete	Up to 1000mm	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 (450mm Ø)	Polypropylene	Up to 1200mm	Class B125
Polypipe	110mm Inspection Chamber (460mm Ø)	Polypropylene	Up to 1200mm	Class B125
Polypipe	Non Man Entry Deep Inspection Chamber System	Polypropylene	Up to 2000mm	Class B125

Concrete surround shall be provided to demarcation chamber where subject to vehicle loading (e.g. driveways). For depths in excess of 1.2m a restricted access opening 350mm diameter (or 300x300mm) shall be used.

Alternatively, pre-cast concrete ring manhole to 'Codes for Adoption' Specification may be used as demarcation chamber. Chamber covers shall be ductile iron and appropriate strength for area situated (minimum classification B125).

1. ALL ADOPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH "CODES FOR ADOPTION",THE RELEVANT BRITISH/EUROPEAN AND YORKSHIRE WATER'S STANDARDS/REQUIREMENTS/ADDENDUM TO THE MECHANICAL AND ELECTRICAL SPECIFICATION AND KITEMARKED.
2. 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.
3. FILLED GROUND MUST BE FILLED AND CONSOLIDATED UNDER THE SUPERVISION AND TO THE SATISFACTION OF YORKSHIRE WATER BEFORE ANY SEWER WORKS ARE CARRIED OUT.
4. 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 WITH REGARD TO THE DISPOSAL OF THE FILTER DRAIN/LAND DRAINAGE RUNOFF.
5. 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 600x600mm 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.
6. SULPHATE RESISTANT CEMENT (C20-0C2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
7. THE ADOPTABLE SEWERS SHOULD BE A MINIMUM OF 1m AND MANHOLES 0.5m FROM KERB FACES.
8. SEWERS MUST HAVE 5m CLEARANCE FROM TREES AND HEDGES
9. 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 175mm CONCRETE SLAB OVER SEWER SHALL BE PROVIDED.
10. ALL PIPEWORK 300mm DIAM. OR LESS TO BE VITRIFIED CLAY CONFORMING WITH BS 65. MINIMUM CRUSHING STRENGTHS TO BE AS FOLLOWS: 100mm DIA. 40kN/m, 150mm DIA 40kN/m, 225mm DIA 45kN/m, 300mm DIA 72kN/m.
11. ALL PIPEWORK 375mm DIAM. OR GREATER TO BE CONCRETE CLASS 120 TO EN 1916/ BS 5911-1: 2002.
12. 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.
- 13.YORKSHIRE WATER POLICY IS NOT TO ACCEPT TYPE "C" BRICK MANHOLES AND 1050mm DIAM. MANHOLE RINGS. INSTEAD IT IS PREFERRED THAT YOU USE A TYPE "B" MANHOLE WITH 1200mm DIAM. OR 1500mm DIAM. RINGS, WITH THE OPENING SIGHTED OVER THE CHANNEL WHERE DEPTH OF COVER TO PIPE SOFFIT IS 1-1.5m.
14. ALL HIGHWAY WORKS AND MATERIAL TO CONFORM WITH KIRKLEES COUNCIL DESIGN GUIDANCE AND SPECIFICATION.
15. GULLY COVER AND FRAMES SHALL BE D400 DUCTILE IRON AND COMPLY WITH EUROPEAN STANDARD BS EN 124. THOSE SIGHTED IN ACCESSWAYS AND MEWS COURTS MUST BE SUITABLE FOR USE IN PEDESTRIAN AREAS.
16. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENT OF WATER INDUSTRY SPECIFICATION 4-08-2 (TABLE A2).
17. PLASTIC CHANNEL SECTIONS IN MANHOLES ARE NOT ACCEPTABLE AND YORKSHIRE WATER WOULD PREFER CLAYWARE CHANNELS IN MANHOLES. YORKSHIRE WATER HAVE FOUND THAT PLASTIC CHANNELS ARE DIFFICULT TO SET IN CONCRETE AS THEY FLOAT AND A SATISFACTORY FINISH CANNOT BE OBTAINED ON BENCHING.
18. 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.
19. THERE SHOULD BE ENOUGH CLEARANCE TO ACCOMMODATE THE BEDDING FOR BOTH PIPES, APPROX 300mm : IF CROSSOVER IS NEAR THE ROCKER THEN THE CLEARANCE NEEDED MAY BE INCREASED.

Rev E. PF6 amended to suit as built levels	22.11.24 HH
Rev D. Manhole diameter to PS5 & PF5 amended to suit YW comments	26.09.24 HH
PF2 removed.	
Rev C. Backdrop level amended to PS6 to suit plot drainage	25.09.24 HH
Rev B. PS1, PS5, PS6, PF1 and PF5 amended	09.07.24 HH
Rev A. Update to suit latest drainage design	13.02.24 HH



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Client

SB HOMES

Project

LINGARDS ROAD, SLAITHWAITE

Detail

1st LATERAL MANHOLE SCHEDULE

Dwn	Chkd	Date	Scale	Dwg No.
HH		NOV-23	NTS@A1	E21/7826/008E