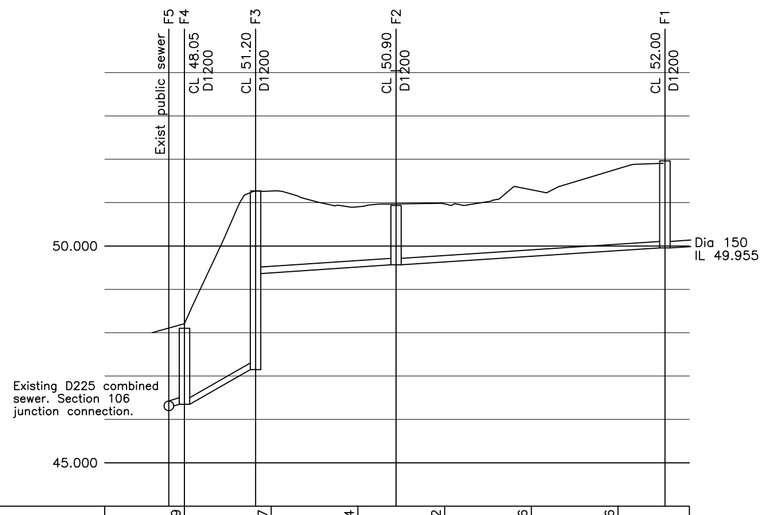
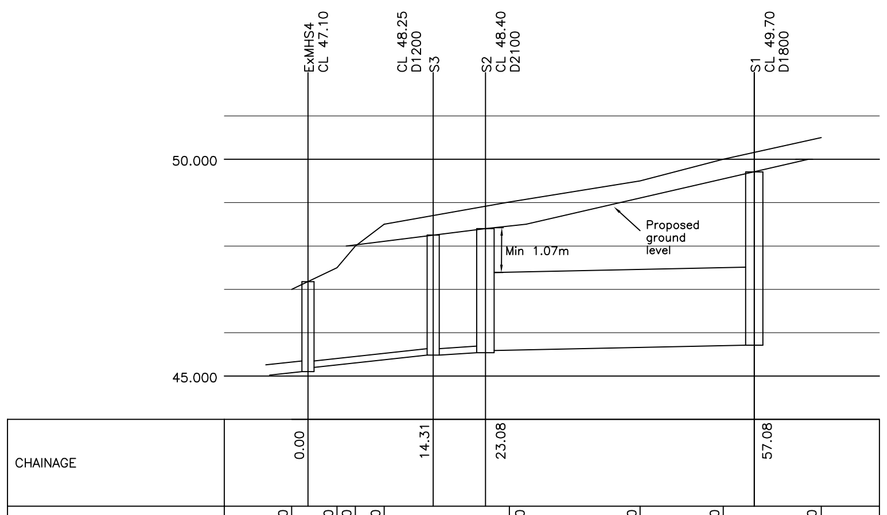
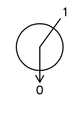
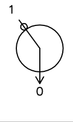
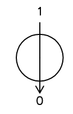
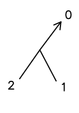
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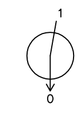
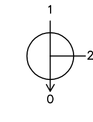
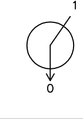
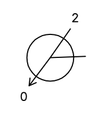


GROUND LEVEL	48.209	51.267	50.904	50.972	51.296	51.866	
FOULWATER INVERT	46.200 46.275	46.350 47.170	49.365	49.567	49.567	49.955	49.955
FOULWATER DETAILS	Dia150 Polysewer PVCu Grad1:10 KITEMARKED		Dia150 Polysewer PVCu Grad1:80 KITEMARKED		Dia150 Polysewer PVCu Grad1:80 KITEMARKED		
FOULWATER LENGTHS	WIS 4-35-01 1.80 8.20 Type S granular surround		WIS 4-35-01 16.20 Type S granular surround		WIS 4-35-01 31.00 Type S granular surround		



CHAINAGE	0.00	14.31	23.08	57.08			
EXISTING GROUND LEVEL	47.00	47.50 48.00 48.50	49.00	49.50	50.00	50.50	
STORMWATER INVERT	45.125	45.200 45.483	45.543 45.593	45.713			
STORMWATER DETAILS		Pipe 1.002 Dia 150 Polysewer PVCu 1 in 51 KITEMARKED	Pipe 1.001 Dia 150 1 in 100 KITEMARKED	Pipe 1.000 Dia 1800 Ridgistorm XL 1 in 258			
STORMWATER LENGTHS		WIS 4-35-01 14.31 Type S granular surround	WIS 4-35-01 6.02 Type S granular surround	31.00 Type S granular surround			

Manhole Number / Coordinates	Cover Level / Depth To Soffit	Connections		Pipe Code	Pipe Inverts	Pipe Diams Inv-soff	Manhole Size	Types Manhole	Types Cover
F1	52.050 1.945		1	Domestic	49.955	150	1200	Type B-600x600mm eccentric opening.	600x600mm D400
E. 437376.74 N. 405534.85			0		49.955	150			
F2	50.900 1.183		1		49.567	150	1200	Type B1/E-600x600mm eccentric opening.	600x600mm D400
E. 437349.00 N. 405520.23			0		49.567	150			
F3	51.200 3.880		1		49.365	150	1200	Type A-600x600mm eccentric opening.	600x600mm D400
E. 437338.99 N. 405507.92			0		47.170	150			
F4	48.050 1.550		1		46.350	150	1200	Type B-600x600mm eccentric opening.	600x600mm D400
E. 437331.28 N. 405505.68			0		46.350	150			
F5 Junction connection			1		46.275	150			
			2		46.200	225			
E. 437329.42 N. 405505.14			0		46.200	225			

Manhole Number / Coordinates	Cover Level / Depth To Soffit	Connections		Pipe Code	Pipe Inverts	Pipe Diams Inv-soff	Manhole Size	Types Manhole	Types Cover
S1	49.700 2.187		1	Domestic	47.363	150	1800	Type B-600x600mm eccentric opening	600x600mm D400
E. 437434.28 N. 405541.22				Polypipe drg 19945_LH_D1-C					
			0	1.000	45.713	1800			
S2	48.400 1.01 (D1500)		1	1.000	45.593	1800	2100	1220x675mm bespoke location with safety grille	Twin 610x675mm D400 1220x675mm opening
			2	Domestic	47.243	150			
E. 437412.15 N. 405562.93				Polypipe drg 19945_LH_D1-C					
			0	1.001	45.543	150			
S3	48.250 2.617		1	1.001	45.483	150	1200	Type B-600x600mm eccentric opening	600x600mm D400
E. 437407.68 N. 405566.98			0	1.002	45.483	150			
ExMHS4 HIGHWAY MANHOLE	47.100		1	1.002	45.200	150			
			2		45.125	225			
E. N.			0		45.125	225			

A01. These notes are intended to augment drawings and specifications. Where conflict of requirements exists the order of precedence shall be as shown in the specification. Otherwise the strictest provision shall govern.

A02. This drawing to be read in conjunction with all other relevant engineers and architects drawings.

A03. Drawings not to be scaled. All dimensions to be checked on site by the contractor. Any discrepancies to be notified to the Engineer and further instructions obtained before work is commenced.

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Manhole construction – refer to CPA technical bulletin Sept 2001 outlining changes to relevant British Product Standards BS5911-200:1994. All precast concrete products are to be kite marked or they will be rejected as part of an adoptable system. Manhole cover slabs to BS911
Manhole covers to have a clear opening of 600 x 600mm and shall be class D400 to BSEN124 with 150mm deep frames.
Filled ground must be filled and consolidated under the supervision of YW before any sewer works are carried out. All adoptable sewers to be BSI kitemarked, (certified to WIS-4-35-01)

Plastic channels are not acceptable

All custom built ironwork to be hot dipped galvanised prior to final fitting.

Adoptable sewer pipes to be laid in max 3m lengths unless there is a specific operational need to lay longer lengths.

Yorkshire water are not obliged to accept filter drain / land drainage runoff into the public sewernetwork or adoptable drainage network (directly or indirectly). An alternative method of disposal of 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 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 (C20-0C2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.

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 is less then 1.2m in highways and verges (or less then 900mm in non vehicle access areas) then a concrete slab should be provided above the granular bed and surround.

The chamber size of manholes with more then one connection in them may need to be increased one increment to accommodate the connection and bends.

Yorkshire Water policy is not to accept type C brick manholes and 1050mm diameter manhole rings. Instead it is preferred to use a type B manhole construction with a 1200 or 1500mm cover slab with the opening sited over the channel where the depth of cover to pipe soffit is 1.0-1.5m.

Contractors should be aware of significantly large diameter pipes and manhole chamber rings proposed in this design and precautions should be taken in movement and placing of such items. Also to be considered is the depth of excavation of the drainage works especially the large diameter components up to 8m deep excavations.

All adoptable sewer works and materials to be in accordance with Sewers for Adoption 6th edition. The relevant British / European and Yorkshire Water standards / requirements / addendum & Kitemarked.

The adoptable sewers shall be a min 1.0m and manholes 0.5m from the curb and service margins.

Bedding and backfill material to conform with the Water Industry specification 4-08-02 (table A2)

Lifting eyes to be pointed

Filled ground must be filled and consolidated under the supervision of YW before any sewer works are carried out

GEN3 CONCRETE USED THROUGHOUT

POLYPIPE MANHOLE DETAILS

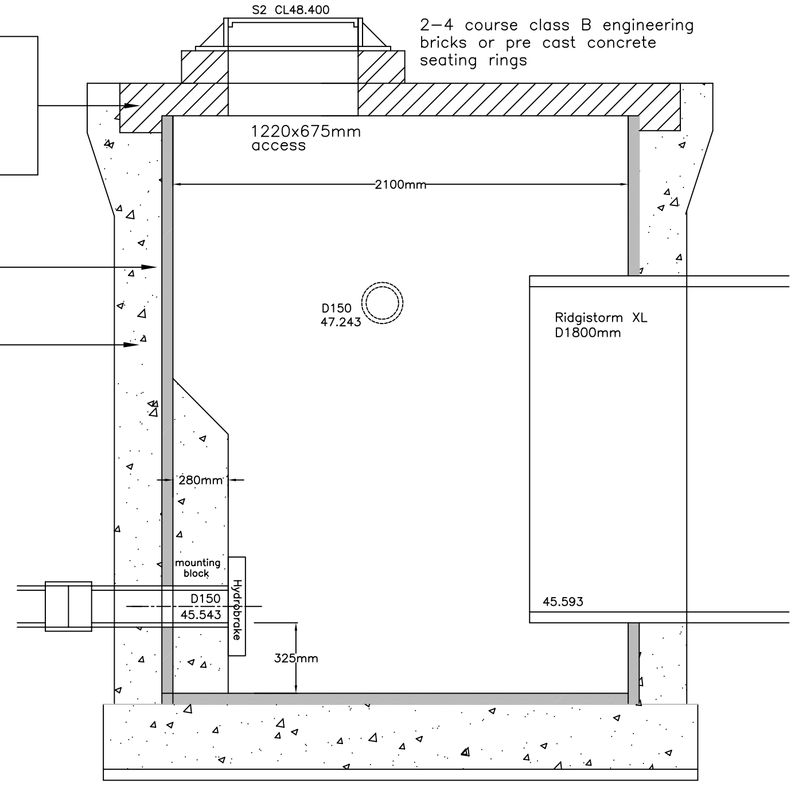
Manhole cover and frame to BSEN124
150mm deep frame in highways D400
bedded on mortar see clause 4.2.12
S1 – clear opening 600x600mm–standard position
S2 – clear opening 1220x675mm–bespoke location

S1
Reinforced PC concrete cover slab to be kitmarked and to BSEN1917:2002
bedded on mortar, proprietary bitumen or resin mastic sealant
Cover slab to have 600x600mm eccentric clear opening as per BSEN 124

S2
Reinforced PC concrete cover slab by FP Mccann or Stanton Bonna
bedded on mortar, proprietary bitumen or resin mastic sealant
Cover slab to have 1220x675mm clear opening as per BSEN 124 located as Polypipe detail

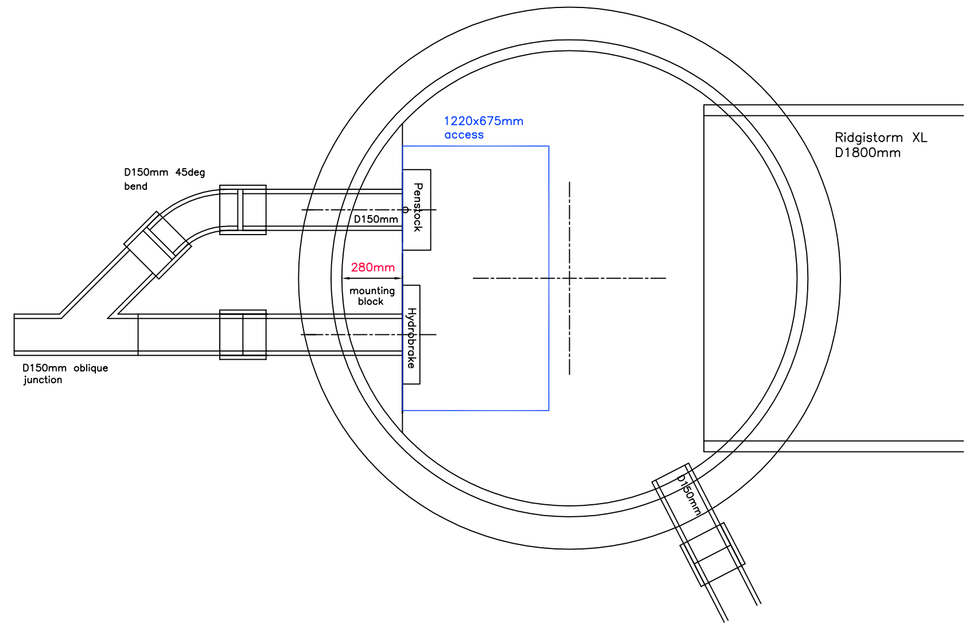
Polypipe plastic chamber wall

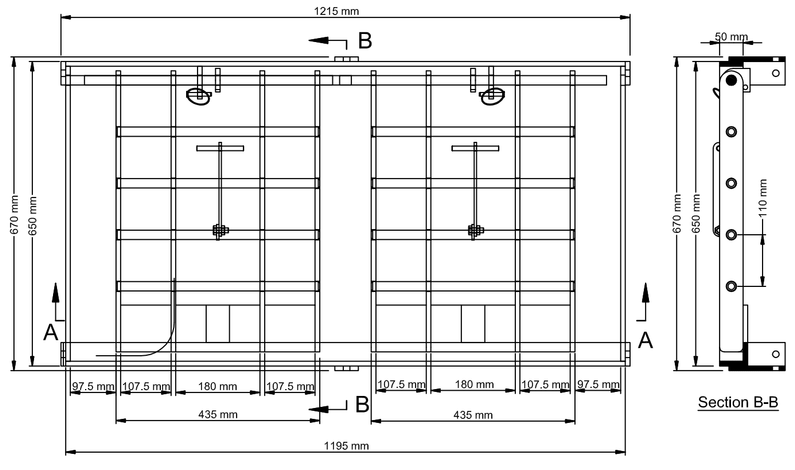
Min 150mm GEN3 concrete surround



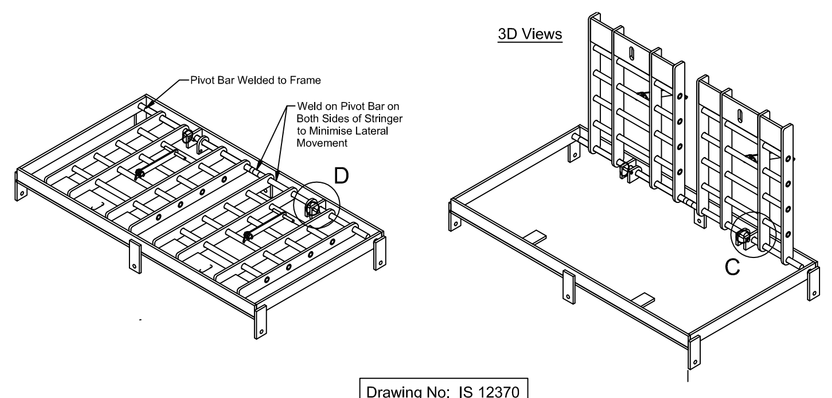
300mm thick cast insitu concrete base slab formed in sulphate resistant GEN3 concrete with two layers of A393 mesh in both top and bottom faces. Minimum cover to reinforcment 50mm.
On 50mm concrete blinding.

LOCATION OF ACCESS RELATIVE TO MOUNTING BLOCK

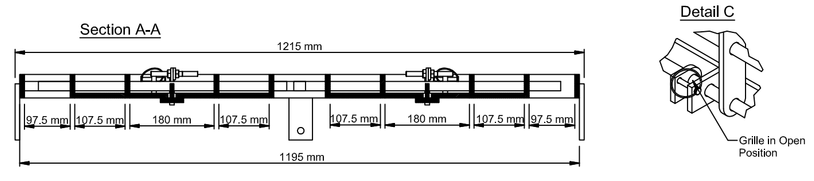


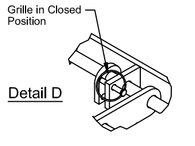


PETER SAVAGE KD19 LOCKABLE FALL ARREST GRILLE
Min 600mm clear opening when open, not lockable



Drawing No: IS 12370
Rev: Initial Draft





To Suit KD19 - Retro Fit

F. SW & FW systems redesigned	11-12-19
E. Section through polypipe manholes added	12-8-19
D. Fall arrest grille details added	16-7-19
C. S1-S2-S3-S4 revised, further details added to adoptable sewers, F1-F2 gradient adjusted	12-6-19
B. Foul sewer F1-F5 added, S2-S4 revised	5-4-19
A. Domestic connections added to S1 & S2	21-3-19

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Black Stone Developments

Sandygate Lane, Stairfoot
Longitudinal sections / schedules

DRAWN BY	rab		
SCALE	H1:500 V1:100	DATE	Jan19
DRAWING No	1073-2	REV	F

PRELIMINARY ONLY
Based on Site Plan Issued 10-12-19