

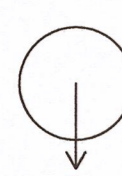





Sheet 1 of 2

Manhole Number		Cover Level	Connections	Pipe			Manhole Size	Types		
Coordinates		Depth To Soffit		Code		Inverts		Diams Inv—soffit	Manhole	Cover
F1		27.247		0	1.000	24.225	150	1200	TYPE B	D400
E. 364821.724	N. 435120.587	2.872								
F2		27.549		1	1.000	24.079	150	1200	TYPE A	D400
E. 364839.416	N. 435107.566	3.320								
S1		27.240		0	1.000	24.540	1500	2100	TYPE B	D400
E. 364798.499	N. 435140.573	1.200								
S2		27.279		1	1.000	24.475	1500	2400	TYPE B	D400
E. 364821.650	N. 435117.806	1.304								
S3 CONTROL MH		27.422		1 2	2.000 1.001	25.790 24.440	150 1500	2400	CONTROL	D400
E. 364835.656	N. 435107.638	2.832								
S6		27.345		0	2.000	26.206	150	1500	SHALLOW MANHOLE	1200x675 D400
E. 364864.201	N. 435137.967	0.989								

## Sheet 2 of 2

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### United Utilities Notes

1. All applicable drainage to be constructed in accordance with the United Utilities drainage design manual, where applicable:
  - STNDD000008 - Typical Overall Details D, E and F
  - STNDD000077 - Typical Detail G - Networks Outside
2. STNDD010010 - Standard Details Type 1 and Type 2 Manholes
3. STNDD010022 - Standard Details 7, 8, 9 and 10 Ladder, Handrailing and Safety Chain
4. STNDD010038 - Typical Details A, B, and C External and Internal Backdrops and Connection Details
5. STNDD010048 - Manhole and French Drain Details
6. MFRS, MFR4, MFR5 and MFR6
7. STNDD010058 - Manhole Details and Brick Inlet
8. Renovation MH6, MH7, MH8 and BS1.
9. STNDD010059 - Details of Manholes - Segmental Shafts
10. STNDD010016 - Pipe Embedment Details

United Utilities (UUT) must have a clear opening of 600mm and shall be Class D40 to BS EN 124 with 150mm deep frames in highways. Class B125 covers and frames to be provided on all manholes.

3. Filled ground must be filled and consolidated under and to the level of the drainage cover. The ground must be compacted and carried out. United Utilities is NOT obligated to accept filter drain / land drainage run off into the public sewer network or into the drainage system (directly or indirectly).

4. An alternative method of disposal of land drainage run off will therefore be required and any proposals must be agreed with the local drainage authority.

5. Cover slabs must carry the BSI kitemark and shall comply with BS 5911 Part 3/BS EN 1917:2000 or will be rejected by United Utilities. The cover slab must be made of a material of a minimum product to different to that of the cover and frame, a load bearing slab provided above the cover slab to bring the load to the drainage cover. The cover slab must be kitemarked (Association (CPA) "Technical Bulletin" issued Autumn 2004 for kitemarked cover slab opening sizes.

6. The use of precast concrete and precast concrete products must be used or a laboratory report provided to prove that such precautions are not required.

7. All manholes must be made of brick and surround unless otherwise stated. Bedding and backfill materials to conform to the requirements of WIS 4-G-022 (Table A2). Where depth of cover is greater than 1.5m, the manhole must be made of brick (or less than 0.9m in bore within accessible areas), then a concrete surround shall be provided.

7. All manholes must be made of brick and surround unless otherwise stated. Bedding and backfill materials to be backfilled with suitable material in layers not exceeding 225mm unconsolidated material.

8. Adoptable sewer pipes to be laid in maximum 3 metre lengths unless there is a special operational need to lay longer lengths. The manhole must be made of brick and surround unless otherwise stated. Clayware channels shall be used within manholes for pipe sizes up to and including 300mm diameter.

9. The outlet pipe must be made of concrete Type C brick manholes and 1500mm diameter manhole rings. For manholes with depths to soffit of 1-1.5m, manholes with 1500mm diameter rings and a cover slab with a 1200 x 675 opening fitted over the manhole and a twin 600 x 600 cover and frame shall be used.

All adoptable sewer works and material to be in accordance with "Sewers for Adoption" 6th Edition, The Relevant British/European and United Utilities Standard/Requirements/Addendum and Kitemarked.

All drainage under carriageway and vehicular areas with less than 1200mm of cover to be protected.  
Protection shall be a C20 concrete slab 150mm deep and extend the full width of the trench, with a further minimum of 200mm on either side positioned 250mm above the crown. The slab shall include a layer of A393 mesh and expansion joints at 6m centres.

All drainage under verges with less than 900mm of cover to be protected with 175mm concrete bed & surround.

All 150mm & 225mm dia pipes to be clay to comply with the relevant requirements of BS EN 295-1: 1991.

All pipes 300mm dia and above to be concrete pipes to comply with the relevant provisions of BS 5911. Strength class 120 (minimum strength 54kN/m) unless specified otherwise.

Minimum pipe crushing strength to be 150mm dia. 40KN/m, 225 dia. 45KN/m, 300 dia. 72KN/m.

All pipes to have class 's' granular surround with bedding factor of 2.2 unless stated otherwise on the longitudinal sections and to be class 2 sulphate resistant.

Granular material for surround to be either 10, 14 or 20mm nominal single sized.

Stone backfill is required to all sewer trenches under vehicular areas. As dug material may be used on other areas subject to the written approval of the drainage authority.

Bedding and backfill material to conform to the requirements of the Water Industry Specification 4-08-02 (Table A2)

All concrete products manufactured or cast insitu to be sulphate resistant unless proved otherwise by site investigation or subsequent testing.

Sewers must have 5 metres clearance from trees and hedges, where it is not possible to achieve this clearance concrete bed and surround is required.

The chamber size of manholes with more than one connection may need to be increased an increment to accommodate the connections and bends.

Manhole covers must have a clear opening of 675mm 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 United Utilities before any sewer works are carried out.

Adoptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service margins

Any land drain or watercourse on site to be diverted so as not to pass under proposed building. Diversion to be inspected on site by local authority.

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# Preliminary

Rev	Details	Date	Drwn	Chk
Partner Construction				

Parsonage Avenue  
Ribchester

## Manhole Schedules

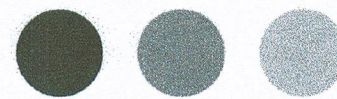
Dwg No. : STE/14/12/08

Date : 17-10-14

Scale : Not to scale

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SHAUN TONGE  
ENGINEERING



11 Broomhead Road, Wombwell, Barnsley, S73 0SA.  
Tel 01226 755929. Mobile 07528 278070 . Email [Shaun@stonge.fsnet.co.uk](mailto:Shaun@stonge.fsnet.co.uk)

RISK ASSESSMENT: SIGNIFICANT RISKS THAT CANNOT BE DESIGNED OUT		SUGGESTED ACTION
RISK	LEVEL OF RISK (H/M)	
DEEP EXCAVATIONS ASSOCIATED WITH DEEP DRAINAGE WORKS	HIGH	ENSURE ALL EXCAVATIONS HAVE ADEQUATE TRENCH SUPPORTS AND ARE FENCED OFF TO PROTECT FROM FALLS.
HANDLING LARGE DIAMETER MANHOLE AND SOAKAWAY RINGS	HIGH	USE CORRECT LIFTING EQUIPMENT AND ENSURE OPERATIVES WEAR THE CORRECT PERSONAL PROTECTIVE EQUIPMENT.
CONTACT WITH SEWAGE/WORKING IN CONFINED SPACES	MEDIUM	USE GAS DETECTORS/BREATHING EQUIPMENT AND ENSURE OPERATIVES WEAR THE CORRECT PERSONAL PROTECTIVE EQUIPMENT.
NOISE FROM MACHINERY	MEDIUM	OPERATIVES TO WEAR THE CORRECT EAR PROTECTION.
EXCAVATIONS NEAR TO UTILITIES	HIGH	UTILITY MAPS TO BE INSPECTED AND APPARATUS LOCATED USING APPROPRIATE EQUIPMENT PRIOR TO EXCAVATION.
EXCAVATIONS IN PUBLIC HIGHWAY	HIGH	ENSURE ALL EXCAVATIONS HAVE ADEQUATE TRENCH SUPPORTS AND ARE FENCED OFF TO PROTECT FROM FALLS. ENSURE THE CORRECT SIGNAGE/TRAFFIC CONTROL IS USED.
IT IS ASSUMED THAT WORKS ASSOCIATED WITH THIS DESIGN WILL BE UNDERTAKEN BY A PERSON(S) WHO ARE COMPETENT AND HAVE THE REQUIRED LEVEL OF EXPERIENCE AND EXPERTISE.		

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