

- 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 and Kitemarked".
- Manhole covers shall/must have a minimum 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.

MANHOLE SCHEDULE

Sheet 1 of 3

Manhole Number	Cover Level	Connections	Pipe			Manhole Size	Types	
			Code	Inverts	Diams Invert		Manhole	Cover
HD100	81.734							
	1.757					1500	E	D400
	E. 43302.423							
HD101	80.355							
	2.726		1 2	5.000 4.000	77.454 77.454	225 225		
	E. 43325.087							
HD102	80.626							
	3.326		1	4.001	77.329	300		
	E. 43321.280							
HD103	79.530							
	3.450		1	4.002	77.000	300		
	E. 43316.050							
HD104	77.714							
	2.496		1	4.003	74.918	300		
	E. 433163.983							
HD105	76.197							
	2.025		1	4.004	73.642	300		
	E. 433164.092							
			0	4.005	73.642	300		
	E. 409627.536							

MANHOLE SCHEDULE

Sheet 2 of 3

Manhole Number	Cover Level	Connections	Pipe			Manhole Size	Types	
			Code	Inverts	Diams Invert		Manhole	Cover
HD106	74.263							
	2.227		1	4.005	71.676	300		
	E. 433147.688							
HD107	72.436							
	1.126		1	4.006	70.961	300		
	E. 433117.232							
HD108	73.080							
	2.044		1	4.007	70.736	300		
	E. 433073.753							
HD109-HW-01								
			1	4.008	70.850	300		
	E. 433059.801							
HD110-HW-02								
			1	4.009	70.850	300		
	E. 433087.730							
HD-111-HB-01								
			1	1.012	70.300	375		
	E. 433081.823							
			1	1.013	70.300	375		
	E. 409630.343							

MANHOLE SCHEDULE

Sheet 3 of 3

Manhole Number	Cover Level	Connections	Pipe			Manhole Size	Types	
			Code	Inverts	Diams Invert		Manhole	Cover
HD112	79.552							
	1.719		0	5.000	77.688	225		
	E. 433247.785							
HD-HW-03								
			1	1.013	70.000	375		
	E. 433094.139							
HD-HW-06								
					73.870	600		
	E. 432764.942							
HD-HW-07								
					73.830	600		
	E. 432768.871							

GULLY SCHEDULE

Sheet 1 of 1

Manhole Number	Cover Level	Connections	Pipe		Gully Size	Types	
			Inverts	Diams Invert		Gully	Cover
RG-01	82.75						
	0.6		82.15	150	900x450	Trapped	D400
	E. 433191.172						
RG-02	81.65						
	0.6		81.15	150	900x450	Trapped	D400
	E. 433184.991						
RG-03	81.60						
	0.6		82.80	150	900x450	Trapped	D400
	E. 433187.230						
RG-04	81.40						
	0.6		80.80	150	900x450	Trapped	D400
	E. 433202.701						
RG-05	80.40						
	0.6		79.80	150	900x450	Double Trapped	D400
	E. 433221.528						
RG-06	79.10						
	0.6		78.50	150	900x450	Double Trapped	D400
	E. 433245.076						

Note: The drainage works are subject to Technical Approval from Barnsley Council Drainage department and Yorkshire Water and may therefore change

CIVIL / STRUCTURAL DESIGN RISK MANAGEMENT

Abnormal or unusual residual risks associated with the design outcomes shown on this drawing are:-

RSK LDE LTD has followed its Design Risk Management process for Hazard Elimination and Risk reduction in developing the designs shown on this drawing. Abnormal or unusual residual risks may be shown above where it is considered that such risk may not normally be expected by competent persons engaged on work of this nature or type.

THIS DRAWING IS FOR APPROVAL

P2	16.02.15	Schedules revised to suit amended drainage layout. Culvert added.	FJP		
P1	29.10.14	Issued for Approval	FJP	CB	IC
Rev.	Date	Amendment	Drawn	Chkd.	Appd.



LAND & DEVELOPMENT ENGINEERING LTD

Spring Lodge
172 Chester Road
Helsby
Cheshire, WA6 0AR
United Kingdom

Tel: +44 (0) 1928 726006
Fax: +44 (0) 1928 725633
Email: lde@rsk.co.uk
Web: www.rsk.co.uk

Client

Harworth Estates

Project Title

North Gawber

Drawing Title

Highway Drainage
PDS Manhole Schedule

Drawn	Date	Checked	Date	Approved	Date
FJP	OCT 14	CB	OCT 14	IC	OCT 14
Scale		Orig Size		Dimensions	
NTS		A2		m	
Project No.			Drawing File		
880442					
Drawing No.					Rev.
41-06					P2