

Manhole Number	Cover Level	Connections	Pipe			Manhole Size	Types	
Coordinates	Depth To Sill		Code	Inverts	Inverted		Manhole	Cover
F1	172.166		1	PTF1	170.150	150		
	1.956		0				1200	D400
E. 423430.781 N. 414827.897			0	1.000	170.150	150		
F2	171.032		2	PTF2	168.150	150		
	1.732		0				1200	D400
E. 423441.573 N. 414801.206			0	1.001	168.150	150		
F3	170.770		1	1.001	168.800	150		
	1.420		0	1.002	168.400	150		D400
E. 423446.590 N. 414897.724			0	1.002	168.800	150		
F4	170.833		1				1200	B
	1.983		0	1.001	168.400	150		D400
E. 423452.117 N. 414896.655			0	1.001	168.400	150		
F5	167.965		2	2.003	165.944	150		
	1.871		0	PTF5	165.944	150		D400
E. 423497.286 N. 414893.511			0	1.004	165.944	150		
FG EXISTING	168.848		2	1.004	165.810	150		
	1.088		0	PTF6	165.810	150		
E. 423553.185 N. 414871.891			0	Ex. 1500 / 396	165.810	150		

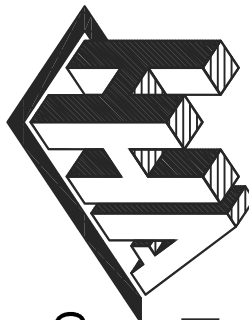
PROPOSED FOLI WATER SEWER TO CONNECT INTO EXISTING 1500 PUBLIC SEWER LOCATED WITHIN SITE ENTRANCE.

Manhole Number	Cover Level	Connections	Pipe			Manhole Size	Types	
Coordinates	Depth To Sill		Code	Inverts	Inverted		Manhole	Cover
F7	168.979		2	PTF7	168.400	150		
	3.429		0	2.000	168.400	150		D400
E. 423460.113 N. 414840.645			0	2.000	168.400	150		
S1	172.188		1	PTS1	170.575	150		
	1.411		0				1200	B/E
E. 423451.178 N. 414923.279			0	1.000	170.580	225		
S2	170.349		2	PTS2	168.575	150		
	1.224		0	1.001	168.580	225		D400
E. 423443.340 N. 414891.785			0	1.001	168.150	225		
S3	170.882		1	1.001	168.150	225		
	1.307		0	1.002	168.150	225		D400
E. 423446.185 N. 414886.665			0	1.002	168.150	225		
S4	170.424		1	1.002	168.797	225		
	1.402		0	1.003	168.797	225		D400
E. 423453.978 N. 414897.251			0	1.003	168.797	225		
S5	168.009		2	2.001	168.450	300		
	2.547		0	PTS5	168.450	150		D400
E. 423469.608 N. 414891.505			0	1.004	168.162	300		

RISK ASSESSMENT:	
RISK	LEVEL OF RISK
DEEP EXCAVATIONS ASSOCIATED WITH NEW DRAINAGE WORKS	HIGH
HANDLING LARGE DIAMETER MANHOLE RINGS AND CIRCULAR PIPES	HIGH
CONTACT WITH SEWAGE	MED
NOISE	MED
DRAINAGE EXCAVATIONS ADJACENT EXISTING BOUNDARY STRUCTURES	HIGH
DRAINAGE EXCAVATION IN PUBLIC HIGHWAY	HIGH
MAINTAIN ACCESS TO ADJACENT PROPERTIES AND OCCUPERS	HIGH
DRAINAGE EXCAVATIONS NEAR TO EXISTING SERVICES	HIGH
DRAINAGE EXCAVATIONS BENEATH EXISTING OVERHEAD POWER LINES	HIGH
WORKING IN CONFINED SPACES, WORKING IN DRAINS AND MANHOLES	HIGH
WORKING IN HIGHWAYS / RISKS FROM VEHICLE AND PLANT	HIGH
ROAD AND DRAINAGE CONSTRUCTION	HIGH
IT IS ASSUMED THAT WORKS ASSOCIATED WITH THIS DESIGN WILL BE UNDERTAKEN BY A PERSON OR PERSONS WHO ARE COMPETENT AND HAVE THE REQUIRED LEVEL OF EXPERIENCE AND EXPERTISE	

NOTE:
ALL SERVICE RECORDS TO BE OBTAINED FOR BARNSELEY ROAD TO CHECK FOR CLASHES.

Rev C. Amended to suit latest planning layout (Rev S) & YV comments (23.09.15) .
Rev B. Gully and private connections added.
Rev A. Amended to suit revised sewer design.



Haigh Huddleston & Associates
Civil Structural Engineering Consultants

Fifth Buildings, 99 - 101 Leeds Rd, Dewsbury, WF12 7BU
e trevor.haigh@haighhuddleston.co.uk
t 01924 464342 f 01924 450662

Client
PERSIMMON HOMES

Project
BARNSELEY ROAD, FLOCKTON

Detail
MANHOLE SCHEDULE

Dwn Chkd Date Scale Dwg No.
LM MH JUN '15 NTS @A2 E/4/6/164/007C

Manhole Number	Cover Level	Connections	Pipe			Manhole Size	Types	
Coordinates	Depth To Sill		Code	Inverts	Inverted		Manhole	Cover
S6	167.470		2	3.000	164.986	1500		
	3.004		0	PTS6	164.316	150		D400
E. 423591.403 N. 414882.145			0	1.005	162.986	1500		
S7 FLOW CONTROL	166.802		2	1.005	162.986	1500		
	3.719		0	1.006	162.898	225		
E. 423595.622 N. 414875.441			0	1.006	162.898	225		
S8	166.578		1	1.006	162.815	225		
	3.528		0	1.007	162.815	225		D400
E. 423597.831 N. 414886.894			0	1.007	162.815	225		
S9	164.820		1	1.008	162.573	225		
	2.122		0	1.007	162.573	225		D400
E. 423593.879 N. 414874.443			0	1.008	162.573	225		
S10 EXISTING	164.423		2	1.008	162.597	300		
	2.661		0	Ex. 3000 / 396	163.740	300		
E. 423593.729 N. 414871.451			0	PTS4	167.400	150		
S11	168.896		2	1.008	167.400	150		
	1.146		0	QUALITY	167.400	150		D400
E. 423592.184 N. 414883.888			0	2.000	167.250	300		
S12	170.123		2	3.000	166.450	300		
	2.954		0	PTS6	167.019	300		D400
E. 423479.446 N. 414846.173			0	2.001	166.889	300		
S13	167.250		1	3.000	163.020			
	2.710		0	3.000	163.020	1500		
E. 423524.721 N. 414891.580			0	3.000	163.020	1500		

FLOW CONTROL DEVICE FITTED TO MANHOLE S7. SURFACE WATER TO HIGHWAY DRAIN ON BARNSELEY ROAD VIA MH S10 AT A RESTRICTED RATE OF 3.000l/sec.
SURFACE WATER STORAGE 1100 Y³ STORM EVENT 30% CLIMATE CHANGE.

SEE E/4/6/164/011 FOR CONSTRUCTION DETAILS

1	1.008	162.597	225		
2	Ex. 3000 / 396	163.740	300		
3	QUALITY	167.400	150		
4	162.462	300			
5	167.400	150			
6	167.250	300			
7	166.450	300			
8	167.019	300			
9	166.889	300			
10	163.020				
11	163.020	1500			

1. ALL ADOPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH 'SEWERS FOR ADOPTION' 6th EDITION, THE RELEVANT BRITISH/EUROPEAN AND YORKSHIRE WATERS STANDARD/EQUIPEMENTS/ADDENDUM TO THE MECHANICAL AND ELECTRICAL SPECIFICATION AND KITEMARKED. ALL ADOPTABLE SEWERS TO BE BSI KITEMARK (CERTIFIED TO WIS 4.35-01 AND BS EN 13476) .
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 OR CLASS B 125 IN FOOTWAYS, PEDESTRIAN AREAS AND COMPARABLE LOCATIONS.
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/IN AND 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 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 AND SERVICE MARGINS.
8. SEWERS MUST HAVE 5m 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).
9. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENT OF WATER INDUSTRY SPECIFICATION 4-08-02 (TABLE A2) .
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, 225mm DIA 49kN/m and 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 MUST 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 SPECIFICATION.
15. GULLY COVER AND FRAMES SHALL BE C250 DUCTILE IRON AND COMPLY WITH EUROPEAN STANDARD BS EN 124. THOSE SIGHTED IN ACCESSWAYS AND MEWS COURTS MUST BE SUITABLE FOR USE IN PEDSTRIAN AREAS.
16. SULPHATE RESISTANT CEMENT (C20-PC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT NECESSARY
17. ADOPTABLE SEWERS TO BE LAID IN MAXIMUM 3m LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY IN LONGER LENGTHS.
18. PLASTIC CHANNEL SECTIONS IN MANHOLES ARE NOT ACCEPTED BY YORKSHIRE WATER AND CLAYWARE CHANNELS ARE TO BE USED.

IF THE PIPE MATERIAL IS NOT SHOWN ON THE INDIVIDUAL PIPE LENGTH THEN,
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 and 300mm DIA 72kN/m.
ALL PIPEWORK 375mm DIAM OR GREATER TO BE CONCRETE CLASS 120, 54kN/m MINIMUM CRUSHING STRENGTH.
ADOPTABLE SEWERS TO BE LAID IN CLASS 'S' GRANULAR BED & SURROUND.