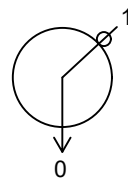
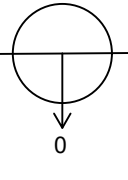
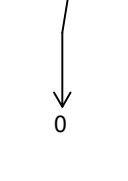
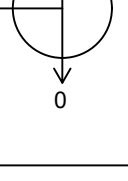
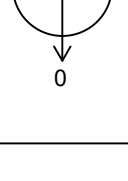
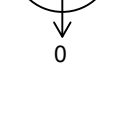
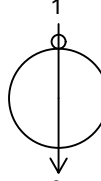
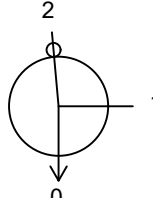
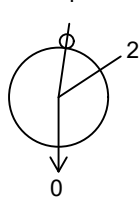
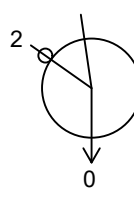
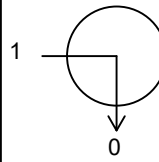
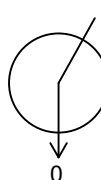
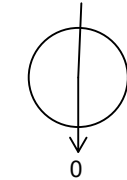
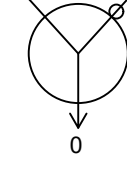


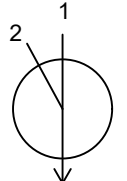
Manhole Number	Cover Level	Connections	Pipe			Manhole Size	Types		
			Code	Inverts	Diams		Manhole	Cover	
S1	146.391		1	SWS Lateral	144.950	150	2100	Type A	D400
E. 423261.463	6.035		0	1.000	139.006	1350			
N. 411081.574									
S2	145.826		1	1.000	138.966	1350	2100	Type A	D400
E. 423267.488	5.510		2	2.000	138.966	1350			
N. 411086.838			0	1.001	138.966	1350			
S3	144.749		1	1.001	138.820	1350	Pipe Bend		
E. 423248.420			0	1.002	138.820	1350			
N. 411108.988									
S4	143.581		1	1.002	138.680	1350	2100	Type A	D400
E. 423226.980	3.551		2	SWS Lateral	141.950	150			
N. 411126.996			0	1.003	138.680	1350			
S5	141.947		1	1.003	138.557	1350	2100	Type B	D400
E. 423242.743	2.040		2	SWS Lateral	140.450	150			
N. 411145.762			0	1.004	138.557	1350			
S6 HYDROBRAKE	140.958		1	1.004	138.337	1350	2400	Type B	D400
E. 423209.123	2.396		2	Gully	139.537	150			
N. 411174.001			3	SWS Lateral	139.537	150			
			0	1.005	138.337	225			

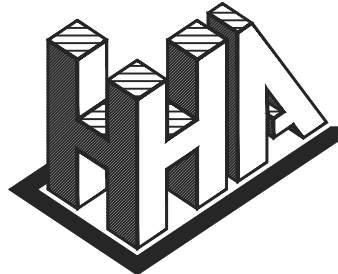
Manhole Number	Cover Level	Connections	Pipe			Manhole Size	Types	
			Code	Inverts	Diams		Manhole	Cover
F1	143.622		1 FWS Lateral	141.750	150	1200	Type A	D400
E. 423224.560	3.269	0 1.000	140.203	150				
N. 411127.237								
F2	142.169		1 1.000 FWS Lateral	139.543 140.600	150 150	1200	Type B	D400
E. 423238.578	2.476	0 1.001	139.543	150				
N. 411143.927								
F3	141.244		1 2 1.001 FWS Lateral	138.460 139.600	150 150	1200	Type B	D400
E. 423211.203	2.634	0 1.002	138.460	150				
N. 411166.920								
C4	140.927		1 2 1.002 SWS SEWER	138.040 137.965	150 225	1500	Type B	D400
E. 423199.420	2.737	0 1.003	137.965	225				
N. 411174.202								
C5	140.800		1 1.003	137.885	225	1200	Type B	D400
E. 423194.548	2.690	0 1.004	137.885	225				
N. 411178.295								
C6	138.600		1 1.004	137.493	225	1200	Type S	D400
E. 423214.710	0.882	0 1.005	137.493	225				
N. 411202.299								

Manhole Number	Cover Level	Connections	Pipe			Manhole Size	Types		
	Depth To Soffit		Code	Inverts	Diams		Manhole	Cover	
S7	140.939		1	1.005	138.153	225	1200	Type B	D400
E. 423201.786	2.561		0	1.006	138.153	225			
N. 411174.227									
S9	145.292		1 2	SWS Lateral Gully	143.000 140.206	150 150	2100	Type A	D400
E. 423273.513	4.936		0	2.000	139.006	1350			
N. 411092.101									

1. ALL ADAPTABLE 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 ADAPTABLE 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-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
7. THE ADAPTABLE 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. 40N/m², 150mm DIA 48N/m², 225mm DIA 48N/m², 300mm DIA 72N/m².
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 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.

RISK ASSESSMENT: SIGNIFICANT RISKS THAT CANNOT BE DESIGNED OUT		LEVEL OF RISK (H/M/L)	SUGGESTED ACTION
RISK		HIGH	ENSURE ALL EXCAVATIONS HAVE ADEQUATE TRENCH SUPPORTS
DEEP EXCAVATIONS ASSOCIATED WITH NEW DRAINAGE WORKS		HIGH	USE CORRECT LIFTING EQUIPMENT AND ENSURE OPERATIVES WEAR APPROPRIATE PROTECTIVE CLOTHING/HARD HATS/CORRECT PPE
HANDLING LARGE DIAMETER MANHOLE RINGS AND CIRCULAR PIPES		MED	OPERATIVES TO USE CORRECT BREATHING EQUIPMENT/CORRECT PPE
CONTACT WITH SEWAGE		MED	OPERATIVES TO USE CORRECT EAR PROTECTION/CORRECT PPE
NOISE		HIGH	ENSURE CORRECT SUPPORTS ARE PROVIDED TO TRENCHES AND BUILDINGS WHERE REQUIRED
DRAINAGE EXCAVATIONS ADJACENT EXISTING BOUNDARY STRUCTURES		HIGH	ENSURE CORRECT USE OF TRENCH SUPPORTS IN EXCAVATION AND SCREEN BARRIERS TO PROTECT MEMBERS OF THE PUBLIC.
DRAINAGE EXCAVATION IN PUBLIC HIGHWAY		HIGH	ENSURE WORKS ARE PROTECTED WITH BARRIERS AND SIGNS TO GUIDE THE PUBLIC AWAY FROM THE WORKS
MAINTAIN ACCESS TO ADJACENT PROPERTIES AND OCCUPIERS		HIGH	ENSURE WORKS ARE PROTECTED WITH BARRIERS AND SIGNS TO GUIDE MEMBERS OF THE PUBLIC AWAY FROM THE AREA
DRAINAGE EXCAVATIONS NEAR TO EXISTING SERVICES		HIGH	CONFINED SPACES WORKING TRAINED PERSONNEL ONLY TO CARRY OUT WORKS UNDER A PERMIT TO WORK SCHEME MANAGED BY THE CONTRACTOR. GAS TESTING TO TAKE PLACE BEFORE ALL ENTRIES TO CONFINED SPACES.
WORKING IN CONFINED SPACES, WORKING IN DRAINS AND MANHOLES		HIGH	ALL WORKS TO BE SIGNED AND FENCED FROM NORMAL VEHICULAR TRAFFIC. ALL WORKERS TO WEAR HIGH VISIBILITY CLOTHING. ALL PLANT TO HAVE VISUAL AND AUDIBLE WARNING SYSTEMS.
WORKING IN HIGHWAYS / RISKS FROM VEHICLE AND PLANT		HIGH	ALL EXCAVATIONS TO BE ADEQUATELY FENCED OFF AND SUPPORTED DURING CONSTRUCTION. ALL OPERATIVES TO BE TRAINED IN CORRECT METHODS OF LIFTING AND WORK IN ACCORDANCE WITH LOLER REGS
ROAD AND DRAINAGE CONSTRUCTION		HIGH	
IT IS ASSUMED THAT WORKS ASSOCIATED WITH THIS DESIGN WILL BE UNDERTAKEN BY A PERSON OR PERSONS WHO ARE COMPETANT AND HAVE THE REQUIRED LEVEL OF EXPERIENCE AND EXPERTISE			

Manhole Number	Cover Level	Connections	Pipe			Manhole Size	Types		
	Depth To Soffit		Code	Inverts	Diams		Manhole	Cover	
C7	138.500		1 2	EXS CWS 1.005	137.250 137.250	225 225	1200	Type B1/ E	D400
E. 423215.167	1.025								
N. 411204.688			0	EXS CWS	137.250	225			



Haigh Huddleston & Associates

Civil Structural Engineering Consultants

Firth Buildings, 99 - 101 Leeds Rd, Dewsbury, WF12 7BU t 01924 464342 f 01924 450662

e trevor.haigh@haighhuddleston.co.uk

Client
YORKSHIRE COUNTRY PROPERTIES

Project
STATION ROAD, SKELMANTHORPE

Detail
MANHOLE SCHEDULE

Dwn Chkd Date Scale Dwg No.
CM HH June'21 NTS E18/7366/007