

Note: The cover levels provided are indicative, all external levels are to be set by Tetratech and covers levels adjusted onsite to suit.

- Cover levels are approximate only and may vary on site. Covers to suit finished levels.
- Contractor is responsible for positioning MHs so they do not compromise line or level of kerbing or other delineation at the juncture of two surface materials.
- PPIC manhole diameters may vary and are dependant on manufactures specification and diameter of incoming / outgoing pipes.
- Concrete manhole diameters are dependant on nominal internal diameter of largest pipe in manhole. See Table A on Typical Manhole Details drawing.

Surface Water Drainage Manhole Schedule - Hub											
MH Ref.	Cover Level	Invert Level	MH Type	MH Dia. (m)	Cover Type	D/S Pipe Length	Depth to Invert	Pipe Size (m)	Depth to Soffit	Gradient	Comments
S1	83.110	81.393	Conc.	1.800	D400	24.153	1.717	0.600	1.117	1:371.6	
S2	83.250	81.328	Conc.	1.800	D400	27.901	1.922	0.600	1.322	1:465	
S3	83.060	81.268	Conc.	1.800	D400	10.264	1.792	0.600	1.192	1:513.2	
S4	83.000	81.248	Conc.	2.100	D400	39.738	1.752	0.600	1.152	1:441.5	
S5	83.150	81.158	Conc.	2.100	D400	67.801	1.992	0.600	1.392	1:452	
S6	83.000	81.008	Conc.	1.800	D400	29.810	1.992	0.600	1.392	1:289.4	300mm Silt Trap Sump
S7	82.825	Inlet IL = 80.905 Outlet IL = 80.855	Conc.	2.100	D400	4.630	-	0.300	-	1:57.9	Hydrobrake at 42.4 l/s Reference: MD-SHE-0272-4240-1245-4240
S8	83.200	82.016	Conc.	1.200	B125	16.536	1.184	0.300	0.884	1:206.7	
S9	83.200	81.936	Conc.	1.200	B125	22.545	1.264	0.300	0.964	1:178.9	
S10	83.200	81.810	Conc.	1.200	B125	18.237	1.390	0.300	1.090	1:158.6	
S11	83.200	81.695	Conc.	1.200	B125	39.796	1.505	0.300	1.205	1:280.3	
S12	83.125	81.553	Conc.	1.500	D400	23.874	1.572	0.300	1.272	1:251.3	

Flow Control Details - (S7)
 Hydro-Brake® Optimum Flow Control - Surface/Storm Drainage System
 11N 272mm Type SH (MD5) Hydro-Brake® Flow Control (Horizontal Discharge)
 Technical Criteria: Design / Duty Point Flow = 42.40 l/s with Head = 1.245m
 Flush-Flo™ Point Flow = 42.40 l/s Head = 0.451m
 Kick-Flo® Point Flow = 36.5 l/s Head = 0.914m
 Reference: MD-SHE-0272-4240-1245-4240

Note:
 Where pipework is in excess of 300mm internal diameter, pipework material is to be concrete.
 Where pipework is 300mm or less in diameter, pipework material is to be PVCu.

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- PPIC manhole diameters may vary and are dependant on manufactures specification and diameter of incoming / outgoing pipes.
- Concrete manhole diameters are dependant on nominal internal diameter of largest pipe in manhole. See Table A on Typical Manhole Details drawing.

Surface Water Drainage Silt Trap Manhole Schedule - Hub						
MH Ref.	Cover Level	Inlet Invert Level	MH Type	MH Dia. (m)	Cover Type	Comments
S13	83.685	81.450	Conc.	1.800	D400	300mm Silt Trap Sump 3 no. 225mm Outlets
S14	83.200	82.400	PPIC	0.600	B125	300mm Silt Trap Sump
S15	83.550	82.750	PPIC	0.450	B125	300mm Silt Trap Sump
S16	83.350	82.550	PPIC	0.450	B125	300mm Silt Trap Sump
S17	83.350	82.550	PPIC	0.450	B125	300mm Silt Trap Sump
S18	83.300	82.500	PPIC	0.450	B125	300mm Silt Trap Sump
S19	83.225	82.425	PPIC	0.450	B125	300mm Silt Trap Sump
S20	83.100	82.300	PPIC	0.450	B125	300mm Silt Trap Sump
S21	83.125	82.325	PPIC	0.450	B125	300mm Silt Trap Sump
S22	83.100	82.300	PPIC	0.450	B125	300mm Silt Trap Sump
S23	83.200	81.850	Conc.	1.200	B125	
S24	83.200	82.400	PPIC	0.450	B125	300mm Silt Trap Sump
S25	83.200	82.400	PPIC	0.450	B125	300mm Silt Trap Sump
S26	83.050	81.300	Conc.	1.800	D400	300mm Silt Trap Sump 3 no. 225mm Inlets
S27	83.000	82.400	PPIC	0.450	B125	300mm Silt Trap Sump

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- PPIC manhole diameters may vary and are dependant on manufactures specification and diameter of incoming / outgoing pipes.
- Concrete manhole diameters are dependant on nominal internal diameter of largest pipe in manhole. See Table A on Typical Manhole Details drawing.

Foul Water Drainage Manhole Schedule - Hub											
MH Ref.	Cover Level	Invert Level	MH Type	MH Dia. (m)	Cover Type	D/S Pipe Length	Depth to Invert	Pipe Size (m)	Depth to Soffit	Gradient	Comments
FW00	82.750	82.175	PPIC	0.600	D400	5.000	0.575	0.150	0.425	1:80	
FW01	82.800	82.110	PPIC	0.600	D400	-	0.690	0.150	0.540	-	Inspection chamber to be built on the line of existing. IL to be confirmed onsite and engineer informed.
F1	83.200	81.850	PPIC	0.600	B125	8.400	1.350	0.150	1.200	1:60	BD = 82.450
F2	83.200	81.710	PPIC	0.600	B125	29.700	1.490	0.150	1.340	1:80	
F3	83.150	81.335	Conc	1.200	D400	19.400	1.815	0.150	1.665	1:68	
F4	83.200	81.050	Conc	1.200	D400	7.000	2.150	0.150	2.000	1:70	BD = 81.800
▲ F5	83.050	Inlet IL = 80.950	Specialist	2.600	Specialist	104.300	N/A	0.09 O.D PE Pipework	N/A	1: - 320	Rising Main specification by specialist
F6	83.200	82.400	PPIC	0.450	B125	31.000	0.800	0.150	0.650	1:60	
F7	83.200	81.885	Conc	1.200	D400	4.600	1.315	0.150	1.165	1:60	
F8	83.200	82.450	PPIC	0.450	B125	1.000	0.750	0.100	0.650	1:40	
F9	83.350	82.400	PPIC	0.450	B125	17.560	0.950	0.150	0.800	1:60	
F10	83.200	82.107	PPIC	0.600	B125	4.700	1.093	0.150	0.943	1:60	
F11	83.200	82.028	PPIC	0.600	B125	2.750	1.172	0.150	1.022	1:60	
F12	83.200	81.700	PPIC	0.600	B125	1.000	1.500	0.100	1.400	1:10	BD = 82.450
F13	83.200	81.500	PPIC	0.600	B125	1.000	1.700	0.100	1.600	1:10	BD = 82.450
F14	83.200	82.300	PPIC	0.450	B125	1.000	0.900	0.100	0.800	1:10	
F15	83.200	82.100	PPIC	0.450	B125	1.000	1.100	0.100	1.000	1:10	

▲ The pumping station is to be designed to accommodate 24hr breakdown storage.

Issued for Stage 4	JJH	P08	JC	20.09.2024
Issued for Stage 4	JJH	P07	JC	13.09.2024
Issued for Planning	JJH	P06	JC	17.10.2023
Issued for Planning / Stage 4	JJH	P05	JC	14.06.2023
Issued for Stage 3	JJH	P04	JC	03.10.2022
Issued for Stage 3	JJH	P03	JC	08.09.2022
Issued for Stage 3	JJH	P02	JC	29.07.2022
Issued for Planning	JJH	P01	JC	23.03.2022
AMENDMENT	BY	REV	CHK	DATE

Rev P = Preliminary T = Tender C = Construction LCI = Last Construction Issue

In instances where this drawing completes or partly completes a contract, Billinghurst George & Partners will consider that it's product has been validated, unless in a period not exceeding 90 working days, the client advises to the contrary.



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Client Copeland Borough Council							
Project Cleator Moor Innovation Quarter						Project No. 21T2034	
Drawing Title Hub - Manhole Schedule							
Drawn JJH	Date March 2021	Checked JC	Date March 2021	Size A1	Scale N/A	Class. 52	Rev. P08
Location CMIQ	Originator BGP	Volume 05	Level XX	Type DR	Role C	Unique No. 05131	
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