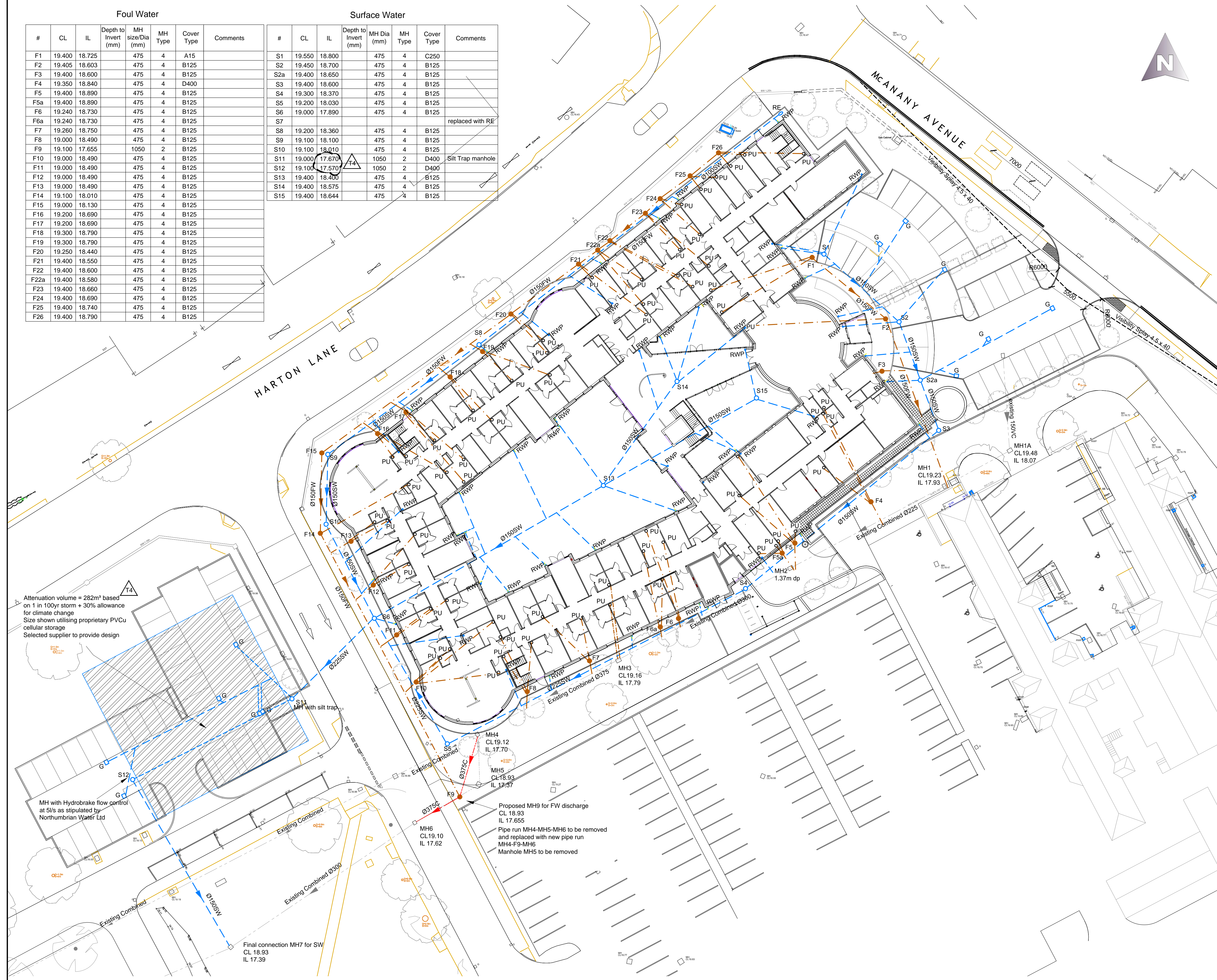


Foul Water							Surface Water								
#	CL	IL	Depth to Invert (mm)	MH size/Dia (mm)	MH Type	Cover Type	Comments	#	CL	IL	Depth to Invert (mm)	MH Dia (mm)	MH Type	Cover Type	Comments
F1	19.400	18.725		475	4	A15		S1	19.550	18.800		475	4	C250	
F2	19.405	18.603		475	4	B125		S2	19.450	18.700		475	4	B125	
F3	19.400	18.600		475	4	B125		S2a	19.400	18.650		475	4	B125	
F4	19.350	18.840		475	4	D400		S3	19.400	18.600		475	4	B125	
F5	19.400	18.890		475	4	B125		S4	19.300	18.370		475	4	B125	
F5a	19.400	18.890		475	4	B125		S5	19.200	18.030		475	4	B125	
F6	19.240	18.730		475	4	B125		S6	19.000	17.890		475	4	B125	
F6a	19.240	18.730		475	4	B125		S7							replaced with RE
F7	19.260	18.750		475	4	B125		S8	19.200	18.360		475	4	B125	
F8	19.000	18.490		475	4	B125		S9	19.100	18.100		475	4	B125	
F9	19.100	17.655		1050	2	B125		S10	19.100	18.010		475	4	B125	
F10	19.000	18.490		475	4	B125		S11	19.000	17.670		1050	2	D400	Silt Trap manhole
F11	19.000	18.490		475	4	B125		S12	19.100	17.570		1050	2	D400	
F12	19.000	18.490		475	4	B125		S13	19.400	18.400		475	4	B125	
F13	19.000	18.490		475	4	B125		S14	19.400	18.575		475	4	B125	
F14	19.100	18.010		475	4	B125		S15	19.400	18.644		475	4	B125	
F15	19.000	18.130		475	4	B125									
F16	19.200	18.690		475	4	B125									
F17	19.200	18.690		475	4	B125									
F18	19.300	18.790		475	4	B125									
F19	19.300	18.790		475	4	B125									
F20	19.250	18.440		475	4	B125									
F21	19.400	18.550		475	4	B125									
F22	19.400	18.600		475	4	B125									
F22a	19.400	18.580		475	4	B125									
F23	19.400	18.660		475	4	B125									
F24	19.400	18.690		475	4	B125									
F25	19.400	18.740		475	4	B125									
F26	19.400	18.790		475	4	B125									



Notes

All levels shown are in metres and are relative to site datum.

Invert levels of all existing chambers and connection points are to be confirmed and engineer advised prior to commencement of any Drainage Works.

All Gully leads are to be Ø150  
Concrete slab is required to all gully leads and to all pipes in highways/hardstanding where cover to pipe <1200mm.

All pipes to be either extra strength V.C. to BS 65 or concrete pipes Class 120 to BS 5911 except where noted

All RWP / pop up positions must be confirmed with architects details.

All existing drainage that is not to be used in the proposed scheme to be grubbed up and removed from site in accordance with current best practices.

Connection to existing sewers by contractor

Attenuation tank sized using WinDes by MicroDrainage. Tank to be manufactured & supplied by others. Actual product will be determined by the available depth following information on invert levels of discharge manholes as requested.

Preliminary Drainage design is based on FFL of 19.55, and an estimated outfall manhole invert level of 17.38.  
Manhole invert levels are to be confirmed prior to finalising the drainage design.  
Attenuation tank is sized on 1 in 30yr storm plus and allowance of 30% for climate change, in the absence of other instruction.

S.H.E.

Do not excavate until all underground services have been identified and marked out. Refer to service providers drawings and to the utilities survey drawings. Unknown underground services may exist. Check for services by carrying out a scan with a cable avoidance tool. (CAT Scan)

Legend

- F1 Foul Water drain
- S1 Surface Water Drain
- Existing Combined Sewer
- PU Drainage pop up (shown indicatively - to be located by Architects)
- RE Rodding Point
- G Gully

Attenuation amended to meet BREEAM requirements	MW	T4	JC	06/01/15
Layout amended in accordance with Architects layout Rev P7	JHH	T3	MW	10/12/14
F9 IL confirmed	MW	T2	JC	05/11/14
Tender Issue	MW	T1	JC	03/11/14
Preliminary for information	MW	P1		03/10/14

AMENDMENT	BY	REV	CHK	DATE
Rev P = Preliminary	T = Tender	C = Construction	AB = As Built	

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

Client  
South Tyneside NHS Foundation Trust

Project  
South Tyneside General Hospital Integrated Care Hub

Drawing Title  
Proposed Drainage Layout

Drawn	MW	Date	02/10/2014
Checked	JC	Date	30/10/14
Scale	1:250	Original Size	A1

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Attenuation volume = 282m<sup>3</sup> based on 1 in 100yr storm + 30% allowance for climate change  
Size shown utilising proprietary PVCu cellular storage  
Selected supplier to provide design

MH with Hydrobrake flow control at 5/s as stipulated by Northumbrian Water Ltd

Proposed MH9 for FW discharge  
CL 18.93  
IL 17.655  
Pipe run MH4-MH5-MH6 to be removed and replaced with new pipe run MH4-F9-MH6  
Manhole MH5 to be removed

Final connection MH7 for SW  
CL 18.93  
IL 17.39