

DO NOT SCALE

Notes

- All works to be carried out in accordance with:
 - Design and Construction Guidance (DCG) and Sewerage Sector Guidance (SSG) for all sewers proposed to be offered for adoption. (note - the SSG replaces Sewers for Adoption (SfA) for all new developments)
 - BS EN 752 - 'Drain and Sewer Systems Outside Buildings'
 - Current applicable Building Regulations
 - BGP Specifications
 - Manufacturer installation guidance and requirements
- All levels shown are in metres and are relative to ordnance datum (m AOD).
- Invert levels of all existing chambers and connection points are to be confirmed and engineer advised prior to commencement of any Drainage Works.
- Where proposed sewers connect into existing sewers, the existing sewers must to be checked for line, level and condition preferably by a CCTV survey
- Concrete bed and surround 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 PVC certified to WIS 4-35-01 and BS/EN13476 'UPONOR ULTRARIB' or concrete pipes Class 120 to BS/EN 1916/BS5911-1 2002.
- Existing sewer positions are indicative and are not to be used in conjunction with design. Contractor to confirm location.
- 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.
- Cover levels shown are indicative and may vary on site. The contractor should adjust levels to suit site conditions
- Other services are not shown on this drawing, however their presence must be anticipated. The contractor is to confirm prior to commencing any works, the location and depth of all services that may affect the works the manufacturers requirements and recommendations.
- All Information provided is for planning purposes only and should not be relied upon for either costing or construction.
- All drainage outfall levels are to be investigated and confirmed prior to detailed design. Engineer to be informed of findings. Current design shown is indicative.
- All Surface water discharge rates and methods of discharge are to be agreed with the Lead Local Flood Authority and Environment Agency.

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.

Legend

- Proposed SW Sewer ----
- Proposed FW Sewer ----
- Nor Beck (Culverted) =====
- Existing SW Sewer -----
- Existing FW Sewer -----
- Existing UU Combined Sewer -.-.-.-.-
- BOC Yard Redline Boundary =====
- Existing UU Sewer Easement
- Proposed Attenuation Tank

Additional Notes

Proposed Impermeable Area = 4470m² (0.4470Ha.)

Brownfield Discharge Rate = **15.0 l/s**

Storage Required = **180m³**

See Drawing CMIQ-BGP-01-XX-DR-C-52-01901 for Discharge Rate Calculations.

Issued for Information	JJH	P04	JC	07.09.2022
Issued for Information	ZW	P03	JC	10.05.2022
Issued for Planning	JJH	P02	JC	04.03.2022
FIRST DRAFT	JJH	P01	JC	11.01.2022
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, Billingham 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.



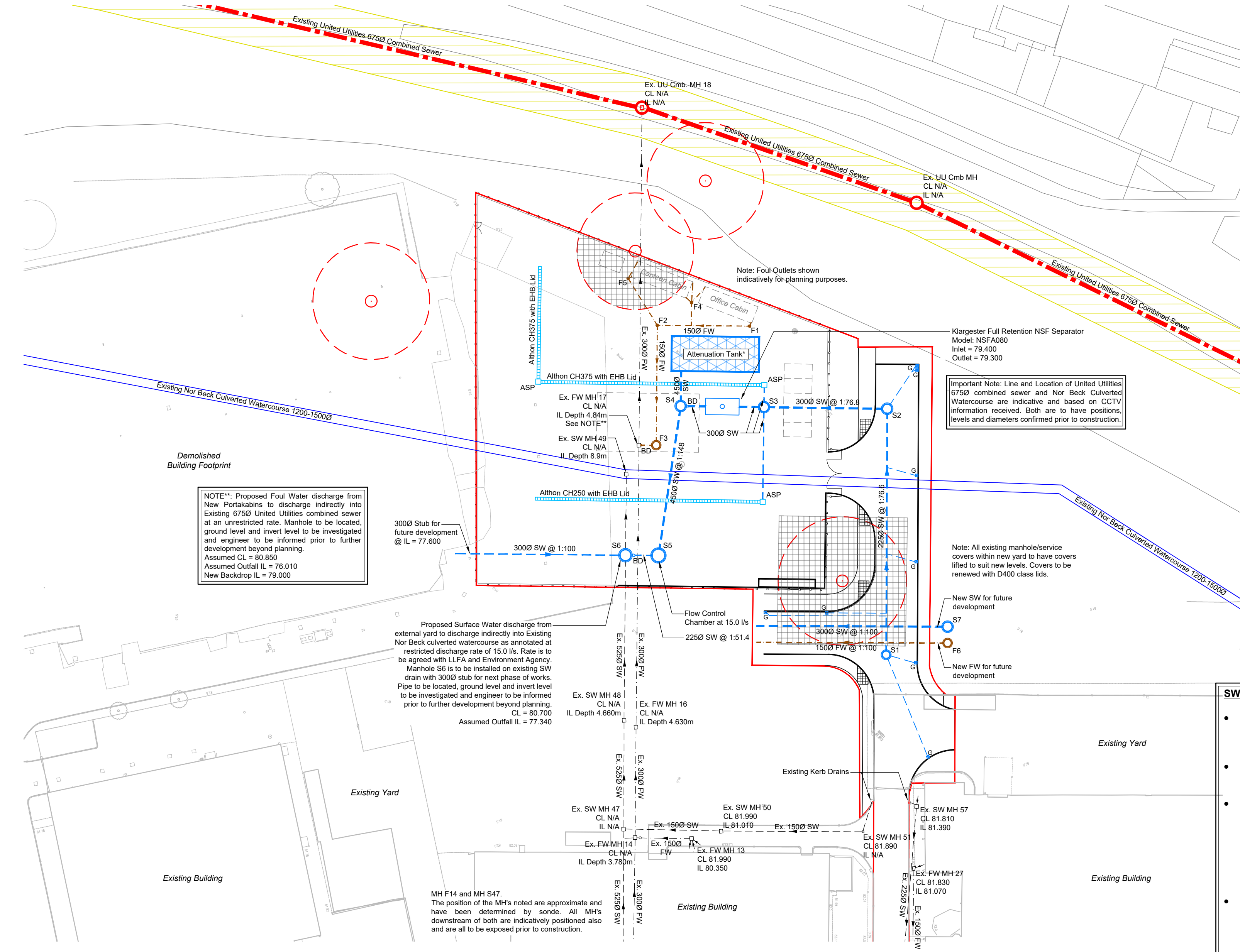
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Client Copeland Borough Council				Project No. 21T2034			
Project Cleator Moor Innovation Quarter - BOC Yard				Drawing Title Drainage Plan			
Drawn JJH	Date Jan 2022	Checked JC	Date Jan 2022	Size A1	Scale 1:500	Class. 52	Rev. P04
Location CMIQ	Originator BGP	Volume 04	Level XX	Type DR	Role C	Unique No. 04130	
File Reference CMIQ-BGP-04-XX-DR-C-52-04130							



SW Drainage Philosophy - BOC Yard

- The proposals comprise the construction of an external yard for storage and distribution purposes on land previously occupied by a service yard.
- The surface water flows are to be restricted to a brownfield discharge rate of 15.0 l/s.
- The surface water drainage design for the new yard is based on 1 in 100 year storm + 40% climate change and SW flows restricted in accordance with brownfield discharge rate noted above which is to be agreed with the LLFA and Environment Agency. The location of SW discharge is to Nor Beck culverted watercourse.
- Surface Water Attenuation has been located prior to the final connection in line with good practice. The attenuation is provided in the form of an attenuation tank which requires an approximate volume of 180m³.
- Surface Water run off from the yard area and access road is to be treated by a petrol interceptor.

*NOTE: 180m³ Storage required based on 1 in 100 year storm + 40% climate change and 15.0 l/s discharge rate.
Tank Depth = 2.0m / Tank Base = 77.700
Tank Dimensions = 6.0m x 15.0m
Vent pipe & access points TBC by Manufacturer.

Manhole S5 Flow Control Details

Hydro-Brake® Optimum Flow Control - Surface/Storm Drainage System
1Nr 157mm Type SH (MD5) Hydro-Brake® Flow Control (Horizontal Discharge)
Technical Criteria: Design / Duty Point Flow = 15,000 l/s Head = 2.250m
Flush-Flo™ Point Flow = 15,000 l/s Head = 0.658m
Kick-Flo® Point Flow = 11,800 l/s Head = 1.353m
Reference: MD-SHE-0157-1500-2250-1500

BOC Yard Reference Drawings

CMIQ-BGP-04-XX-DR-C-52-04101 - Impermeable Areas Plan
CMIQ-BGP-04-XX-DR-C-52-04102 - Flood Exceedance Flow Route
CMIQ-BGP-04-XX-DR-C-90.4-04110 - Externals Plan
CMIQ-BGP-04-XX-DR-C-52-04130 - Drainage Plan

- 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						
MH Ref.	Cover Level	Invert Level	Type	MH Dia.	Cover Type	Comments
S1	81.600	80.375	Conc.	1200	D400	
S2	80.850	79.750	Conc.	1200	D400	
S3	81.000	79.475	Conc.	1500	D400	
S4	81.000	77.625	Conc.	1800	D400	BD = 79.230
S5	81.270	77.450 (Inlet) 77.400 (Outlet)	Conc.	2100	D400	Hydrobrake Flow Control set at 15.0 l/s
S6	81.270	76.500 (TBC prior to construction)	Conc.	1800	D400	BD = 77.340
S7	81.250	79.000	Conc.	1350	D400	MH to serve future development

Foul Water Drainage Manhole Schedule						
MH Ref.	Cover Level	Invert Level	Type	MH Dia.	Cover Type	Comments
F1	81.000	80.000	PPIC	450	D400	
F2	81.000	79.605	PPIC	450	D400	
F3	81.150	79.105	Conc.	1200	D400	
F4	81.025	81.025	PPIC	450	D400	
F5	81.025	81.025	PPIC	450	D400	
F6	81.250	79.250	Conc.	1200	D400	MH to serve future development

