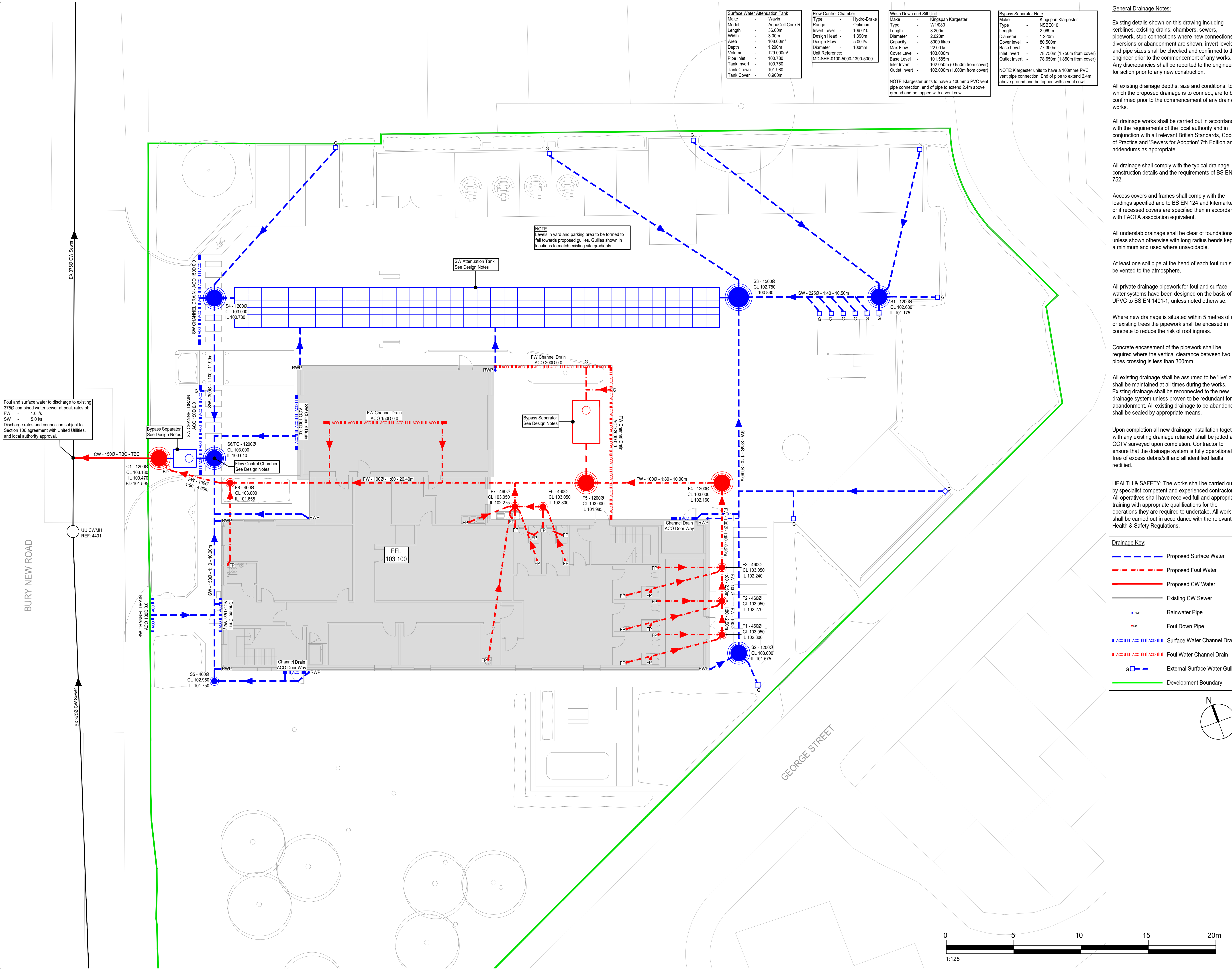




Surface Water Attenuation Tank	
Make	- Wavin
Model	- AquaCell Core-R
Length	- 35.00m
Width	- 3.00m
Area	- 108.00m²
Depth	- 1.200m
Volume	- 123.000m³
Pipe Inlet	- 100.780
Tank Invert	- 100.780
Tank Crown	- 101.980
Tank Cover	- 0.900m

Flow Control Chamber	
Type	- Hydro-Brake
Range	- Optimum
Invert Level	- 106.510
Design Flow	- 1.390m
Capacity	- 8000 litres
Diameter	- 1000mm
Unit Reference	- MD-SHE-0100-5000-1390-5000

Wash Down and Silt Unit	
Make	- Kingspan Klargester
Type	- W1080
Length	- 3.200m
Diameter	- 2.020m
Capacity	- 8000 litres
Max Flow	- 22.00 l/s
Cover Level	- 103.000m
Base Level	- 101.585m
Inlet Invert	- 102.050m (0.950m from cover)
Outlet Invert	- 102.000m (1.000m from cover)

NOTE: Klargester units to have a 100mm PVC vent pipe connection. End of pipe to extend 2.4m above ground and be topped with a vent cowl.

Bypass Separator Note	
Make	- Kingspan Klargester
Type	- NSBE010
Length	- 2.069m
Diameter	- 1.220m
Cover level	- 80.500m
Base Level	- 77.300m
Inlet Invert	- 78.750m (1.750m from cover)
Outlet Invert	- 78.650m (1.850m from cover)

NOTE: Klargester units to have a 100mm PVC vent pipe connection. End of pipe to extend 2.4m above ground and be topped with a vent cowl.

General Drainage Notes:

Existing details shown on this drawing including kerblines, existing drains, chambers, sewers, pipework, stub connections where new connections, diversions or abandonment are shown, invert levels and pipe sizes shall be checked and confirmed to the engineer prior to the commencement of any works. Any discrepancies shall be reported to the engineer for action prior to any new construction.

All existing drainage depths, size and conditions, to which the proposed drainage is to connect, are to be confirmed prior to the commencement of any drainage works.

All drainage works shall be carried out in accordance with the requirements of the local authority and in conjunction with all relevant British Standards, Codes of Practice and 'Sewers for Adoption' 7th Edition and addendums as appropriate.

All drainage shall comply with the typical drainage construction details and the requirements of BS EN 752.

Access covers and frames shall comply with the loadings specified and to BS EN 124 and kitemarked or if recessed covers are specified then in accordance with FACTA association equivalent.

All underslab drainage shall be clear of foundations unless shown otherwise with long radius bends kept to a minimum and used where unavoidable.

At least one soil pipe at the head of each foul run shall be vented to the atmosphere.

All private drainage pipework for foul and surface water systems have been designed on the basis of UPVC to BS EN 1401-1, unless noted otherwise.

Where new drainage is situated within 5 metres of new or existing trees the pipework shall be encased in concrete to reduce the risk of root ingress.

Concrete encasement of the pipework shall be required where the vertical clearance between two pipes crossing is less than 300mm.

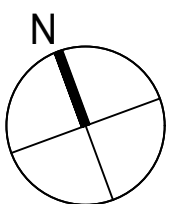
All existing drainage shall be assumed to be 'live' and shall be maintained at all times during the works. Existing drainage shall be reconnected to the new drainage system unless proven to be redundant for abandonment. All existing drainage to be abandoned shall be sealed by appropriate means.

Upon completion all new drainage installation together with any existing drainage retained shall be jetted and CCTV surveyed upon completion. Contractor to ensure that the drainage system is fully operational, free of excess debris/silt and all identified faults rectified.

HEALTH & SAFETY: The works shall be carried out by specialist competent and experienced contractors. All operatives shall have received full and appropriate training with appropriate qualifications for the operations they are required to undertake. All work shall be carried out in accordance with the relevant Health & Safety Regulations.

Drainage Key:

---	Proposed Surface Water
---	Proposed Foul Water
---	Proposed CW Water
---	Existing CW Sewer
●RWP	Rainwater Pipe
●FP	Foul Down Pipe
■ ACO ■ ■ ACO ■ ■ ACO ■ ■	Surface Water Channel Drain
■ ACO ■ ■ ACO ■ ■ ACO ■ ■	Foul Water Channel Drain
G □	External Surface Water Gully
---	Development Boundary



PRELIMINARY		
This drawing is ©Bradshaw Gass & Hope LLP and is not to be copied, reproduced or re-distributed either in whole or in part without the prior written permission of the originator. The originator shall have no responsibility for any liability, loss, cost, damage or expense arising from or relating to any use of this document other than for its intended purpose on this project. This drawing shall be read in conjunction with all other relevant drawings, specifications and associated documentation. Any discrepancies, errors or omissions are to be reported to the originator before proceeding with work. All dimensions are to be checked on site by the contractor prior to proceeding with any work.		
Hazard Identification		
ref	hazard	date
1	DEEP SOAKAWAY MANHOLE	20.04.23
Site Specific Drainage Notes:		
Rainwater pipe and foul down pipe locations to be confirmed by Architect prior to the commencement of drainage works. Design subject to change once known.		
Final external levels to be confirmed. Manhole and inspection cover levels subject to change once final external levels are known.		
Existing combined network (to which the foul and surface water is connecting / discharging) location, size and depth to be confirmed prior to the commencement of any drainage works. Design subject to change once known.		
Connection to 3750 sewer subject to Section 106 agreement with United Utilities. No connection unto approval issued.		
All foul water pipes to be 1000, and all surface water pipes to be 1500 unless shown otherwise.		
Foul water down pipes to have rest bend invert of 450mm below finished floor level, unless stated otherwise.		
Rainwater pipe to have rest bend invert of 600mm below finished floor level unless stated otherwise.		
Surface and foul water discharge to sewer subject to Section 106 agreement with United Utilities. No drainage work to commence until approval has been received.		
All existing drainage found on-site to remain live unless proven to be redundant. Survey of existing drainage to establish network to be carried out prior to the commencement of work on site.		
Drainage Specifications		
Foul water pipes to be Polypipe to BS EN 1401-1 or similar.		
Surface water pipes to be Polypipe Rigidrain or similar.		
Manholes to be Precast Concrete by FP McCann or similar		
Inspection chambers to be Polypipe or similar.		
Channel and Threshold Drains by ACO or similar.		
Flow control to be Hydro-Brake by Hydro International or similar.		
Attenuation tank to be WAVIN AquaCell Core-R or similar.		
P2	LAYOUT AND TANK AMENDMENTS	MDS 28.06.23
P1	FIRST ISSUE	MDS 21.04.23
ref	revision	by date
 Architects Consulting Engineers Quantity Surveyors 21 Silverwell Street Bolton BL1 1PR t: 01204 525321 email@bghbolton.co.uk www.bghbolton.co.uk		
Bradshaw Gass & Hope LLP		
client	GREATER MANCHESTER COMBINED AUTHORITY	
project	WHITEFIELD FIRE STATION	
drawing	PROPOSED DRAINAGE LAYOUT	
drawn by	MDS	date 20.04.23
checked by	BH	date
scale	1:125	A1
dwg no	1978.35.400-WHITEF	rev P2