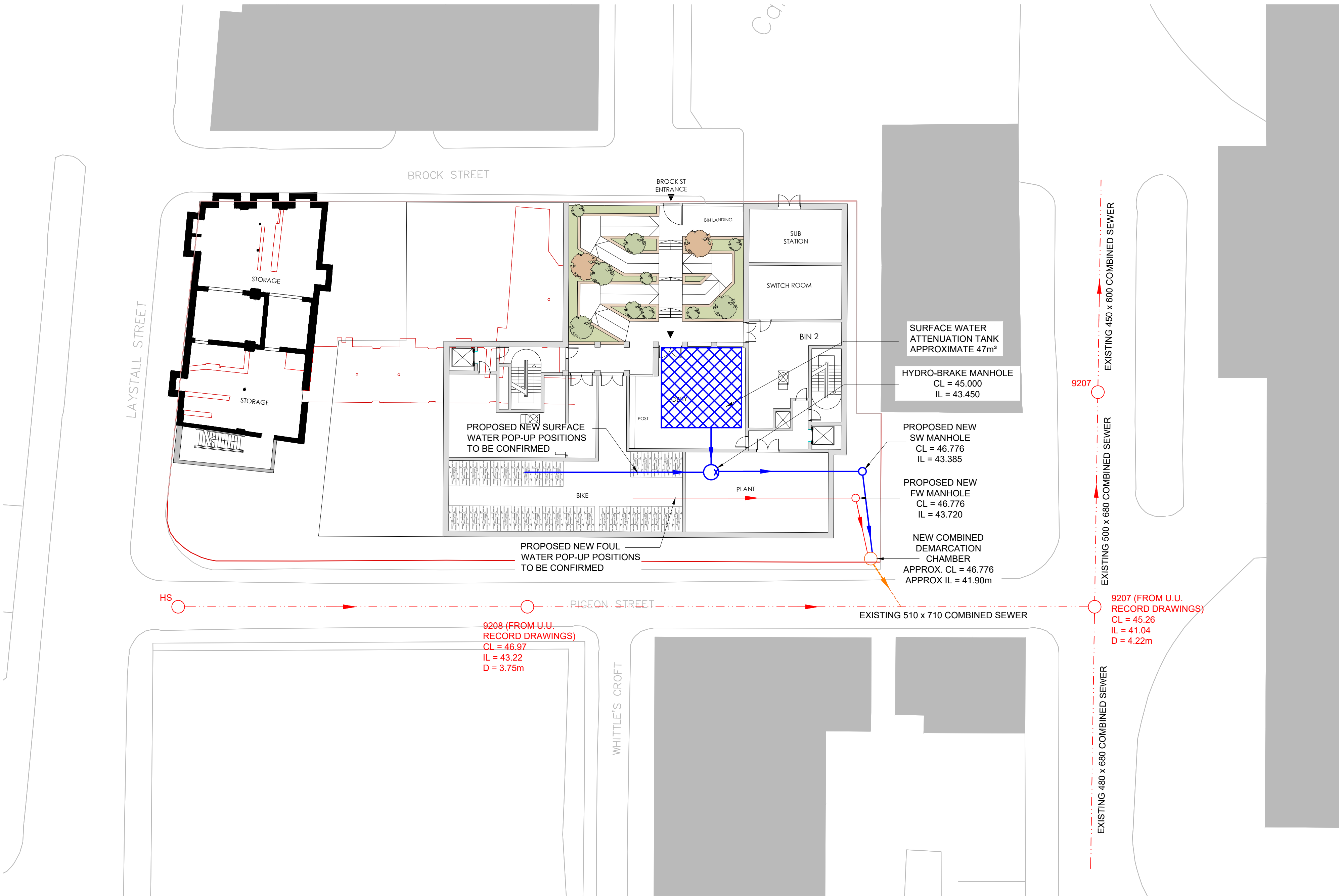




SURFACE WATER STRATEGY:
BASED ON CONTROLLED MAXIMUM PEAK DISCHARGE FROM THE NEW DEVELOPMENT OF 5.0L/S AND CONSIDERING THE AREAS SUPPORTED, SURFACE WATER IS TO BE STORED FOR THE PEAK STORM EVENTS IN A REINFORCED CONCRETE ATTENUATION TANK PROVIDING APPROXIMATELY 47m³ OF SURFACE WATER STORAGE (SUBJECT TO DETAILED DESIGN CALCULATIONS.)

THIS IS A THEORETICAL PRELIMINARY DESIGN AS ASSUMPTIONS MADE MUST BE CONFIRMED (I.E. LEVELS, AREAS SUPPORTED). CONSTRUCTION STAGE DESIGN IS SUBJECT TO DETAILED DESIGN. DO NOT CONSTRUCT FROM THIS DRAWING.

FOUL WATER STRATEGY:
BASED ON ARCHITECTURAL LAYOUTS AT THE TIME OF ISSUE, THE ESTIMATED PEAK FOUL FLOW IS 13.8 l/s.

DETAILS SHOWN ARE SUBJECT TO CONFIRMATION OF LAYOUTS, ABOVE GROUND DRAINAGE, CONFIRMATION OF EXISTING DRAINAGE INFRASTRUCTURE DETAILS AND AGREEMENTS FROM ALL REGULATORY BODIES.

THE SCHEME SHOWN ASSUMES THIS IS A GRAVITY DRAINAGE SYSTEM AND NO PUMP IS REQUIRED.

MANHOLE DEPTHS, CONDITIONS AND CONSTRUCTION TO BE CONFIRMED

KEY:	
	NEW COMBINED SEWER
	EXTG. COMBINED SEWER
	NEW FOUL WATER RUN
	NEW SURFACE WATER RUN
	NEW SURFACE WATER ATTENUATION TANK
	EXISTING COMBINED MANHOLE: CL = 45.26m IL = 41.04m D = 4.22m
	EXISTING COMBINED MANHOLE: CL = 46.97m IL = 43.22m D = 3.75m

- NOTES:
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER ENGINEER'S AND ARCHITECT'S DRAWINGS, DETAILS AND SPECIFICATIONS.
 - OWNERSHIP OF PIPE NETWORKS ARE TO BE CONFIRMED PRIOR TO ANY DIVERSION WORKS.
 - THIS DRAWING INDICATES DRAINAGE PRINCIPLES AND STRATEGY ONLY AND FURTHER DETAIL DESIGN IS REQUIRED FOLLOWING CONFIRMATION OF BUILDING SET OUT, PROPOSED LEVELS, PROPOSED INTERNAL POP UPS AND FURTHER DISCUSSIONS WITH ALL RELEVANT PARTIES REGARDING ALLOWABLE DISCHARGE.
 - EXISTING BROWNFIELD DISCHARGE RATES HAVE BEEN CALCULATED AS FOLLOWS:

1 IN 1 YEAR STORM EVENT	=	11.4L/S
1 IN 30 YEAR STORM EVENT	=	27.9L/S
1 IN 100 YEAR STORM EVENT	=	35.9L/S
 - EXISTING DIGREENFIELD DISCHARGE RATES HAVE BEEN CALCULATED AS FOLLOWS:

1 IN 1 YEAR STORM EVENT	=	0.84L/S
1 IN 30 YEAR STORM EVENT	=	1.63L/S
1 IN 100 YEAR STORM EVENT	=	2.00L/S
QBAR VALUE	=	0.96L/S
 - GIVEN THE ABOVE CALCULATIONS IT IS PROPOSED TO RESTRICT FLOWS FROM THE SITE TO A MINIMUM DISCHARGE RATE OF 5.0L/S, WHICH IS THE RECOMMENDED MINIMUM OF THE AVOIDANCE OF BLOCKAGES. THIS REPRESENTS AN 86% IMPROVEMENT IN THE CURRENT WORST CASE 1 IN 100 YEAR STORM EVENT, WITH NO CALCULATED INCREASE FOR CLIMATE CHANGE.
 - DURING THE DETAILED DESIGN PHASE, ALL STORM EVENT DURATIONS WILL BE MODELLED TO DETERMINE THE FINAL STORAGE REQUIREMENT FOR THE DEVELOPMENT, HOWEVER INITIAL ESTIMATES SUGGEST THAT 47m³ WILL BE REQUIRED TO PREVENT FLOODING IN ALL STORM EVENTS UP TO AND INCLUDING 1 IN 100 YEAR PLUS 40% CLIMATE CHANGE.
 - ALL PROPOSED RESTRICTED FLOW RATES AND CONNECTION POINTS WILL BE SUBJECT TO UNITED UTILITIES AGREEMENT AND APPROVAL.
 - FOUL WATER FLOW RATES ARE ESTIMATED IN ACCORDANCE WITH BS EN 752:2008 AND DESIGNED FOR PEAK FLOW RATES.
 - UNITED UTILITIES CONFIRMATION OF APPROVAL FOR THE FLOW RATE ENTERING THE PUBLIC SEWER WILL BE REQUIRED TO PROCEED WITH THE DETAILED DESIGN.
 - ALL EXISTING ON-SITE DRAINAGE (ABANDONED OR LIVE) TO BE IDENTIFIED AND TERMINATED AT SITE BOUNDARY UNO.

DRAINAGE GA
SCALE 1:200

CONCEPT ISSUE ONLY - DO NOT CONSTRUCT FROM THIS DRAWING

P2	05.10.20	REVISED TO LATEST SCHEME	ANC	JP	CJA
P1	07.06.19	ISSUED FOR INFORMATION	ANC	JP	CJA
Rev	Date	Description	By	Check	App.

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Client	McCAULS
Project	LAYSTALL STREET
Office	ALTRINCHAM
Discipline	CIVIL
Title	DRAINAGE DESIGN STRATEGY
Scale @ A1	AS NOTED
Status	INFORMATION



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Originator	Job Number	Discipline	Building/Zone
CCL	1-20445	C	LAY
Type	Level	Drawing No.	Revision
GA	DRN	002	P2