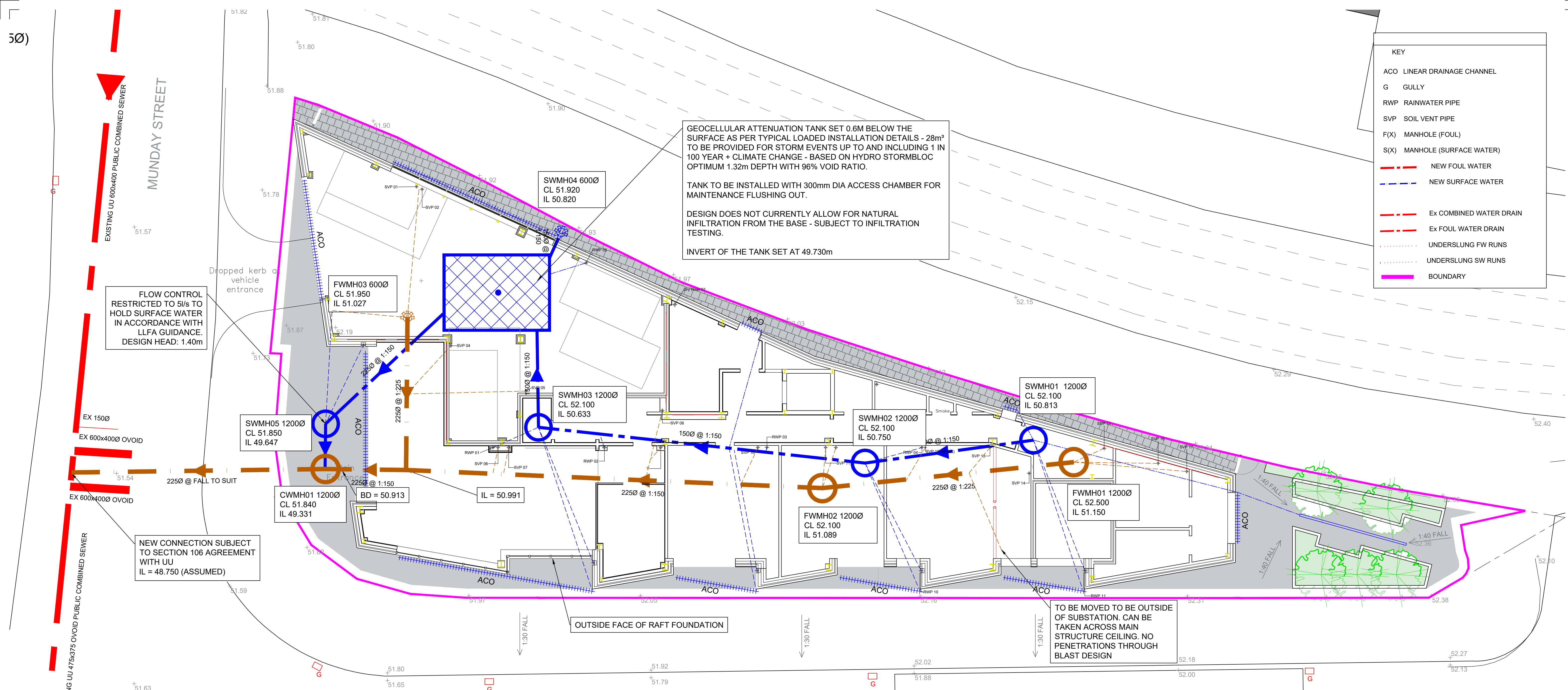




NOTES:

- 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.
- THE DEVELOPMENT HAS BEEN CONSIDERED AS GREENFIELD IN ACCORDANCE WITH LLFA GUIDANCE.
- DURING THE DETAILED DESIGN PHASE, ALL STORM EVENT DURATIONS UP TO AND INCLUDING 6 HOURS WILL BE MODELED TO DETERMINE THE FINAL STORAGE REQUIREMENT FOR THE DEVELOPMENT.
- 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.

SW DISPOSAL HIERARCHY STATEMENT

- USE ON SITE** - SUBJECT TO DETAILED DESIGN AND INPUT FROM M&E CONSULTANTS. POSITIONING OF GREYWATER TANKS MAY PROVE DIFFICULT. MAY PROVE TO BE ONLY USED IN CONJUNCTION WITH OTHER OPTIONS.
- INFILTRATION** - LIMITATIONS OF LOCATION DUE TO CLEARANCE REQUIREMENTS FROM FOUNDATIONS AND BOUNDARY LINES. INFILTRATION TESTS TO BE CARRIED OUT TO DETERMINE FEASIBILITY.
- DISCHARGE TO WATERCOURSE** - DISTANCE TO NEAREST WATERCOURSE WOULD ENTAIL CROSSING THIRD PARTY LAND.
- DISCHARGE TO SURFACE WATER SEWERS** - NO SURFACE WATER SEWER WITHIN PROXIMITY OF THE DEVELOPMENT.
- DISCHARGE TO COMBINED SEWER** - THIS IS CURRENTLY THE FEASIBLE OPTION WITH A COMBINED SEWER BELOW MUNDAY STREET.

SURFACE WATER STRATEGY:

THE DEVELOPMENT HAS BEEN CLASSIFIED BY MANCHESTER CITY COUNCIL AS GREENFIELD AND THE MAXIMUM SURFACE WATER DISCHARGE FROM THE SITE IS TO BE 5l/s. DISCHARGE IS TO CONNECT TO THE FOUL AT A DEMARCATION CHAMBER LOCATED WITHIN THE SITE BOUNDARY BEFORE DISCHARGING INTO THE PUBLIC SEWER BELOW MUNDAY STREET.

BASED ON AREAS SUPPORTED, MAXIMUM TOTAL STORAGE VOLUME OF 33m³ IS REQUIRED FOR THE SYSTEM FOR ALL STORM EVENTS UP TO AND INCLUDING THE 1:100 YEAR STORM + 40% CLIMATE CHANGE TO BE CONTAINED BELOW GROUND. 28m³ OF THIS IS PROVIDED BY THE ATTENUATION TANK, THE REMAINDER PROVIDED BY THE NETWORK OF MANHOLES AND PIPES.

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:

THIS WILL BE COLLECTED ON SITE THROUGH A SEPERATE FOUL DRAINAGE SYSTEM WHICH COMBINES WITH THE SURFACE WATER AT THE BOUNDARY OF THE SITE - DOWNSTREAM OF THE FLOW CONTROL CHAMBERS. THE ESTIMATED PEAK FOUL FLOW IS SUBJECT TO CONFIRMATION OF NUMBERS AND LAYOUTS OF ROOMS.

THE INDICATIVE DRAINAGE ARRANGEMENTS SHOWN ON EACH PLOT IS SUBJECT TO COORDINATION WITH THE ARCHITECT AND LANDSCAPE ARCHITECT FOR LEVELS, M&E CONSULTANT FOR POP-UPS.

THIS DRAWING IS FOR INFORMATION ONLY AND IS SUBJECT TO FURTHER DISCUSSIONS WITH THE RELEVANT AUTHORITIES AND SUBSEQUENT FURTHER DETAILED DESIGN - DO NOT CONSTRUCT FROM THIS DRAWING.

IT IS PROPOSED TO FORM A CONNECTION TO THE LIVE SEWER OUTSIDE THE DEVELOPMENT AS SHOWN SUBJECT TO FURTHER CCTV INVESTIGATIONS.

SHOULD THE RESULTS OF THIS CONCLUDE THAT THE CONNECTION IS NOT VIABLE, A NEW CONNECTION AND MANHOLE WILL BE REQUIRED RESULTING IN POTENTIAL ROAD CLOSURES.

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

THE STRATEGY SHOWN IS SUBJECT TO CONFIRMATION OF THE EXISTING DRAINAGE INFRASTRUCTURE (LEVELS, FALLS, PIPE DIAMETERS, ETC).

THE STRATEGY ASSUMES DUE TO LEVELS, PUMPING WILL NOT BE REQUIRED.

PUMPING WOULD REQUIRE AN ALARM SYSTEM, A STANDBY PUMP AND 24 HOUR STORAGE AS MINIMUM REQUIREMENTS.

ALL MANHOLES ARE REQUIRED TO BE INSTALLED WITH A 300mm DEEP SUMP TO ACT AS A SEDIMENT TRAP.

03	24.03.23	FINALISED FLOOR PLANS	OB	MD	BRH
02	24.01.23	COUNCIL COMMENTS	OB	MD	BRH
01	11.11.22	ISSUED FOR INFORMATION	OB	MD	BRH
Rev	Date	Description	By	Check	App.

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Client	FORVIVA DEVCO LIMITED
Project	BOWLERS YARD LIVERPOOL
Office	LIVERPOOL
Discipline	CIVIL
Title	DRAINAGE STRATEGY
Scale at A1	1-100
Status	INFORMATION



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Job Number	Originator	Building/Zone	Level
4/8578	CCL	ALL	DRN
Type	Discipline	Drawing No.	Revision
GA	C	050	03