NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RENAISSANCE, ARCHITECTS, LANDSCAPE ARCHITECTS AND BUILDING SERVICES ENGINEERS DRAWINGS.
2. REFER TO DRAWING BRW-REN-ZZ-FN-DR-C-01101 FOR BELOW GROUND FOUL WATER DRAINAGE DETAILS.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE BELOW GROUND DRAINAGE SPECIFICATION SP-C-00050 AND DETAILS SHOWN ON DRAWINGS C-03101, C-03102, C-03103, C-03104 & C-03105.
4. FOR ALL ABOVE GROUND DRAINAGE AND ASSOCIATED PUMPS REFER TO BUILDING SERVICES AND ARCHITECT'S DRAWINGS.
5. ALL BELOW GROUND DRAINAGE WORKS TO BE IN ACCORDANCE WITH RELEVANT BUILDING REGULATIONS AND SEWER SECTOR GUIDANCE APPENDIX C- DESIGN AND CONSTRUCTION GUIDANCE. IF DISCREPANCIES ARE NOTED BETWEEN SSG AND DRAWINGS THESE SHOULD BE BROUGHT TO THE ATTENTION OF RENAISSANCE FOR REVIEW.
6. RWPs, SVPs, SSs AND FLOOR GULLEYS ARE TO HAVE RODDABLE ACCESS POINTS ABOVE GROUND FLOOR TO BUILDING SERVICES DETAILS.
7. THE CONTRACTOR IS TO UNDERTAKE A FULL CCTV SURVEY AT COMPLETION OF THE PROJECT TO DEMONSTRATE THAT THE DRAINAGE IS CLEAN. ANY DEFECTS ARE TO BE CORRECTED BY THE CONTRACTOR PRIOR TO HANDOVER OF THE SYSTEM TO THE CLIENT.
8. THE CONTRACTOR IS TO KEEP A RECORD SET OF THE AS INSTALLED DRAINAGE ON SITE AND PROVIDE THIS TO RENAISSANCE UPON COMPLETION OF THE WORKS TO ALLOW FOR PRODUCTION OF A 'FINAL CONSTRUCTION' ISSUE DRAWING.
9. DURING THE WORKS ALTERATIONS TO THE DRAINAGE LAYOUT ARE TO BE MARKED UP BY THE CONTRACTOR AND AGREED WITH RENAISSANCE IN WRITING.
10. THE CHAMBER SIZE OF PCC MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED AN INCREMENT TO ACCOMMODATE THE CONNECTIONS AND BENDS.
11. MANHOLE COVERS ARE TO BE ACCORDANCE WITH BS EN 124 FOR THE RATING INDICATED IN THE MANHOLE SCHEDULE. THE CONTRACTOR IS TO SUBMIT DETAILS FOR THE PROPOSED MANHOLE COVERS TO THE ENGINEER AND LANDSCAPE ARCHITECT FOR REVIEW PRIOR TO INSTALLATION.
12. ALL INTERNAL COVERS TO BE RECESSED AND TRIPLE SEALED
13. COVER SLABS MUST CARRY THE BSI KITEMARK. WHERE THE CLEAR OPENING OF THE KITEMARKED PRODUCT IS DIFFERENT TO THAT OF THE COVER AND FRAME, A LOAD BEARING REDUCING SLAB SHOULD BE FITTED ABOVE THE COVER SLAB TO BRING THE SIZE DOWN TO REQUIRED SIZE.
14. ALL SEWERS TO BE BSI KITEMARK (CERTIFIED TO WIS 4-35-01)
15. ALL CONCRETE PIPES TO BE TO ES EN 1916 CLASS 120 (54kN/m).
16. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENTS OF THE WATER INDUSTRY SPECIFICATION 4-08092 (TABLE A2).
17. IF PLASTIC PIPES ARE TO BE USED THEN THE FOLLOWING MUST APPLY:
    A. BSI KITEMARK (CERTIFIED TO BS EN 13476-1 AND WIS 4-35-01)
    B. PIPES LESS THAN OR EQUAL TO 500mm DIA
    C. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENTS OF THE WATER INDUSTRY SPECIFICATION 4-08092 (TABLE A2)
17. THE MINIMUM CRUSHING STRENGTH FOR CLAY PIPES SHOULD BE AS FOLLOWS: 100mm DIA. 40kN/m, 150mm DIA. 40kN/m, 225mm DIA. 45kN/m AND 300mm DIA. 72kN/m.
18. THE MINIMUM CRUSHING STRENGTH FOR CONCRETE PIPES SHOULD BE - (CLASS 120 TO EN 1916/BS5911-1 2002). PLASTIC PIPES SHOULD CONFORM TO WIS 4-35-01 AND BS EN13476.
19. SULPHATE RESISTANT CEMENT (C20-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVIDING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
20. SEWER PIPES TO BE LAID IN MAXIMUM 3 METER LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER PIPES, AND THIS IS AGREED BY THE CONTRACTOR WITH THE PIPE MANUFACTURER.
21. ALL FOUL AND SURFACE WATER BELOW GROUND SYSTEMS ARE TO BE VENTED WITHIN THE ABOVE GROUND DRAINAGE TO THE BUILDING SERVICES ENGINEERS DETAILS.

CDM NOTES

IN ADDITION TO THE NORMAL HAZARDS AND RISK NORMALLY ASSOCIATED WITH WORKS OF THIS NATURE, NOTE THE FOLLOWING ABNORMAL RISKS:

SOIL CONTAMINATION

HEAVY METAL, PAH AND ASBESTOS CONTAMINATION IDENTIFIED WITHIN THE MADE GROUND. MINOR HEAVY METAL AND NON-METAL CONTAMINATION IDENTIFIED WITHIN PERCHED GROUNDWATER. (1)

STRIKING UXO OR BURIED SERVICES

SITE ENABLING WORKS PACKAGE REQUIRED TO CLEAR LIVE SERVICES AND UXO RISK (2)

PERCHED WATER TABLE

ALLOW FOR LOCALISED DEWATERING DURING ALL SUBSTRUCTURE WORKS. (3)

REFERENCE SHOULD BE MADE TO BROWNFIELD SOLUTIONS LTD SITE INVESTIGATION FOR GROUND CONDITIONS AND PERCHED GROUND WATER TABLES. CONTRACTOR SHOULD MAKE ALLOWANCE FOR TEMPORARY DEWATERING TRENCH SUPPORT WORKS PRIOR TO CONSTRUCTION.

RIBA STAGE 4+

THIS DRAWING IS INTENDED TO COMMUNICATE THE INTERIM PROGRESS OF THE TECHNICAL DESIGN AND IS APPROPRIATE FOR RIBA STAGE 4+

A DESIGN CONTINGENCY OF 10-15% IS RECOMMENDED TO ALLOW FOR DESIGN DEVELOPMENT DURING RIBA STAGE 5 AND TO REFLECT INPUT FROM THE CONTRACTOR DESIGNED PACKAGES. THIS DRAWING HAS BEEN DEVELOPED WITHOUT FULL STAGE 4 INFORMATION FROM THE WIDER DESIGN TEAM.

EXISTING ONSITE PRIVATE DRAINAGE

ALL EXISTING ONSITE PRIVATE DRAINAGE IS TO BE GRUBBED UP AND SUITABLY CAPPED AT THE SITE BOUNDARY. PRIOR TO DISCONNECT/ REMOVAL THE DRAINAGE SHOULD BE SURVEYED TO CONFIRMED IT IS REDUNDANT.

SVP & RWP SETTING OUT AND CALCULATIONS

SVP AND RWP LOCATIONS ARE INDICATIVE FOR DETAILED SETTING OUT REFER TO ARCHITECTS DRAWINGS. ALL UNDER SLAB DRAINAGE IS IN ABEYANCE UNTIL SETTING OUT OF ALL SVPs, STACKS AND RWPs IS CONFIRMED BY THE ARCHITECT AND M&E ENGINEERING. ALL CONNECTIONS BETWEEN ABOVE GROUND DRAINAGE TO BE SIZED TO SUIT ABOVE GROUND DRAINAGE. FOUL WATER DRAINAGE IS SUBJECT TO CHANGE UNTIL SVP DISCHARGE UNITS ARE CONFIRMED BY THE M&E ENGINEER.

ATTENUATION TANK

SUPPLIER TO UNDERTAKE DETAILED DESIGN OF ATTENUATION TANKS. ALLOW FOR VENT PIPES AND INSPECTION CHAMBERS TO SUIT SUPPLIERS DETAILS AND REQUIREMENTS.

COVER LEVELS

LANDSCAPE ARCHITECT TO VALIDATE COVER LEVELS IN ALL EXTERNAL AREAS. ARCHITECT TO VALIDATE COVER LEVELS IN ALL INTERNAL AREAS.

EXTERNAL WORKS AND DRAINAGE

ALL EXTERNAL LEVELS, CHANNEL DRAINS, GULLIES ETC ARE TO BE CONFIRMED AND SET OUT BY THE LANDSCAPE ARCHITECT.

ALL CHANNELS AND GULLIES ARE TO INCLUDE A SILT TRAPS.

COMMERCIAL UNIT DRAINAGE

ANY FOOD AND BEVERAGE USE TO THE COMMERCIAL UNITS IS TO INCORPORATE GREASE TRAPS WITHIN THE ABOVE GROUND DRAINAGE NETWORK TO REDUCE THE RISKS OF BLOCKAGE WITHIN THE BELOW GROUND DRAINAGE NETWORKS.

TREES

THE DESIGN OF LANDSCAPING SHOULD BE UNDERTAKEN AT THE SAME TIME AS THE DESIGN OF THE DRAINAGE SO THAT THE IMPACT OF TREE ROOTS ON THE DRAINAGE CAN BE CONSIDERED. A SEWER OR LATERAL DRAIN SHOULD NOT BE LOCATED CLOSER TO TREES/BUSHES/SHRUBS THAN THE CANOPY WIDTH AT MATURE HEIGHT, EXCEPT WHERE SPECIAL PROTECTION MEASURES ARE PROVIDED, IN ACCORDANCE WITH B7.6 OF THE SEWER SECTOR GUIDANCE APPENDIX C. A TREE SHOULD NOT BE PLANTED DIRECTLY OVER SEWERS OR WHERE EXCAVATION ONTO THE SEWER WOULD REQUIRE REMOVAL OF THE TREE

SWIMMING POOL

POOL SPECIALIST TO CONFIRM RISING MAIN LOCATIONS, POWER SUPPLIES AND ALARMS LOCATIONS WITH THE ARCHITECT AND BUILDING SERVICES ENGINEER.

APPROVAL

DRAINAGE DESIGN AND DRAWING IS PRELIMINARY, SUBJECT TO CONFIRMATION FROM UNITED UTILITIES AND MANCHESTER CITY COUNCIL ON ACCEPTANCE OF DISCHARGE RATES, CONNECTIONS AND SUDS.

Rev:	Description:	Date:	By:	Chkd:
P04	UPDATED FOR LANDSCAPE PROPOSALS	12.02.24	JB	BH
P03	STAGE 4+ UPDATE TO SUIT FOUNDATIONS LEVELS AND BLOCK C&D AGD COORDINATION.	25.10.23	JB	PC
P02	STAGE 4 ISSUE	13.09.23	JB	PC
P01	STAGE 3 ISSUE	30.06.23	SA	PC

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Project:

BODDINGTONS BREWERY, MANCHESTER

Drawing Title:

BELOW GROUND SURFACE WATER DRAINAGE PLAN

Status:

STAGE 4

Size:	Date:	Drawn by:	Designed by:	Checked by:
A0	JUN 23	SA	HW	PC

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