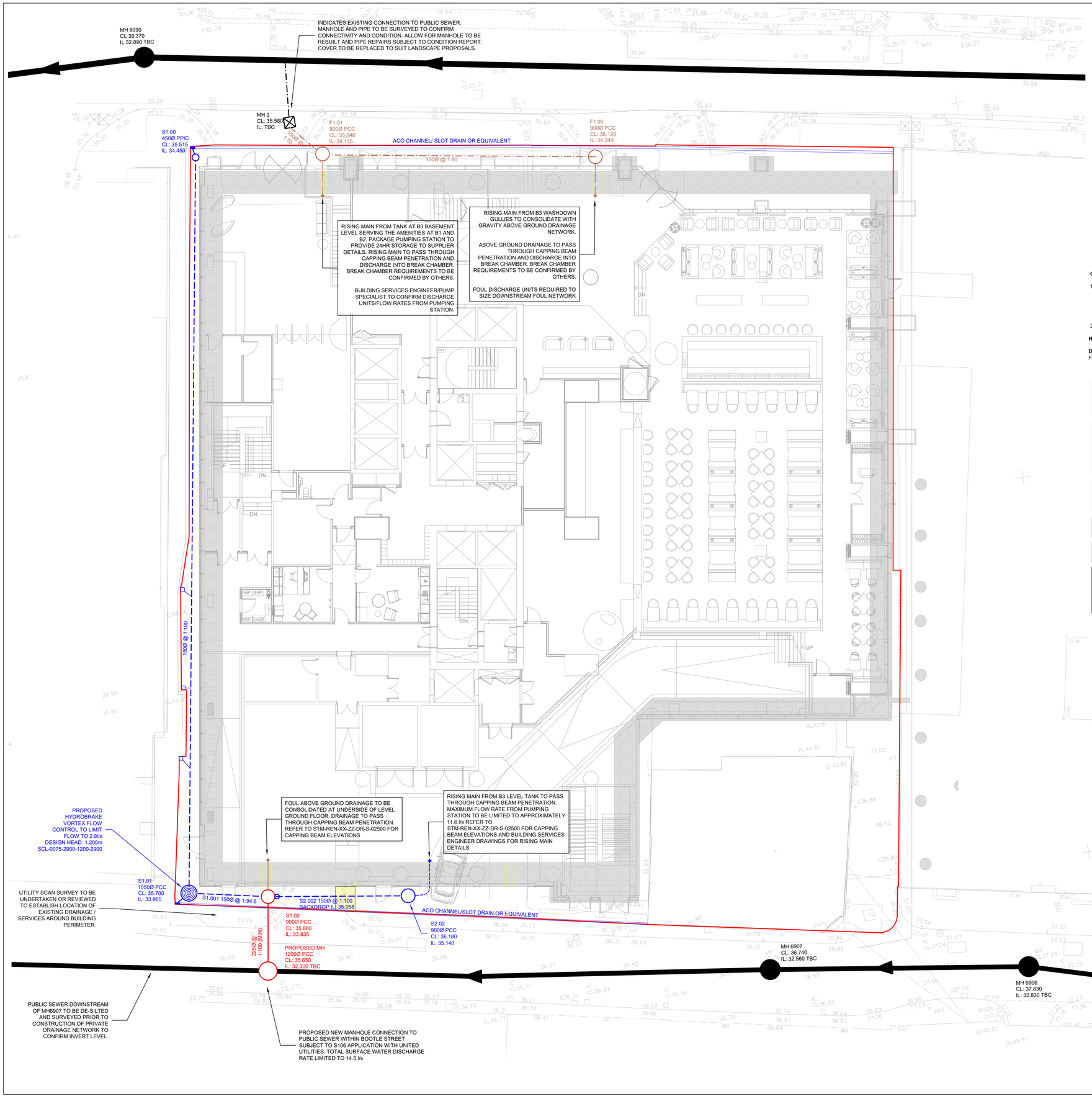


LEGEND	
REF	DESCRIPTION
	SITE PLANNING BOUNDARY
	PUBLIC COMBINED WATER SEWER
	PROPOSED PRIVATE SURFACE WATER DRAINAGE (100Ø @ 1:100 UNO)
	PROPOSED PRIVATE FOUL WATER DRAINAGE (100Ø @ 1:40 UNO)
	PROPOSED PRIVATE COMBINED WATER DRAINAGE (100Ø @ 1:100 UNO)
	INDICATIVE CHANNEL/ SLOT DRAINS
■G	INDICATIVE YARD GULLY
	INDICATIVE EXTENT OF SERVICE TRENCH - REFER TO BUILDING SERVICES ENGINEERS TRENCHING DRAWINGS FOR DETAILS
	INDICATIVE EXTENT OF CAPPING BEAM PENETRATIONS

CDM NOTES:

1. REFER TO BELOW GROUND SURVEYS AND UTILITY RECORDS DRAWINGS FOR KNOWN PAVEMENT SERVCIES. DESIGN ASSUMES THAT SERVICES CAN BE TEMPORARILY SUPPORTED OR DIVERTED TO ALLOW INSTALLATION OF DRAINAGE WHERE THERE ARE CONFLICTS. MANHOLE POSITIONS HAVE BEEN LOCATED TO AVOID EXISTING KNOWN SERVICES.
2. FOR GROUND CONDITIONS, REFER TO WSP Prelim SI Nov 2016.

HEALTH AND SAFETY:

DEEP EXCAVATIONS: TEMPORARY EARTH RETAINING WORKS REQUIRED FOR FOUNDATION EXCAVATIONS AT SITE BOUNDARIES

LANDSCAPE ARCHITECT INPUT
THE DRAINAGE INDICATE ON THIS DRAWING HAS BEEN PRODUCED WITH NO INPUT FROM THE LANDSCAPE ARCHITECT. ALL LEVELS, GULLEY CHANNEL DRAIN AND MANHOLE LOCATIONS ARE ALL INDICATIVE SUIBJECT TO ADJUSTMENT AND ALTERATION AT RIBA STAGE 4.

SVP & RWP SETTING OUT
THE DRAINAGE UNDICATED ON THIS DRAWING HAS BEEN DEVELOPED WITHOUT THE INPUT FROM BUILDING SERVICES ENGINEER INPUT. ASSUMED THAT ALL ABOVE GROUND DRAINAGE WILL BE CONSOLIDATED AT UNDERSIDE AT GROUND FLOOR SLAB AND DISCHARGE INTO CONCRETE TANK.

ALL CONNECTIONS BETWEEN ABOVE GROUND DRAINAGE AND BELOW GROUND DRAINAGE TO BE SIZED TO SUIT ABOVE GROUND DRAINAGE.

EXTERNAL WORKS SETTING OUT
FOR PROPOSED SITE LEVELS REFER TO LANDSCAPE DRAWINGS. CHANNELS/ GULLY LOCATIONS TO LANDSCAPE ARCHITECT SPECIFICATION UNLESS NOTES OTHER WISE.

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

SWIMMING POOL:
TRADE EFFLUENT DISCHARGE CONSENT ASSOCIATED WITH POOL DRAIN DOWN TO BE MANAGED BY POOL SPECIALIST.

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.

NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RENAISSANCE, ARCHITECTS, LANDSCAPE ARCHITECTS AND BUILDING SERVICES ENGINEERS DRAWINGS.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE BELOW GROUND DRAINAGE SPECIFICATION SP-C-00050 AND DETAILS SHOWN ON DRAWING SERIES C-03100 & C-03101 TO C-03102.
3. THE FINAL CONNECTIONS TO THE PUBLIC SEWER ARE SUBJECT TO UNITED UTILITIES APPROVAL AND ARE TO BE IN ACCORDANCE WITH THEIR AGREED DETAILS.
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. 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.
7. 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.
8. DURING THE WORKS ALTERATIONS TO THE DRAINAGE LAYOUT ARE TO BE MARKED UP BY THE CONTRACTOR AND AGREED WITH RENAISSANCE IN WRITING.
9. 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.
10. MANHOLE COVERS ARE TO BE IN 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.
11. ALL INTERNAL COVERS TO BE RECESSED AND TRIPLE SEALED
12. 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.
13. ALL SEWERS TO BE BSI KITEMARK (CERTIFIED TO WIS 4-35-01)
14. ALL CONCRETE PIPES TO BE TO ES EN 1916 CLASS 120 (54kN/m).
15. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENTS OF THE WATER INDUSTRY SPECIFICATION 4-08092 (TABLE A2).
16. 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)
19. 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.
20. 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.
21. SULPHATE RESISTANT CEMENT (C20-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVIDING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
22. 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.
23. FLOW CONTROL IS INDICATIVE AND SUBJECT TO STAGE 4 TECHNICAL DESIGN.
24. ALL CHANNEL LOCATIONS, MANHOLE AND DRAINAGE LOCATIONS SUBJECT TO RECEIPT OF STAGE 4 STACK LOCATIONS AND CONFIRMATION OF FLOW RATE / DISCHARGE UNITS BY BUILDING SERVICES ENGINEER.
25. ALL COVER LEVELS ASSUMED. SCHEME DEVELOPED WITHOUT INPUT FROM LANDSCAPE ARCHITECT.
26. ALL FOUL AND SURFACE WATER BELOW GROUND SYSTEMS ARE TO BE VENTED WITHIN THE ABOVE GROUND DRAINAGE TO THE BUILDING SERVICES ENGINEERS DETAILS.

Rev:	Description:	Date:	By:	Chkd:
P05	STAGE 4 UPDATE	14.05.24	JB	AI
P04	STAGE 4 ISSUE	26.04.24	JB	AI
P03	STAGE 3	15.02.23	HW	AI
P02	STAGE 2 UPDATE	24.11.22	JB	AI
P01	STAGE 2	09.09.22	SA	AI

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Project:
ST MICHAELS, MANCHESTER

Drawing Title:
BELOW GROUND DRAINAGE PLAN

Status:
STAGE 4

Size:	Date:	Drawn by:	Designed by:	Checked by:
A1	FEB 23	HW	HW	AI

Scale: 1:125 | Project No: 2203-05

Project – Originator – Volume – Level – Type – Role – Number: STM-REN-XX-FN-DR-C-01103 | Revision: P05

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