

SVP & RWP SETTING OUT

SVP AND RWP LOCATIONS ARE INDICATIVE FOR DETAIL ED SETTING OUT REFER TO ARCHITECTS/ BUILDING SERVICES ENGINEERS DRAWINGS. ALL CAPIL LARY DRAINAGE IS IN ABYANCE UNTIL SETTING OUT OF ALL SVPs, STACKS AND RWP IS CONFIRMED BY THE ARCHITECT AND BUILDING SERVICES ENGINEER. 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 NOTED OTHERWISE.

COVER LEVELS

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

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.

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 SUBJECT TO ADJUSTMENT AND ALTERATION AT RIBA STAGE 4.

RIBA STAGE 3

ALL CIVIL DESIGN IS INDICATIVE TO ALLOW FOR SPATIAL CO-ORDINATION (RIBA STAGE 3) AND OUTLINE COSTING BY THE PROJECT CONTRACTOR. ALL CIVIL DESIGN IS SUBJECT TO CONFIRMATION AND ALTERATION AS THE STAGE 4 (TECHNICAL DESIGN) IS COMPLETED.

A DESIGN CONTINGENCY OF 10-15% IS RECOMMENDED TO ALLOW FOR DESIGN DEVELOPMENT DURING RIBA STAGE4 (TECHNICAL DESIGN) AND INPUT CONTRACTOR DESIGNED PACKAGES.



1 RISK OF UNDERMINING EXISTING WALL DURING DRAINAGE INSTALLATION. UNDERPINNING MAY BE REQUIRED TO PREVENT COLLAPSE.



2 NEW CONNECTION TO U.U. SEWER TO BE CO-ORDINATED WITH ALL EXISTING SERVICES WITHIN THE PUBLIC FOOTPATH.

NOTES:

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RENAISSANCE, ARCHITECTS, LANDSCAPE ARCHITECTS AND BUILDING SERVICES ENGINEERS DRAWINGS.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE BELOW GROUND DRAINAGE DETAIL S SHOWN ON DRAWING SERIES C-03100 & C-03101 TO C-03102.
- MANHOLE SCHEDULE TO BE PRODUCED AT RIBA STAGE 4.
- FOR ALL ABOVE GROUND DRAINAGE AND ASSOCIATED PUMPS REFER TO BUILDING SERVICES AND ARCHITECTS DRAWINGS.
- 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.
- RWPs, SVPs, SSs and FLOOR GULLEYS ARE TO HAVE RODDABLE ACCESS POINTS ABOVE GROUND FLOOR TO BUILDING SERVICES DETAIL S.
- 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.
- 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.
- DURING THE WORKS ALTERATIONS TO THE DRAINAGE LAYOUT ARE TO BE MARKED UP BY THE CONTRACTOR AND AGREED WITH RENAISSANCE IN WRITING.
- THE CHAMBER SIZE OF FCC MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED AN INCREMENT TO ACCOMMODATE THE CONNECTIONS AND BENDS.
- MANHOLE COVERS ARE TO BE ACCORDANCE WITH BS EN 124 FOR THE RATING INDICATED IN THE MANHOLE SCHEDULE. THE CONTRACTOR IS TO SUBMIT DETAIL S FOR THE PROPOSED MANHOLE COVERS TO THE ENGINEER AND LANDSCAPE ARCHITECT FOR REVIEW PRIOR TO INSTALLATION.
- ALL INTERNAL COVERS TO BE RECESSED AND TRIPLE SEALED
- 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.
- ALL SEWERS TO BE BSI KITEMARK (CERTIFIED TO WIS 4-35-01)
- ALL CONCRETE PIPES TO BE TO ES EN 1916 CLASS 120 (54kNm).
- BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENTS OF THE WATER INDUSTRY SPECIFICATION 4-08092 (TABLE A2).
- IF PLASTIC PIPES ARE TO BE USED THEN THE FOLLOWING MUST APPLY:
 - A BSI KITEMARK (CERTIFIED TO BS EN 13478-1 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)
- THE MINIMUM CRUSHING STRENGTH FOR CLAY PIPES SHOULD BE AS FOLLOWS: 100mm DIA. 40kNm, 150mm DIA. 40kNm, 225mm DIA. 45kNm AND 300mm DIA. 72kNm.
- 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 EN13478.
- SULPHATE RESISTANT CEMENT (C20-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVIDING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
- 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.
- FLOW CONTROL IS INDICATIVE AND SUBJECT TO STAGE 4 TECHNICAL DESIGN.
- RAINWATER PIPE LOCATIONS ARE INDICATIVE AND SUBJECT TO CONFIRMATION FROM ARCHITECT/ BUILDING SERVICES ENGINEER. THIS MAY IMPACT PIPE SIZES SUBJECT TO LOCATIONS.
- ALL COVER LEVELS ASSUMED. SCHEME DEVELOPED WITHOUT INPUT FROM LANDSCAPE ARCHITECT.
- 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.
- ALL FOUL AND SURFACE WATER BELOW GROUND SYSTEMS ARE TO BE VENTED WITHIN THE ABOVE GROUND DRAINAGE TO THE BUILDING SERVICES ENGINEERS DETAIL S.

CDM NOTES

- REFER TO BELOW GROUND SURVEYS AND UTILITY RECORDS DRAWINGS FOR KNOWN PAYMENT SERVICES. 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.
- FOR GROUND CONDITIONS, REFER TO REC PHASE II SITE ASSESSMENT BRUNSWICK STREET, MANCHESTER, M13 9SU, REC REFERENCE: LA10286/P2R1, REPORT PREPARED FOR: BRUNSWICK LIVING LTD, DATED SEPTEMBER 2017

P02	STAGE 4 (DRAINAGE UPDATED)	15.08.23	SA	HG
P01	STAGE 3	13.04.22	HW	HG
Rev.	Description:	Date:	By:	Chkd:



Project:
**BRUNSWICK STREET,
MANCHESTER**

Drawing Title:
**BELOW GROUND DRAINAGE
PLAN**

Status:
STAGE 4

Size:	A1	Date:	APR'22	Drawn by:	HW	Designed by:	HW	Checked by:	HG
Scale:	1:50	Project No:	2004-04						
Project:	Originator:	Volume:	Level:	Type:	Role:	Category/Number:	Rev:		

BSM-REN-00-FN-DR-C-01000-P02

DRAWING LEGEND

- PLANNING BOUNDARY
- PROPOSED SURFACE WATER DRAINAGE (150mm DIAMETER UNO)
- PROPOSED FOUL WATER DRAINAGE (150mm DIAMETER UNO)
- PROPOSED COMBINED SEWER
- EXISTING UNITED UTILITIES COMBINED SEWER
- GULLY
- CHANNEL DRAIN TO LANDSCAPE ARCHITECTS SPECIFICATION UNO
- RAINWATER PIPE/ SOIL VENT PIPE
- PROPOSED BACKDROP
- PROPOSED SURFACE WATER MANHOLE
- PROPOSED SURFACE WATER INSPECTION CHAMBER (450mm DIAMETER UNO)
- PROPOSED SURFACE WATER MANHOLE w/FLOW CONTROL DEVICE
- PROPOSED FOUL WATER MANHOLE
- PROPOSED FOUL WATER INSPECTION CHAMBER (450mm DIAMETER UNO)
- PROPOSED COMBINED MANHOLE