

MANHOLE INVERT SUMMARY

FWMH 1 - INVERT LEVEL CIRCA 1100MM BELOW COVER LEVEL

FWMH 2 - INVERT LEVEL CIRCA 1500MM BELOW COVER LEVEL

FWMH 3 - INVERT LEVEL CIRCA 1200MM BELOW COVER LEVEL

OUTLINE SPECIFICATION

- ALL DRAINAGE TO COMPLY WITH BS EN 16933-2:2017 DRAIN AND SEWER SYSTEMS OUTSIDE BUILDINGS TOGETHER WITH PARTS H1, 2 AND 3 OF THE CURRENT BUILDING REGULATIONS AND SEWER SECTOR GUIDANCE. APPENDIX C- DESIGN AND CONSTRUCTION GUIDANCE. IF DISCREPANCIES ARE NOTED BETWEEN SSO AND DRAWINGS THESE SHOULD BE BROUGHT TO THE ATTENTION OF RENAISSANCE FOR REVIEW.
- FOR ALL ABOVE GROUND DRAINAGE AND ASSOCIATED PUMPS REFER TO BUILDING SERVICES AND ARCHITECT'S DRAWINGS
- ALL UNDER SLAB DRAINAGE SHALL BE CLEAR OF FOUNDATIONS UNLESS SHOWN OTHERWISE WITH LONG RADIUS BENDS KEPT TO A MINIMUM AND USED WHERE SHOWN WHEN UNAVOIDABLE.
- AT LEAST ONE SOIL PIPE AT THE HEAD OF EACH FOUL RUN SHALL BE VENTED TO THE ATMOSPHERE.
- ALLOW FOR ALL EXISTING DRAINAGE ON SITE TO BE GRUBBED UP AND BACKFILLED.
- RWPs, SVPs, SSs AND FLOOR GULLEYS ARE TO HAVE RODDABLE ACCESS POINTS ABOVE GROUND FLOOR TO BUILDING SERVICES DETAILS. ALL FLOOR GULLEYS AND RWPs ARE TO BE TRAPPED.
- ALL GULLY AND CHANNEL DRAIN LOCATIONS INDICATIVE. REFER TO ARCHITECT AND LANDSCAPE ARCHITECT DRAWINGS FOR SETTING OUT AND SPECIFICATION.
- SEWERS TO BE LAID IN CLASS S BEDDING (150mm GRANULAR BED AND SURROUND), WHERE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN; 1.2m IN HIGHWAYS OR VERGES, OR LESS THAN 0.9m IN PEDESTRIAN AREAS, THEN A 150mm CONCRETE SLAB SHOULD BE PROVIDED ABOVE THE GRANULAR BED AND SURROUND. REFER TO DETAILS SHEETS.
- ALL CARRIER DRAINS WHICH ARE LOCATED WITHIN 2000MM OF EXTERNAL WALLS OR PASS UNDER BUILDINGS ARE TO BE ENCASED IN MIN. 150MM CONCRETE OF FULL WIDTH OF TRENCH.
- 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 PCC MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED AN INCREMENT TO ACCOMMODATE THE CONNECTIONS AND BENDS.
- MANHOLE COVERS TO BE SEATED IN REBATED STEEL FRAMES AND SEALED WITH GREASE ON 100MM THICK CONCRETE FRAME BASE WITH 600MM MINIMUM OPENINGS.
- 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.
- 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 (54kN/m).
- CONCRETE ENCASEMENT OF THE PIPEWORK SHALL BE REQUIRED WHERE THE VERTICAL CLEARANCE BETWEEN TWO PIPES CROSSING IS LESS THAN 300MM.
- 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 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
D. REQUIREMENTS OF THE WATER INDUSTRY SPECIFICATION 4-08092 (TABLE A2)
- 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.
- 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.
- 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.

- GENERAL NOTES**
- DO NOT SCALE OFF THESE DRAWINGS. WORK TO STATED DIMENSIONS ONLY.
 - ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
 - THESE DRAWINGS SHOULD BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS, SPECIFICATIONS, SCHEDULES AND OTHER INFORMATION INCLUDING ALL OTHER CONSULTANTS DRAWINGS.
 - THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY STABILITY OF ALL STRUCTURES INCLUDING THE GROUND DURING THE WORKS AND IS TO OBTAIN ALL NECESSARY APPROVALS.
 - ALL WORKS ARE SUBJECT TO THE NECESSARY APPROVALS.
 - SETTING OUT INFORMATION TO BE CO-ORDINATED BY THE LEAD DESIGNER.

DRAINAGE LEGEND

- FWMH** FOUL WATER MANHOLE
- RE** RODDING EYE
- PPIC** INSPECTION CHAMBER
- EXISTING FOUL WATER DRAINAGE NETWORK
- PROPOSED FOUL WATER DRAINAGE NETWORK

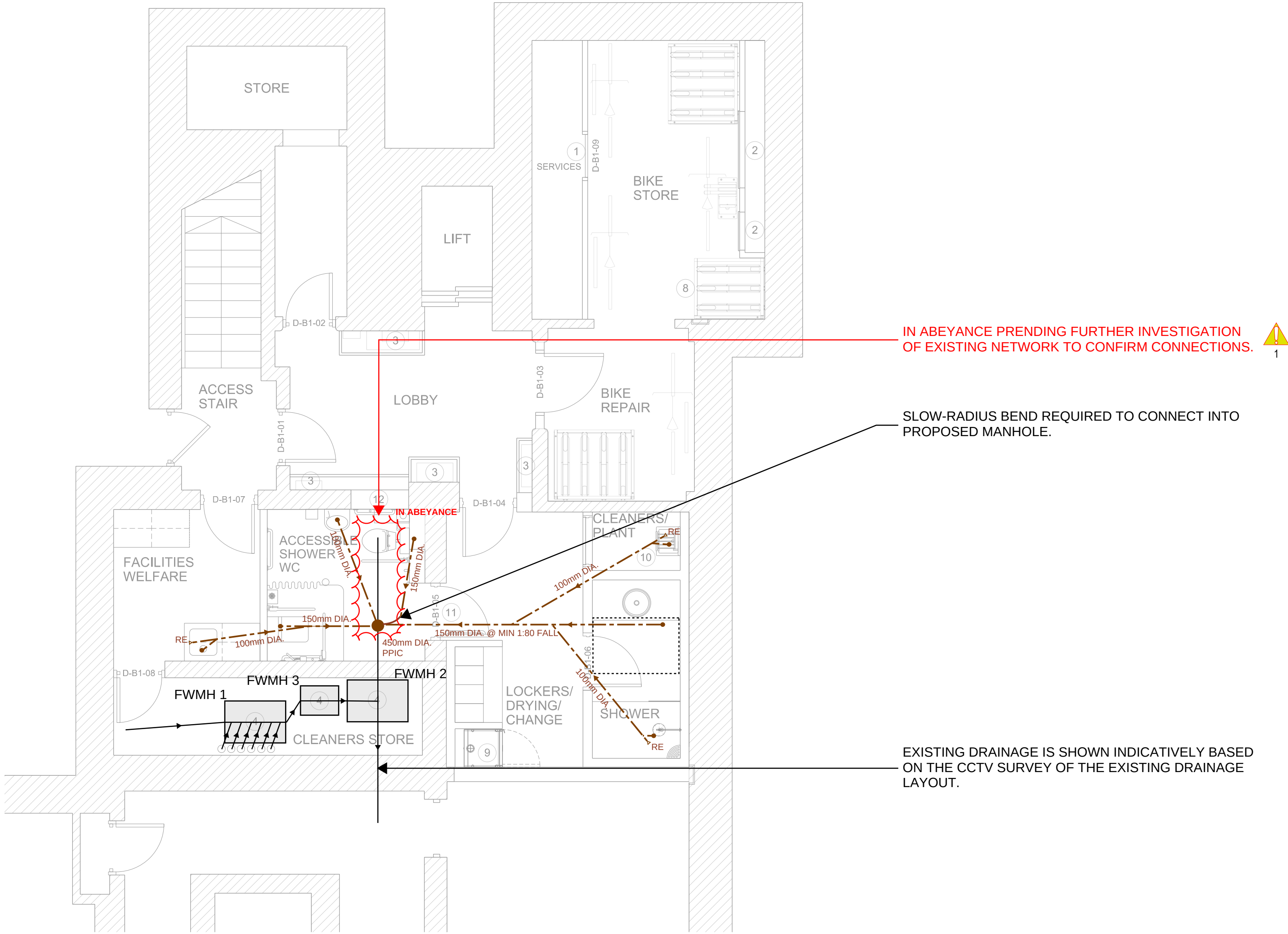
- DRAINAGE NOTES**
- THIS DRAWING IS SUBJECT TO CHANGE DEPENDING ON DETAILED DESIGN DEVELOPMENT AND COORDINATION WITH THE ARCHITECT.
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THE PRESENCE AND LOCATION OF SERVICES PRIOR TO COMMENCING WORKS.
 - REFER TO ARCHITECTS DRAWINGS FOR SETTING OUT INFORMATION INCLUDING LOCATIONS OF ALL POPUPS AND GULLIES.
 - COVER LEVELS SHOWN ON THIS DRAWING ARE APPROXIMATE AND SHALL BE ADJUSTED TO SUIT FINISHED FLOOR LEVELS ON SITE BY THE CONTRACTOR. COVERS SHALL BE ORIENTATED TO SUIT FLOOR FINISHES WHERE APPROPRIATE.
 - ALL EXISTING DRAINAGE SHALL BE ASSUMED TO BE 'LIVE' AND SHALL BE MAINTAINED AT ALL TIMES DURING THE WORKS. EXISTING DRAINAGE SHALL BE RECONNECTED TO THE NEW DRAINAGE SYSTEM UNLESS PROVEN TO BE REDUNDANT FOR ABANDONMENT. ALL EXISTING DRAINAGE TO BE FULLY REMOVED.
 - UPON COMPLETION ALL NEW DRAINAGE INSTALLATIONS TOGETHER WITH ANY EXISTING DRAINAGE RETAINED SHALL BE JETTED AND CCTV SURVEYED. CONTRACTOR TO ENSURE THAT THE DRAINAGE SYSTEM IS FULLY OPERATIONAL, FREE OF EXCESS DEBRIS/SILT AND ALL IDENTIFIED FAULTS RECTIFIED.

SVP AND RWP SETTING OUT
DRAINAGE INDICATED ON THIS DRAWING HAS BEEN PRODUCED WITH NO INPUT FROM A BUILDING SERVICES ENGINEER.

SVP AND RWP LOCATIONS ARE TO BE SET OUT AT STAGE 3

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

HAZARD NOTES	
 1	DETAILS OF EXISTING DRAINAGE TO BE CONFIRMED BEFORE ANY WORKS ARE UNDERTAKEN AND/OR ANY EXISTING RUNS ARE ABANDONED.



P01	ISSUED FOR INFORMATION.			16.08.24	MWS	TJM
Rev:	Description:			Date:	By:	Chkd:
				Renaissance Associates Ltd Carvers Warehouse 77 Dale Street Manchester M1 2HG		
Project: 196 DEANS GATE, MANCHESTER						
Drawing Title: <i>PROPOSED BELOW GROUND DRAINAGE LAYOUT</i>						
Status: INFORMATION						
Size:	Date:	Drawn by:	Designed by:	Checked by:		
A1	AUG '24	MWS	MWS	TJM		
Scale:	1:50		Project No:		2312-06	
Project:	Originator:	Volume:	Level:	Type:	Role:	Category/Number: Rev:

196D-REN-XX-ZZ-DR-C-00001-P01