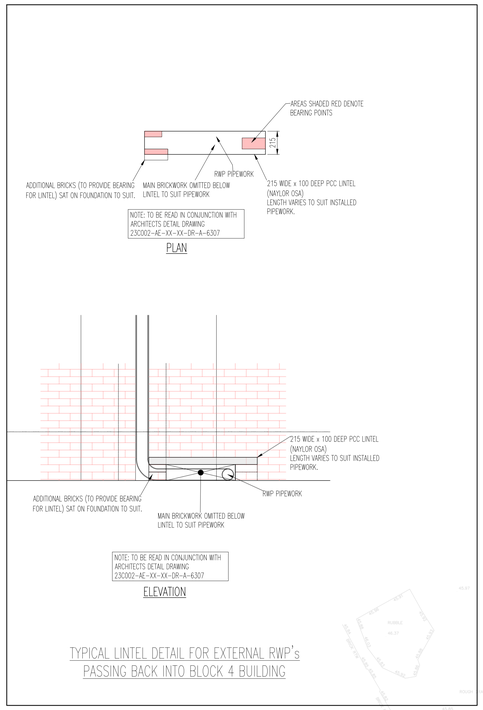


TYPICAL LINTEL DETAIL FOR EXTERNAL RWP's PASSING BACK INTO BLOCK 4 BUILDING

KEY (Public Sewers - United Utilities)

- Public Combined Water Sewer - existing (reproduced from Record Plans)

KEY (Private Drainage)

- Surface Water - proposed
- Foul Water - proposed
- Combined Water - proposed
- RWP — Rain Water Down Pipe & below ground pipe connection (150Ø)
- SU — Channel Drain system and 150mm Ø outlet connection from Sump Unit (SU)
- SU — Shallow profile Channel Drain system (Mufle 4ALL H92 OSA) and 150mm Ø outlet connection from Sump Unit (SU)
- Road Gully and 150mm Ø outlet pipe
- Surface Water attenuation system
- Above ground (suspended slab) channel drain and outlet to nearest structural column
- SVP — SVP pipe & below ground pipe connection (150Ø)
- FG — Internal Floor Gully & below ground pipe connection (150Ø)
- Above ground (suspended slab) Foul Water Pipe connections (indicative) with outlet to vertical soil pipe to below ground SVP
- Extents of Tensar Wall
- Below Ground Drainage - sleeved through foundation (2x Ø)
- 1m Easement - Tank

KEY

- Site Boundary

This drawing should not be scaled. Dimensions to be verified on site.
Any discrepancies should be referred to the Engineer prior to work being put in hand.

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GENERAL NOTES

DRAINAGE WORKS

1. Existing manhole positions, invert levels and pipe sizes are to be confirmed on site by the contractor prior to commencement of work on site and be reported to the Engineer.
2. All gravity drains are to be laid to a constant gradient between manhole chambers.
3. Gravity drains to be flexibly jointed with pipework laid 'soffit to soffit' unless specified otherwise.
4. All pipes up to 225mm dia to be Vitrified Clay (super strength), and pre-cast concrete pipes for diameters greater than 225mm.
5. The position of new sewers around buildings is diagrammatic only. Sewers should be located within walkways to avoid tree roots.
6. All pipes entering or leaving a manhole or structure to be constructed with flexible joints. Refer to Standard Detail Drawings for requirements.
7. Where drain pipes pass through mass concrete foundations, the pipe is to be sleeved, surrounded by polystyrene, and fitted with rocker pipes either side of the foundation (see Structural Engineer's drawings).
8. Pipes below ground slabs to be fully encased in concrete up to the underside of the ground slab where the depth to the pipe soffit is 600mm or less (see standard details).
9. In the areas of Public Realm and inside buildings, unless noted otherwise all manhole covers are to be recessed type to take surface finishes (any jointing / pattern to be continuous across the manhole cover).
10. The drainage shall be installed and tested strictly in accordance with the manufacturers printed instructions, BS 8000, BS 8301 and Local Authority byelaws.
11. Drains to be abandoned shall be either removed (grubbed up) or grouted up insitu in accordance with the specification.
12. Cover levels are approximate / to be confirmed with the site level design (refer to relevant works information for setout and levels of all buildings and external surfaces).

Channel Drains;

13. All channel drains to be proprietary system (eg 'Multi-drain' by Aco plc), accepted for use by the Engineer. Channels to be installed and tested in accordance with the manufacturers recommendations with sealed joints between units. Unless stated otherwise, foundations to assume load class D400.
14. Unless noted otherwise channel drains to be;
    - Aco MultiDrain M1000 channels
    - with MultiDrain universal sump at each outlet point with roddable trap
    - Multifunction Endcaps to close all channel ends
    - incorporate Class D400 'Ritec' coated Ductile Iron grating ('Heelguard' type with locking feature)
    - connection to sewer to be 150mm dia.

Private Drainage;

13. Where specified or approved by the Engineer, private drainage may be UPVC to BS 4660 and BS EN 1401-1.
14. The position of Rainwater and Foul Water drain points (SVPs/SSs) are shown indicatively. Refer to the Architect's or M&E Engineers drawings for detailed setting out.
15. The size of the above ground rainwater downpipes and Foul Water drain points (SVPs/SSs) are specified by the relevant designer. See the Architectural or third party design plans as appropriate.
16. SVPs (by others) to incorporate an access point on vent above ground level.
17. All private drainage works to comply with Approved Document 'H' of the Building Regulations.

Attenuation Tanks;

18. To be Aco 'Stormbrixx' or similar accepted for use by the Engineer. Tanks to be sized to attenuate the stated volume and be vented. Installation to be in accordance with Manufacturers drawings. Invert levels subject to confirmation of manufacturers requirements for ground cover to suit the loading requirements.

Rev	Date	Description	By	Chk
C27	28.01.26	SW9 & SW5b UPDATED.SW4,SW4A,SW8A & SW8B REMOVED.	GF	RB
C26	19.01.26	INTERFACE WITH SECTION 278 WORKS HIGHLIGHTED.	AJH	RB
C25	23.09.25	PPIC CHAMBER, NEW RUN, BACKDROP AND NOTES ADDED – SEE CLOUDS.	AJH	RB
C24	29.07.25	ACO SUMMARY TABLE ADDED	KHS	RB
C23	08.07.25	FW1 & FW2 MH SIZES UPDATED	KHS	RB
C22	24.04.25	SITE INFORMATION ADDED RE AS-INSTALLED SECTION OF PIPE. SEE CLOUDS	AJH	AJS
C21	14.04.25	NEW SW AND FW MHs UPDATED	KHS	RB
C20	13.02.25	TYPICAL LINTEL DETAIL ADDED: SEE CLOUDS	AJH	JC
C19	14.01.25	SW RUN FROM SW4 TO SW3 AMENDED, SEE CLOUDS	AJH	RB
C18	18.12.24	SUMP OUTLET TO SW19 AMENDED SEE CLOUDS	AJH	JDG
C17	07.11.24	UPDATED FOR ISSUE	SA	RB
C16	24.09.24	DRAINAGE AMENDED AS CLOUDED IN ACCORDANCE WITH SITE 1Q's	AJH	JDG
C15	19.09.24	DRAINAGE AMENDED AS CLOUDED IN ACCORDANCE WITH SITE 1Q'S	AJH	JDG
C14	04.09.24	DRAINAGE AMENDED AS CLOUDED IN ACCORDANCE WITH SITE 1Q'S	AJH	AJD
C13	13.08.24	EXISTING PUBLIC SEWER LINE AND MANHOLE INFORMATION UPDATED FOLLOWING LANES FOR DRAINS SURVEY JUNE 2024 & DEEP SONDE SURVEY JULY 2024. INFORMATION SUPPLIED TO WSL BY EWC	AJH	AJD
C12	03.07.24	NOTE ADDED REGARDING CORES THROUGH GROUND BEAMS TO BLOCK 4	AJH	JDG
C11	27.06.24	ATTENUATION TANK MOVED TO SUIT PHASE 2 WORKS, ASSOCIATED DRAINAGE RE-SCHEMED TO SUIT. SEE ALL CLOUDS.	AJH	JDG
C10	21.06.24	FW RUNNING BENEATH BLOCK 4 ADJUSTED TO SUIT FOUNDATION CONSTRAINTS. FW12, FW14 & FW16 REPOSITIONED TO SUIT – SEE CLOUDS	AJH	AJD
C09	17.05.24	COVER LEVELS ADJUSTED TO SUIT LATEST LANDSCAPING LEVELS. SEE CLOUDS	AJH	AJD
C08	16.05.24	INVERT LEVELS AND GRADIENTS TO PERIMETER OF BLOCK 1 AMENDED, BLOCK 4 SW DRAIN AMENDED. SEE CLOUDS	AJH	AJD
C07	14.05.24	EXISTING PUBLIC SEWER AMENDED AS CLOUDED TO SUIT LATEST CCTV INFO. FW & SW CONNECTIONS IN CAR PARK RAMP AREA AMENDED	AJH	AJD
C06	08.05.24	RWP ADDED NEAR BLOCK 3: SEE CLOUDS	AJH	AJD
C05	15.04.24	ADJUSTMENTS TO POPUPS AND RUNS IN BLOCK 3 AMENDED AS CLOUDED	AJH	AJD
C04	12.04.24	SW10, SW14 – SW16/FW21, FW22, FW10, FW12 & RE01 UPDATED. BLOCKS B2, B3 & B4 INTERNAL DRAINAGE POINTS AMENDED TO SUIT LATEST HEC/AEW INFO	AJH	AJD
C03	08.04.24	ALL BLOCKS POP UPS UPDATED	KHS	NF
C02	13.03.24	RWP ADDED TO BLOCK 3	KHS	NF
C01	12.03.24	CONSTRUCTION ISSUE	KHS	NF
P06	23.02.24	STAGE 5 ISSUE	KHS	NF
P05	30.10.23	STAGE 4 ISSUE	KHS	NF
P04	12.04.23	POP-UPS, SW AND FW SYSTEMS UPDATED	KHS	NF
P03	31.01.23	SW24 (FC2) UPDATED	KHS	NF
P02	20.01.23	DRAINAGE POP UPS ADDED	KHS	NF
P01	16.01.23	PLANNING ISSUE	KHS	NF

Amendments

Project: ROCHDALE ROAD

Title: DRAINAGE STRATEGY

Client: MCGOFF CONSTRUCTION LTD

waterman
Trinity Court | 16 John Dalton Street | Manchester | M2 6HY
mail@watermangroup.com www.watermangroup.com

Suitability: CONSTRUCTION

Designed By	Director	Waterman Ref
NF	AD	WIE
Drawn By	Date	Scales @ A3
NF	January 2023	1:200

Project - Originator - Volume - Level - Type - Role - Number: 23C002-WSL-SI-ZZ-DR-D-92001 | Revision: C27

File Path:

SURVEY INFORMATION HAS BEEN PROVIDED TO WATERMAN FROM A THIRD PARTY, THEREFORE THE ACCURACY OF INTERPRETED INFORMATION IS AT THE CLIENTS RISK.

USE 225mm CORE FOR 150mm DIAMETER PIPE THROUGH GROUND BEAMS. OLD CORE/SLEEVE DOES NOT NEED TO BE INFILLED. SEE DETAIL ON 23C002-WSL-SI-XX-DR-D-92004 FOR FURTHER INFORMATION

NOTE: WHERE PIPE RUNS PASS THROUGH SHEET PILING, PROVIDE OVERSIZED UPVC DUCT TO ALLOW FINAL DRAIN INSTALLATION. SHEET PILING TO BE IN ACCORDANCE WITH WIEL TCs dwg 001 & 003 REV C02

NEW BACKDROP INTO CHAMBER @50.700m

EXISTING RUN BELOW SLAB FOOTING TO BE ABANDONED. SYSTEM INJECTED WITH CONCRETE FOLLOWING COMPLETION OF DIVERSION TO STABILISE FORMATION AND PREVENT SURCHARGE.

NEW 450mm DIA PPIC IL=50.750m TO CLEAR ADJACENT FOUNDATIONS. CHAMBER POSITIONED OUTSIDE THE EXTENTS OF THE EXISTING PILECAP TO ALLOW INSTALLATION. SLOW BEND INTO CHAMBER TO PROMOTE FLOW IN DOWNSTREAM DIRECTION.

EXISTING LEVEL & EXACT SETTING OUT OF INTERSECTION UNKNOWN. ASSUMED CIRCA 50.800m BUT TBC ON SITE. ROCKER PIPE AT JUNCTION BETWEEN SLAB EDGE & EXTERNALS. ENSURE FALL IS ACHIEVED TO NEW CHAMBER.

EXCAVATION ZONE SURROUNDING NEW EXCAVATION IS TO BE BACKFILLED WITH GEN 1 CONCRETE TO PROVIDE A STIFF SUB-BASE TO SLAB AND PROTECTION TO DRAINAGE PIPEWORK. ALL EXTERNAL PIPEWORK AT SHALLOW DEPTHS TO BE INSTALLED IN ACCORDANCE WITH WSL STANDARD DETAILS.

NOTE: ATTENUATION TANK SITS WITHIN TEMPORARY TENSAR GEOGRID EARTHWORKS ZONE. BACKFILLING OF AREA IMMEDIATELY BETWEEN TENSAR WALL AND BLOCK 1 BASEMENT WALL, MUST BE COMPLETED PRIOR TO EXCAVATION FOR ATTENUATION TANK, TO PREVENT COLLAPSE OF TENSAR WALL. SEE TENSAR PLAN DRAWING NUMBER TD/23/014/D2_Sh1 FOR TENSAR ZONE.

FINAL ACCESS CHAMBER ARRANGEMENT REQUIREMENTS TO FACILITATE BORED CONSTRUCTION TO BE CONFIRMED BY SPECIALIST

FINAL CONNECTION PRESUMED TO BE VIA A BORED METHOD. INVERT LEVEL AND DISTANCE BETWEEN LAST ONSITE CHAMBER AND PUBLIC SEWER CONNECTION ARE SHOWN IN ACCORDANCE WITH SURVEY INFORMATION PROVIDED TO WATERMAN. SPECIALIST IS TO CONFIRM ACCEPTANCE OF SURVEY INFORMATION PROVIDED IN ADVANCE OF FORMING CONNECTION

APPROXIMATE LATERAL OFFSET BETWEEN CHAMBER AND BRICK SEWER TAKEN FROM CCTV FOOTAGE

JUNCTION CONNECTION ON EXISTING 500X750 SEWER. INVERT LEVEL, SIZE AND CONDITION SUBJECT TO PROVING

ACCURACY OF DEEP SONDE SURVEY TECHNIQUE IS TO BE ADVISED BY THE SURVEY SPECIALIST AND MANUFACTURER

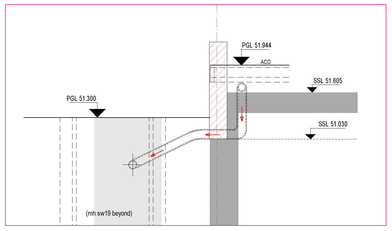
LATERAL SPUR OBSERVED ON CCTV

APPROXIMATE POSITION OF BRICK SEWER RUNNING UNDER ROCHDALE ROAD TAKEN FROM CHAMBER POSITIONS AND CCTV SURVEY FOOTAGE

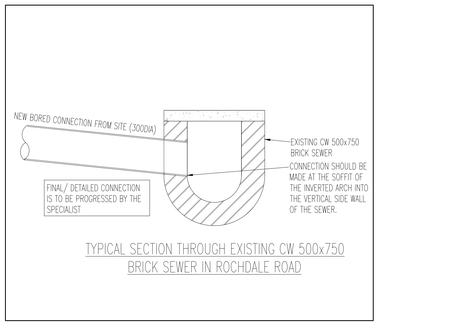
POSITION OF CHAMBER UU7001 SHOULD BE TAKEN FROM SURVEY INFORMATION PROVIDED BY LANES FOR DRAINS

Ex CHAMBER/LAMP HOLE @19.37m FROM 7001

APPROXIMATE LATERAL OFFSET BETWEEN CHAMBER AND BRICK SEWER TAKEN FROM CCTV FOOTAGE



ACO TO SW19 CONNECTION



TYPICAL SECTION THROUGH EXISTING CW 500x750 BRICK SEWER IN ROCHDALE ROAD

ACO Drain Channel Summary Table

Aco Ref	Length (m)	Product Ref	Grating Load	Grating Type
(1)	2.6380	M100d Shallow Unit 0100	D400	TBC by architect
(2)	2.6830	M100d Shallow Unit 0100	D400	TBC by architect
(3)	5.5850	M100d Shallow Unit 0100	D400	TBC by architect
(4)	1.3590	M100d Shallow Unit 0100	D400	TBC by architect
(5)	1.3530	M100d Shallow Unit 0100	D400	TBC by architect
(6)	9.4680	M100d Shallow Unit 0100	D400	TBC by architect
(7)	6.7350	M100d Shallow Unit 0100	D400	TBC by architect
(8)	14.9970	M100d Shallow Unit 0100	D400	TBC by architect
(9)	15.9820	M100d Shallow Unit 0100	D400	TBC by architect
(10)	18.6010	M100d	D400	TBC by architect
(11)	1.0860	M100d 10.0	D400	TBC by architect
(12)	1.0860	M100d 10.0	D400	TBC by architect
(13)	1.0860	M100d 10.0	D400	TBC by architect
(14)	9.6010	M100d 10.0	D400	TBC by architect
(15)	12.6130	M100d	D400	TBC by architect
(16)	5.0660	M100d 10.0	D400	TBC by architect
(17)	6.5190	M100d 10.0	D400	TBC by architect
(18)	2.0980	M100d 10.0	D400	TBC by architect
(19)	8.0260	M100d	D400	TBC by architect
(20)	4.4320	M100d	D400	TBC by architect
(21)	31.1050	M100d	D400	TBC by architect
(22)	17.0550	M100d	D400	TBC by architect
(23)	29.7580	M100d	D400	TBC by architect

Shallow Profile Drain Channel (Mulfe 4ALL H92 OSA) Summary Table

Shallow ACO Ref	Length (m)	Product Ref	Grating Load	Grating Type
SA (1)	22.5680	Mulfe 4ALL H92 OSA	D400	TBC by architect
SA (2)	24.5470	Mulfe 4ALL H92 OSA	D400	TBC by architect
SA (3)	22.0830	Mulfe 4ALL H92 OSA	D400	TBC by architect
SA (4)	23.3120	Mulfe 4ALL H92 OSA	D400	TBC by architect
SA (5)	3.9350	Mulfe 4ALL H92 OSA	D400	TBC by architect
SA (6)	28.8140	Mulfe 4ALL H92 OSA	D400	TBC by architect