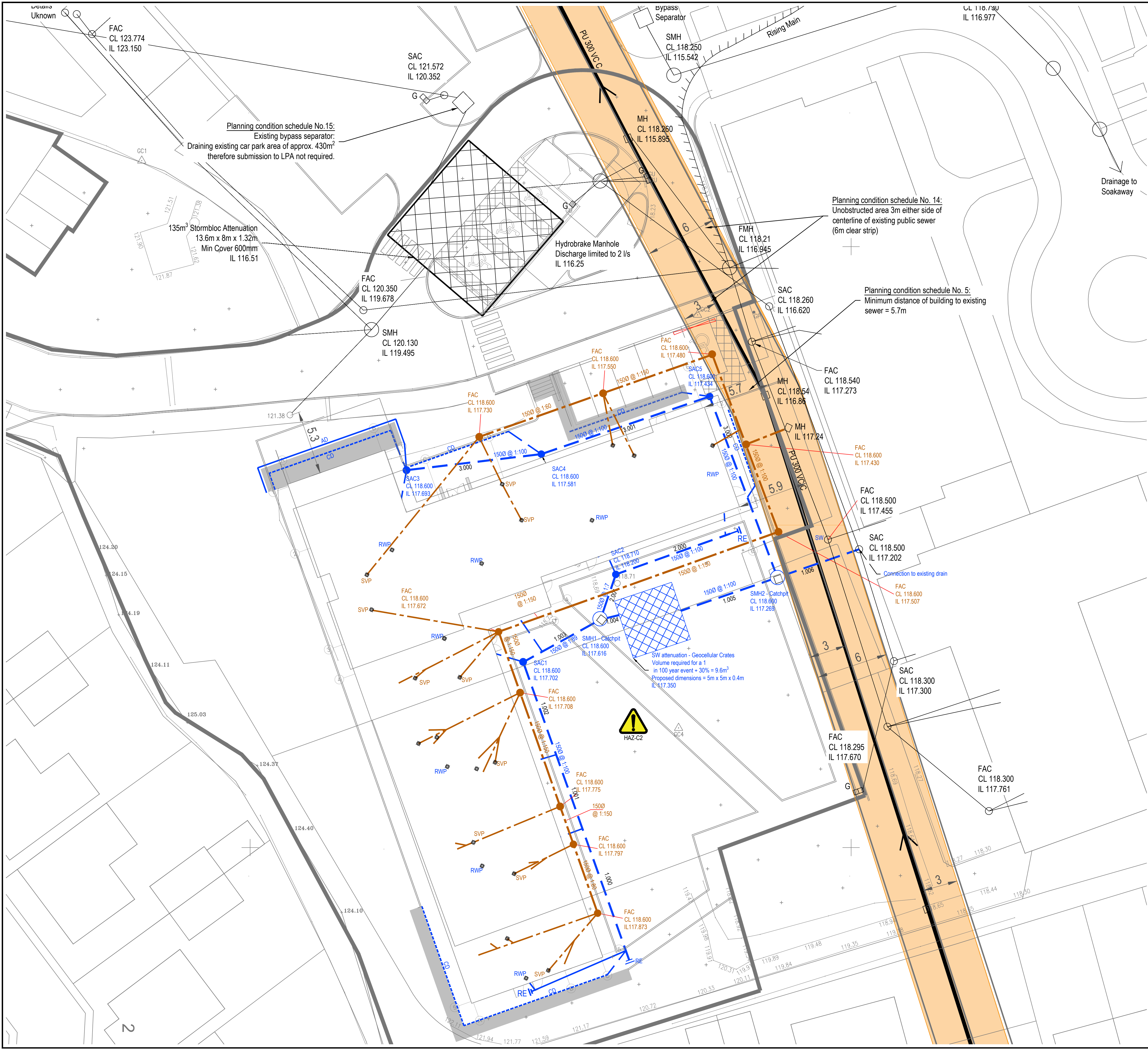




Drainage Notes

- All private drainage works are to be constructed in accordance with the relevant provisions of BS EN 752 including by reference BS 8301, Building regulations part H and Sewers for Adoption 6th edition.
- The Contractor **MUST** confirm invert levels of existing points of connection prior to commencement of drainage works.
- Manhole invert levels relate to the downstream pipe. Pipes at manholes to be laid soffit to soffit level.
- Unless otherwise shown, foul pipes to be 100mm Ø laid at 1 in 40 minimum gradient unless one w.c. connected where gradient may be 1 in 80 minimum.
- Unless otherwise shown surface water pipes to be 150mm Ø laid at 1 in 100 minimum gradient.
- Where cover to top of pipe barrel is less than 900mm in lightly trafficked areas and 600mm in non trafficked areas, pipe to have minimum 150mm ST4 concrete surround.
- Where cover to pipe barrel located beneath highways is less than 1200mm, pipes are to be protected with concrete surround (bed type Z) Grade C20 in accordance with sewers for adoption 6th edition, table 2.4.
- Manhole cover levels where not shown are to be confirmed at later stage. Covers are to be fixed to a profile corresponding to the surrounding pavement surface and may be adjusted to suit actual site levels.
- All pipework up to 300mm Ø to be standard strength vitrified clay to BS EN 295 (min crushing strength 40KN/m) or plastic to BS 4660:2000 and BS EN 1401-1:1998 and shall comply with the requirements of Sewers for Adoption 6th Edition.
- All pipework larger than 300mm Ø to be Class 120 precast concrete to BS EN1916:2002 and shall comply with the requirements of Sewers for Adoption 6th Edition.
- Bedding to all pipework to be Class S granular bed & surround in accordance with BS882 or Class Z (see manhole schedule and/or details drawing).
- All backfill above gravel surround in drainage trenches and under building slabs to be Type 1 stone compacted in layers not exceeding 225mm thick.
- Manholes to be precast concrete to BS EN1917: 2002, Type B, in accordance with the requirements of Sewers for Adoption, 6th Edition unless noted otherwise.
- Inspection chambers to be polypropylene, 475mm diameter, Hepworth range or similar & approved. Opening restricted to max 350mm where depth of chamber exceeds 1.2m.
- All manholes covers and gully gratings located in trafficked areas to be ductile iron class D400. Covers located in non trafficked areas to be min class B125 unless noted otherwise on the drainage layout or manhole schedule.
- Any external recessed cover required or internal manhole covers to be specified by the Architect.
- Proprietary attenuation systems, cellular soakaways and petrol/oil interceptors to be installed in accordance with the manufacturers details and recommendations, including bedding and surround, membranes, protection and backfill requirements.
- Position and details of rainwater pipes, and foul connections to be confirmed by Architect.
- For above ground and internal drainage, vents, fittings and access points refer to Architects and/or M&E details.
- Cover levels of private drainage chambers may be adjusted to suit actual site levels.
- The contractor is responsible for applying to Yorkshire Water for a Section 106 sewer connection.
- The contractor is responsible for identifying and locating all existing services and ensuring that the levels do not conflict with the proposed drainage system. If there are any such conflicts then the Engineer must be made aware immediately.
- All existing redundant drainage systems are to be abandoned and grubbed up including redundant manholes and pipework. The voids are to be backfilled with as dug material or suitable fill material and compacted in layers.
- Any live sewer connections found in any sewers that are to be abandoned are to be picked up and diverted.
- The Contractor shall undertake a CCTV survey of the as constructed site drainage system on completion of the works. A copy shall be made available to Mason Clark Associates.
- All access chambers greater than 1m deep to be type 4 in accordance with drawing no. 15704-H-DR-202.
- All drainage channels to be ACO MultiDrain or similar approved.

General Notes

- Levels of the existing system have been taken from as-built drawings and amended in accordance with topographical information provided by Shack Architecture. The contractor should check the invert level of the proposed points of connection prior to starting any drainage works.
- Layout of SVPs, AAVs and RWP's are to be confirmed by the architect/M&E engineer.

Notes

- This drawing is subject to copyright and must not be reproduced, stored or transmitted in any form without prior permission from Mason Clark Associates.
- This drawing is not to be scaled. All dimensions are to be checked on site by the contractor. Any discrepancies are to be notified to Mason Clark Associates. Obtain instructions prior to works commencing.
- This drawing is to be read in conjunction with the relevant contract drawings and documents, including the NBS specification.
- All dimensions are in millimetres and all levels are in metres AOD unless noted otherwise.
- All work shall be carried out in accordance with Local Authority, Statutory Authority and Health & Safety Regulations.

Key

- 1500 @ 1:150 Surface Water
- SMH Foul Water
- SMH Surface Water Manhole
- SAC Surface Water Access Chamber
- RWP Rain water pipe
- AD Agricultural Drain
- CD Channel Drain
- Slot Slot/Threshold Drain
- G Highway Gully (375x750) and C250 cover and frame with 1500 pipe (Class Z Bedding) Rodding Eye
- RE
- SMH Foul Water Manhole
- SAC Foul Water Access Chamber
- SVP Soil vent pipe
- BIG Back Inlet Gully
- Existing Surface Water drainage
- Existing Foul Water drainage
- Existing Public Sewer
- Existing Combined Water Sewer - 3m offset



Health & Safety Information

In addition to the hazards and risks normally associated with the type of works detailed on this drawing, please note the following abnormal risks to Health & Safety.

Refer to Mason Clark Associates project specific Design Risk Assessment (DRA).

Construction Phase

HAZ-C1	Buried services potentially located throughout the site.
HAZ-C2	Contamination present in this area. Please see RGS Phase 1 desk study report for more information.

It is assumed that all works will be carried out by a competent contractor working where appropriate to an approved method statement

C6	Updates as per planning conditions schedule.	PW	05.02.2020
C5	Retaining Wall 1 Amended and new layout	CD	03.01.2019
C4	Foul water pipework repositioned.	DT	04.10.2018
C3	Surface water drainage pipes moved away from building line. Foul water pipework repositioned to opposite side of building. Invert levels of Foul Water pipework checked and amended to suit.	JRH	01.10.2018
C2	Moved FAC out of footprint of retaining wall.	AP	10.08.2018
C1	Construction issue. Updated pop-up locations and amended all site levels to coincide with Shack Architecture drawings.	AP	31.07.2018
T1	Tender - Initial Issue	AP	08.01.2018
Rev	Details	By	Date
 Unit E, Millshaw Business Living Global Avenue, Beeston, Leeds, LS11 8PR Tel: +44 (0) 113 277 9542 Fax: +44 (0) 113 277 4738 masonclarkassociates civil and structural engineering consultants			
Client: Cygnet Health Care			
Project: Acorn Lodge			
Title: Proposed Drainage Layout			
Drawn: AP	Checked: GS	Date: Jan 2018	
Scale @ A1: 1:150			
Drawing No: 15704-H-DR-201	Rev: C6		